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> MSC.1/Circ.1631<sup>\*</sup> 14 December 2020

## REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

1 The Maritime Safety Committee, at its 102nd session (4 to 11 November 2020), approved the *Revised standardized life-saving appliance evaluation and test report forms*.

2 The original forms, as set forth in the Standardized life-saving appliance evaluation and test report forms (MSC/Circ.980) and its addenda, were developed on the basis of the requirements of the International Life-Saving Appliance (LSA) Code and the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)) by the Maritime Safety Committee, at its seventy-third session in 2001, with a view to providing guidance on how to conduct tests, record test data and verify tests. The Committee has since adopted seven amendments to the LSA Code and eight amendments to resolution MSC.81(70). These amendments have been incorporated in the original forms which, due to their volume, are now presented in six separate circulars, i.e. MSC.1/Circ.1628, MSC.1/Circ.1629, MSC.1/Circ.1630, MSC.1/Circ.1631, MSC.1/Circ.1632 and MSC.1/Circ.1633, pertaining to the equipment addressed in chapters II to VII of the LSA Code, respectively. The forms annexed to this circular apply to the equipment addressed in chapter V of the LSA Code, i.e. rescue boats (outboard engines for rescue boats; rigid rescue boats; inflated rescue boats; rigid/inflated rescue boats; rigid fast rescue boats; inflated fast rescue boats; and rigid/inflated fast rescue boats).

3 The use of the revised forms will continue to be of benefit to Administrations and other parties, such as manufacturers, test facilities, owners and surveyors, and will be a major help in mutually accepting the type approval of appliances approved by other Administrations.

4 Member Governments are invited to bring the annexed, revised forms to the attention of all parties concerned with approving, manufacturing and testing life-saving appliances and to encourage them to use the forms.

5 This circular supersedes MSC/Circ.980.



This document has been re-issued to correct editorial errors in references to SOLAS regulations.

#### ANNEX

### REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

#### INTRODUCTION

#### Reference

These standardized life-saving appliance evaluation and test report forms have been revised on the basis of the requirements of the International Life-Saving Appliance (LSA) Code, as amended through resolution MSC.425(98), *the Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)), as amended through resolution MSC.427(98), and the *Recommendation on means of rescue on ro-ro passenger ships* (MSC/Circ.810).

#### Status

In general, the tests described in the Revised recommendation (resolution MSC.81(70)) constitute the test procedures and the LSA Code sets the acceptance criteria. The evaluation and test report forms are guidelines on how to conduct tests, record test data and verify tests. These forms are not intended to change the standards given in the LSA Code and the Revised recommendation, as amended. In the case of inconsistency between the forms and the LSA Code or the Revised recommendation, the text of the Code/resolution should prevail over that of the forms.

#### Layout

Each Administration may use electronically distributed evaluation and test report forms as the basis for customizing the layout to reflect the profile of the approving body, without changing the original contents.

#### **Internal references**

The evaluation and test report forms should be stand-alone documents. Therefore, all internal references in the original text from the LSA Code or the Revised recommendation have been replaced by either the full-length text or a reference to other relevant evaluation and test report forms. However, in some of the forms, external references are kept for updating purposes.

#### **Documentation of tests**

For approval purposes, all detailed records of test data are to be enclosed with the report forms.

#### Verification of tests

Each test is to be verified passed or failed by an Administration representative's initials (e.g. recognized organization or surveyor) and date of testing. Each page is to be verified on completion by the Administration representative's signature and its date of completion.

### Reporting of type approval

To facilitate unified reporting procedures, the completed evaluation and test report forms are to be seen as a documented verification of required type approval tests for each type of equipment. When documentation of type approval is required by a third party, the verified evaluation and test report forms should constitute the complete documentation of the type approval together with the relevant approval certificates.

#### REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

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### 5.1 OUTBOARD ENGINES FOR RESCUE BOATS

## **EVALUATION AND TEST REPORT**

Manufacturer	
Engine type	
Serial number	
Fuel type	
Design power output (kW)	
Propeller diameter and pitch	
Required battery capacity	
Starting aids	
Date	
Place	
Name and signature of surveyor	
Approving organization	

Outboard engines for rescue boats		Manufac Model: _ Lot/Seria	cturer:	Date: Time: Surveyor: Organization:			
5.1.1 Submitted drawings, reports and documents							
Submitted drawings and documents							
Drawing No.	Revision No.	& Date	Title of d	rawing	Status		
			Submitted reports and documents		Status		
Report/Document No.	Revision No.	& Date	Title of repot /	document	Status		
			Maintenance Manual -				
			Operations Manual -				

Outboard engines for rescue boats       Manufacturer:         Model:       Lot/Serial Number:		Date:         Time:           Surveyor:				
5.1.2 Quality assurance		Regulations: MSC.81(70) 2/1.1, 1.2				
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to		Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual:				
keep records of any production tests c Administration's instructions.		Description of System Quality assurance Sy Yes/No	ystem acceptable			
		Comments/Observat	tions			

Outboard engines for rescue boats	Model: S		Date:          Surveyor:          Organization:	
5.1.3 Visual inspection		Regulations: LSA Co	ode 1.2,	4.4.6; MSC.81(70) 1 /7.7
Test Procedure	Acceptano	ce Criteria		Significant Test Data
Visually inspect the engine. Conduct measurements and ver	system, or a power starting sy	The engine should be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources.		PassedFailed
equipment as required.	Any necessary starting aids sh	nould be provided.		PassedFailed
	Propeller protection should be	Propeller protection should be in place during test.		PassedFailed
				Comments/Observations
5.1.4 Power test		Regulations: LSA Code 5.1.1.8; MSC.81(70) 1 /7.7.2 - 7.7.3		I.8; MSC.81(70) 1 /7.7.2 - 7.7.3
Test Procedure	Acceptano	ce Criteria		Significant Test Data
The motor, fitted with a suitable propelle should be placed in a test rig such that the propeller is completely submerged in	he damage from such a loading			Protection of propeller in place Passed Failed
water tank, simulating service conditions		The motor should not overheat or be damaged.		Duration :min
Propeller protection should be in pla during the test.	ce			Any significant damage?
				Passed Failed
The motor should be run at the maximu continuous rated speed using the maximum power obtainable for 20 min.				Overheating?
				Passed Failed
				Comments/Observations

Outboard engines for rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:          Surveyor:          Organization:
5.1.5 Water drench test		Regulations: LSA Co	ode 5.1.1.8; MSC.81(70) 1 /7.7.4
Test Procedure	Acceptan	ce Criteria	Significant Test Data
The motor protective cover should removed and the motor thorough drenched with water, by hose, except the intake to the carburetor.	nly	be damaged by this test	t. Duration :min Any significant damage? PassedFailed
The motor should be started and run speed for at least 5 min while it is still bei drenched.			Comments/Observations
5.1.6 Hot start test		<b>Regulations: LSA Co</b>	ode 5.1.1.8; MSC.81(70) 1 /7.7.5
Test Procedure	Acceptan	ce Criteria	Significant Test Data
<ul><li>While still in the test rig referred to in 5.4 (Power Test) 7.7.2, the motor should be rat idling speed in order to heat up t cylinder block.</li><li>At the maximum temperature achievab the motor should be stopped a immediately restarted.</li><li>This test should be carried out at least two stopped be carried</li></ul>	un he le, nd	estart.	Test carried out :times Restarts Passed Failed Any significant damage? Passed Failed Comments/Observations

Outboard engines for rescue boats	Manufacturer: Model: Lot/Serial Number:	5	Surveyo	Dr: Time: ation:
5.1.7 Manual start test		Regulations: LSA Cod	de 5.1.1	I.8; MSC.81(70) 1 /7.7.6 - 7.7.7
Test Procedure	Acceptano	ce Criteria		Significant Test Data
The motor should be started at ambie temperature by manual means. The means should be either a manu automatic-rewind system or a pull co round the top flywheel of the motor. The motor should be started twice with 2 minutes of commencement of the sta procedure. The motor should be run until norm operating temperatures are reached, then should be stopped and started manua twice within 2 minutes, by means of manual automatic-rewind system or a pr cord round the top flywheel of the motor.	nt The motor should not fail to sta al rd in art al it lly a		iny try.	Ambient temperature test carried out :times         Does the motor start twice within 2 min?         Passed

Outboard engines for rescue boats	Manufacturer: Model: Lot/Serial Number:		Survey	Time: or: zation:
5.1.8 Cold start test		Regulations: LSA C	ode 4.4.	6.2; MSC.81(70) 1 /7.7.8 - 7.7.9
Test Procedure	Acceptano	ce Criteria		Significant Test Data
The motor, together with the fuel, fuel lin and battery, should be placed in a chamb at a temperature of $-15^{\circ}$ C and allowed remain until the temperature of all parts h reached the temperature of the chamber The temperature of the fuel, battery a motor should be measured for this test. The motor should be started twice, with 2 min of commencement of the st procedure, and allowed to run long enou to demonstrate that it runs at operati speed. It is recommended that this period shou not exceed 15 s. Where lower temperature service intended, that lower temperature should substituted for $-15^{\circ}$ C in t above-mentioned test.	the engine at an ambient temp of commencing the start proce the Administration having rega which the ship carrying the engaged, a different temperate and hin art gh ng Id The engine must start at the s	perature of -15°C withi edure unless, in the op ard to the particular voy e rescue boat is con ure is appropriate.	in 2 min inion of vages in nstantly	Starting power Source:         Starting aids used:         Measured temperatures         Chamber:       °C         Fuel:       °C         Lubricant oil:       °C         Cooling fluid:       °C         Number of starts:       Ouration of first run:         Duration of second run:       seconds         Duration of last run:       seconds         Type of battery:       Required capacity of starting battery:         Passed

Outboard engines for rescue boats	Model:	lodel: Sur		Dr: Time: or: zation:		
5.1.9 Engine-out-of-water test		Regulations: LSA C	ode 4.4.	1.4.6.2; MSC.81(70) 1 /7.7.10		
Test Procedure	Acceptan	ce Criteria		Significant Test Data		
The engine should be operated for at lea 5 min at idling speed under condition simulating normal storage.		The engine should be capable of operating for not less than 5 min after starting from cold with the rescue boat out of the water.		Cooling water supplied during test? Yes/ No If so, by what method? Durationmin		
	The engine should not be dam	naged as a result of this	s test.	Any damage after this test? Passed Failed		
				Comments/Observations		

Model:	Surv	: Time: eyor: nization:
engine for fast rescue boats	Regulations: LSA Code 5	.1.4.8; MSC.81(70) 1/7.7.11
Acc	eptance Criteria	Significant Test Data
e mounted about an of the boat asin to the ed to the dismantled speed for clockwise full speed it in a pugh 360°; speed for e;	eptance Criteria	Significant Test Data         Means of stopping the engine in case of capsizing:         Capable of restarting after re-righting:         Amount of loss:       ml         Passed       Failed         Comments/Observations         Are all the tests carried out according to the procedure as prescribed?         Passed/Failed         Does the engine stop when turned in either direction?         Passed/Failed         If it stops, does it easily restart?       Passed/Failed         Does the engine fulfil the requirements after the tests have been carried out according to the procedure?         Passed/Failed
	Model: engine for fast rescue boats Acc e mounted e about an of the boat asin to the dismantled speed for clockwise full speed it in a bugh 360°; speed for	Model:

Outb	oard engines for rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyo	Time: or: ation:
5.1.10 Extra test for outboard engine for fast rescue boats (continued) Regulations: LSA Code 5.1.			ode 5.1.4	4.8; MSC.81(70) 1/7.7.11	
	Test Procedure	Acceptan	ce Criteria		Significant Test Data
Engin .8 .9 .10 .11 .12 .13	e inversion test (continued): slowly rotate the running engine a clockwise direction through 180 hold at the 180° position for 10 and then rotate it 180° further in clockwise direction to complete or revolution; if the engine is arranged to sto automatically when inverted, resta it; allow the engine to continue to ru at full speed for 10 min; shut the engine down and allow it cool; repeat the procedure in .7 throug .11 above, except that the engir should be turned in counter-clockwise direction; restart the engine and run it at for speed for 5 min;	when the rescue boat has should be capable of be helmsman's emergency relea The design of the fuel and lubr the loss of more than 250 ml of propulsion system should the The engine should not overhea When examined after being show no evidence of overhea	righted each engine or ing restarted, provide se, if fitted, has been re icating systems should p of fuel or lubricating oil fr rescue boat capsize. eat or fail to operate. dismantled the engine	r motor ed the eset. prevent rom the	Amount of oil lost from engine during each inversion: .2 : ml .4 : ml .8 : ml .12 : ml Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/ Failed Comments/Observations

## 5.2 **RIGID RESCUE BOATS**

### EVALUATION AND TEST REPORT

- 5.2.0 General information
  - 5.2.0.1 General data and specifications
  - 5.2.0.2 Submitted drawings, reports and documents
  - 5.2.0.3 Quality assurance
- 5.2.1 Visual inspection
  - 5.2.1.1 Occupant space
  - 5.2.1.2 Fittings, provisions and ladders
  - 5.2.1.3 Engine and starting system
  - 5.2.1.4 Steering mechanism and fuel tank
  - 5.2.1.5 Release mechanism
  - 5.2.1.6 Drain valve

#### 5.2.2 Freeboard, stability and self-righting tests

- 5.2.2.1 Flooded stability test
- 5.2.2.2 Freeboard test
- 5.2.2.3 Righting test (for non self-righting rescue boats)
- 5.2.3 Seating strength and space tests
  - 5.2.3.1 Seating strength test
  - 5.2.3.2 Seating space test
- 5.2.4 Release mechanism tests
  - 5.2.4.1 Simultaneous release
  - 5.2.4.2 Towing release test
  - 5.2.4.3 Load and release test
  - 5.2.4.4 Cyclic loading test
  - 5.2.4.5 Actuation force test
  - 5.2.4.6 Second release mechanism test actuation force and tensile strength
- 5.2.5 Operational tests
  - 5.2.5.1 Liferaft towing
  - 5.2.5.2 Endurance, speed and fuel consumption
  - 5.2.5.3 Engine out of water
  - 5.2.5.4 Compass test
  - 5.2.5.5 Helpless person recovery
  - 5.2.5.6 Manoeuvrability with paddles or oars
- 5.2.6 Towing and painter tests
  - 5.2.6.1 Towing test
  - 5.2.6.2 Painter release test
- 5.2.7 Strength tests
  - 5.2.7.1 Impact, drop and operation after impact and drop test
  - 5.2.7.2 Overload test

## 5.2 **RIGID RESCUE BOATS**

## **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid rescue boats	Model:	er:		Surveyor:	Time:
5.2.0.1 General da	ta and specification	ons	Regulations	: LSA Code 4.4,	5.1, MSC.81(70) 1/7.1.9
General Info	ormation	Rescue bo	pat Dimensions	3	Rescue boat Weight
Construction Material: Hull:		Dimensions:			Design Weight:
Canopy:		LOA:			Unloaded Boat:
Fire-retardancy docun	nentation:	Breadth Maximum:			Loose Equipment: Fuel: Persons:
Rescue Boat Inherent Bu (Type App.) Material: Weight: Occupancy: Persons (82.5 kg each		Depth to Sill: Depth to Gunwale: Moulded Breadth:			Calculated Loaded Weight: Fully Equipped: With Persons:
Engine(s) Installed: Type App by: Manufacturer: Type: Power: Gear ratio (inboard eng		Moulded Depth: Provision for securing (if applicable):			Weight as Tested: Fully Equipped: Comments/Observations
Additional rigid or inflatat Release mechanism(s) (i Manufacturer: Type: SWL:	f applicable) 1 2				

Rigid rescue boats	Lot/Serial Number:		Date:            Surveyor:            Organization:		
5.2.0.2 Submitted of	drawings, reports and do			1	
Submitted drawings and documents					
Drawing No.	Revision No. & date	Title	Status		
	S	ubmitted reports and documents		Status	
Report/Document No.	Revision No. & date	Title of re	eport / document	Otatus	
		Maintenance Manual -			
		Operations Manual -			

Rigid rescue boats	Manufacturer: Model: Lot/Serial Number:		Date: Surveyor: Organization:	
5.2.0.3 Quality ass	surance	Regulations	MSC.81(70) 2/1.1, 1.2	
of the International Con amended, or the Interna inspected, representativ inspections of manufact appliances and materia approved prototype life-s Manufacturers should be ensure that life-saving a the prototype life-saving	e required to institute a quality control procedure to ppliances are produced to the same standard as appliance approved by the Administration and to oduction tests carried out in accordance with the	Quality assurance         Standard used:         Quality assurance procedure:         Quality assurance manual:         Description of system:		
		Quality assur Yes/No Comments/O	ance system acceptable bservations	

Rigid rescue boats	Model: _	Su		Surveyor:	Time: pr: ration:		
5.2.1.1 Occupant s	space	-	Regulations	: LSA Code 4.4	.2.2, 4.4.3.5, 5.1, MSC.81(70) 1/7.1.9		
Test Procedure		Acceptance Cr	iteria		Sigr	nificant Test Data	
Visually inspect the reso Conduct measuremen verify clearances as requ	cue boat. ts and	General Unless the rescue boat has adequate s with a bow cover extending for not less Length is at least 3.8 m and not over 8. Seating Space Width – at least 3.8 m and not over 8. Seating Space Width – at least 430 mm Depth – at least 100 mm each side of a Knee Space (Seating on seats) at leas Knee Width – at least 250 mm Leg Space (Seating on floor) – at lea Overlapping Seat Vertical Separation – Seat Horizontal Overlap – 150 mm ma Each seating position should be clearly Stretcher(s) space: Rescue boats should be capable of car persons and a person lying on a stretch mm. Walkway Surfaces The surfaces on which persons might w finish.	sheer, it should than 15% of it 5 m. a point 215 mm t 635 mm from st 1190 mm fr - at least 350 m ximum / indicated. rrying at least f her of minimun	ts length. In from the back in the back from the back nm	Passed Passed Width: Depth: Knee Space: Knee Width: Leg Space: Vert. Separation: Overlap: Position Indication: Stretcher space: Location: Passed	Failed Failed mm mm mm mm mm PASSED FAILED xmm xmm xmm Failed	

Rigid rescue boats	Model:	Surveyor:		Time:			
5.2.1.2 Fittings, pro	ovisions and ladd	ers	Regulations	: LSA Code 4.4.	.3, 4.4.7, 5.1, MSC.8	81(70) 1/7.1.9	
Test Procee	dure		ce Criteria				
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		Fittings and Provisions Suitable handholds or buoyan outside rescue boat above the a person in the water, except in propeller	waterline and	within reach of	Passed	Failed	
		On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat			Passed	Failed	
		Weathertight stowage for small	Weathertight stowage for small items of equipment			Failed	N/A
		Approved position indicating lig	ght provided at	t highest	Passed	Failed	
		Provided with effective means self-bailing.	of bailing or b	e automatically	Passed	Failed	
		Ladders Ladders that can be used at board and the lowest step whe than 0.4 m below the light wate	en in place sho		Passed	Failed	

Rigid rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor:	Time:
5.2.1.2 Fittings, pr	ovisions and ladd	ers	Regulations	: LSA Code 4.4.	3, 4.4.7, 5.1, MSC.81(70) 1/7.1.9
Test Procedure Acceptance Criteria		Significant Test Data			
Visual Inspection-Fittings ladders (continued)		Other Provisions Buoyant material may be insta boat, provided it is adequately is capable of withstanding e open deck on a ship at sea ar condition. Colour The boat is of a highly visit detection.	alled external to protected agair xposure when nd for 30 days	nst damage and stowed on an afloat in all sea	Lowest stepm below waterline YES NO N/A Passed Failed

5.2.1.3       Engine and starting system       Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.1.9         Test Procedure       Acceptance Criteria       Significant Test Data         Visually inspect the rescue boat. Conduct measurements and verify clearances as required.       Type of starting system       Manual Power         - Two independent rechargeable energy sources provided on power starting systems       - Required starting aids provided       Manual Power         - Required starting systems       - Required starting aids provided       Passed       Failed         - Starting system is not impeded by engine casing, thwarts, or other obstructions       - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion       Passed       Failed         - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris       Passed       Failed         - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection       Passed       Failed         - Personnel are protected from hot and moving parts       - Shouted order can be heard with engine running at speed       Passed       Failed         - Passed       - Failed       - Passed       Failed       - Passed       Failed	Digid resource hearts	odel:	Surveyor:			Time	
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.       Type of starting system       Manual Power         YES       NO       N/A         Power starting systems       - Required starting aids provided       PassedFailed         Starting system is not impeded by engine casing, thwarts, or other obstructions       Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion       PassedFailed         System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris       PassedFailed         Engine casing made of fire-retardant material or other suitable arrangements providing similar protection       PassedFailed         Passed	5.2.1.3 Engine and starting system			Regulations:	LSA Code 4.4.6,	5.1, MSC.81(70)1/7	7.1.9
measurements and verify clearances as required.       Two independent rechargeable energy sources provided for power starting systems       YES       NO       N/A         - Two independent rechargeable energy sources provided for power starting systems       Required starting aids provided       Passed	Test Procedure		Acceptan	ce Criteria		Sig	gnificant Test Data
<ul> <li>Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting</li> <li>Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply</li> <li>Radio batteries not used to provide power for engine starting</li> <li>PassedFailed</li> <li>PassedFailed</li> </ul>	Visually inspect the rescue bo measurements and verify cle	boat. Conduct	<ul> <li>Type of starting system</li> <li>Two independent rechargea power starting systems</li> <li>Required starting aids provid other obstructions</li> <li>Propeller arranged to be dis provision for ahead and aster</li> <li>Exhaust arranged to preven normal operation</li> <li>System designed with due re the water and to the possibil system from floating debris</li> <li>Engine casing made of fi suitable arrangements provid</li> <li>Personnel are protected fror</li> <li>Shouted order can be heard necessary for 6 knot operatified</li> <li>Watertight casing around batteries with a tightly fittir venting</li> <li>Means for recharging engine</li> </ul>	ble energy sou ded ed by engine ca sengaged from ern propulsion t water from er egard to the saf ity of damage re-retardant m ding similar pro n hot and movi d with engine r on bottom and son g top which p e starting, radio harger or ship	asing, thwarts, or a the engine and ntering engine in fety of persons in to the propulsion naterial or other otection ng parts running at speed sides of starter provides for gas a nd searchlight s power supply	Manual       Power         YES       NO       N         Passed       F         Passed       F	I/A =ailed =ailed =ailed =ailed =ailed =ailed =ailed =ailed =ailed

Rigid rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor:	Time: _	
5.2.1.3 Engine and	starting system		Regulations	: LSA Code 4.4.6,	5.1, MSC.81(70)1/7.1.	.9
Test Proce	dure	Acceptan	ce Criteria		Signit	ficant Test Data
Visual Inspection-Enginesystem (continued)	ne and starting	<ul> <li>Recharging for engine batter supply does not exceed 50 x</li> </ul>		by ship's power	PassedFail	led
					PassedFail	led
		<ul> <li>Recharging means for engin at the rescue boat embarkat</li> </ul>		be disconnected	PassedFail	led
		<ul> <li>Instructions for starting an resistant and mounted in a engine starting controls</li> <li>Towing arrangements for magina starting controls</li> </ul>	a conspicuous	place near the		

Rigid rescue boats	Model:	odel: Surveyor:		Surveyor:	Time:			
5.2.1.4 Steering mechanism and fuel tank			Regulations	LSA Code 4.4.	7.2, 5.1.1.8, MSC.8	81(70)1/7.1.9		
Test Proce	dure	Acceptanc	e Criteria		5	Significant Test Data		
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		Steering A tiller should be capable of and tiller may form part of outb		rudder (rudder	Passed	Failed		
	Rudder permanently attached to the rescue boat.			Passed	FailedN/A			
		Except when remote steering is provided, the tiller is P permanently attached or linked to the rudder stock.			Passed	FailedN/A		
		Rudder and tiller arranged so operation of the release mecha			Passed	Failed		
		Fuel Tank						
		If fitted with petrol-driven out			Passed	N/A		
		should be specially protected a	against fire and	explosion.	Comments/Obse	rvations		

Rigid rescue boats	Model: Surveyor:						
5.2.1.5 Release me	5.2.1.5 Release mechanism Regulations: LSA Code			: LSA Code 4.4.	7, 5.1, MSC.81(70)	)1/7.1.9	
Test Procedure		Acceptano	ce Criteria		5	Significant Test Dat	ta
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		Clear operating instructions Release control marked in a surroundings	colour that cor	ntrasts with the			
		For on-load release mechanisms:					
		Suitably worded danger sign f	or on load relea	ase	Passed	Significant Test Data         ssed       Failed         N/A          ssed       Failed         N/A	
		Mechanical protection (inte mechanism is completely ar accidental release during reco	d properly rea	ck) engages only when Passed Failed N/A properly reset, to prevent			N/A
		On-load release mechanism n action by the operator			Passed	Failed	N/A
		Mechanical protection prov required for off load release	ided beyond	that normally	Passed	_ Failed	N/A
			a single fall and hook system with suitable painter,		rvations		
				on-load release capability is arrangement a single capability it is fully waterborne will be ad	y to release the		Passed
		NOTE: Such aired fall hards ar	intomo maistra	ottoobod to the	release mechanis	sm type (if installed	d in boat):
		NOTE: Such single fall hook sy boat or to the davit fall wire.	ystems may be	allached to the	Approval:		

Rigid rescue boats	Model:	Surveyor:		Time:	
5.2.1.6 Drain valve			Regulations	: LSA Code 4.4.7	7.1, 5.1, MSC.81(70)1/7.1.9
Test Procee		Acceptance			Significant Test Data
measurements and verify clearances as required (not applicable for self-bailing boats)		Fitted near lowest point on the Automatically opens when the closes to prevent water entry Cap or plug attached to the equivalent.	e boat is not v when the boat i	is waterborne.	Passed Failed Passed Failed Passed Failed
		Readily accessible from inside Position clearly marked.	the rescue bo	at.	Passed Failed Passed Failed Comments/Observations

Rigid rescue boats	Manufacturer:			Surveyor:	Time:	
5.2.2.1 Flooded st	ability test	r	Regulations	: LSA Code 4.4.	1.1, MSC.81(70)1/6.8.1	I3
Test Proce	dure	Acceptan	ce Criteria		Signi	ficant Test Data
The rescue boat should equipment. If provision lo and fuel tanks cannot I should be flooded or waterline resulting from boats fitted with wa compartments to accom drinking water contained these containers aboard stowage compartments sealed watertight during Ballast of equivalent we should be substituted for any other installed equip damaged by water. Weights representing por mass) who would be in the rescue boat is flooded than 500 mm above the omitted.	ckers, water tanks be removed, they filled to the final this test. Rescue tertight stowage modate individual ers should have and placed in the which should be the flooding tests. eight and density or the engine and oment that can be	When loaded as specified, t positive stability when filled w which would occur when the re location below the waterline a material and no other damage	ith water to rep escue boat is h Issuming no lo	oresent flooding loled in any one	Comments/Observati	ons Failed

Rigid rescue boats	id rescue boats Manufacturer: Model: Lot/Serial Number:		Surveyor:	Time:
5.2.2.1 Flooded st	tability test		Regulations: LSA Code 4.4	I.1.1, MSC.81(70)1/6.8.13
Test Proce	edure	Acceptan	ce Criteria	Significant Test Data
Flooding Stability test (c	ontinued):			
Weights representing p not be in the water wher flooded (water level le above seat pan) should normal seating position with their centre of gra 300 mm above the s representing persons w submerged in the water flooded (water level betw above the seat pan) s have an approximate d (for example water bal represent a volume si body. Note: Several tests conducted if holes in dif create different flooding	the rescue boat is ess than 500 mm d be placed in the s of such persons wity approximately eat pan. Weights ho would be partly when the lifeboat is veen 0 and 500 mm should additionally ensity of 1 kg/dm <sup>3</sup> last containers) to milar to a human			

Bisid receive heads Model:		er:		Surveyor:	Time:		
5.2.2.2 Freeboard	test		Regulations: LSA Code 4.4.5, MSC.81(70)1/6.8.45				
Test Proce	dure	Acceptance Criteria			Significant Test Data		
Serial Number:		This test should be considere freeboard, on the low side, is no boat's length or 100 mm, whic	ot less than 1.5	% of the rescue	Measured Freeboardmm 1.5% of Boat's Length:mm PassedFailed Comments/Observations		

Rigid rescue boats	Model:	ufacturer: el: Serial Number:			Date:         Time:           Surveyor:            Organization:			
5.2.2.3 Righting te	st (for non self-rig	hting rescue boats)	hting rescue boats) Regulations: MSC.81(70)1/7.1.7					
Test Procee	dure	Acceptance Criteria			Significant Test Data			
Test Procedure It should be demonstrated that both with The rescue bo		The rescue boat is capable of two persons if it is inverted on	being righted b	y not more than	Is the boat self-righting? (If YES, refer to lifeboat repor 4.4.2.3) Can the boat be righted by 2 p With engine and fuel: PassedF	YES NO t 4.5.2.3 and		

Rigid rescue boats	Model:	pr:		Surveyor:		Time:		
5.2.3.1 Seating strength test			Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1					
Test Proce	dure	Acceptance Criteria		Significant Test Data				
The seating should be loa of 100 kg in each position person to sit in the rescue falls, each type of seat with a mass of 100 kg in location when dropped in height of at least 3 m. ( performed in conjunction in 5.2.7.1.)	aded with a mass n allocated for a e boat. boat launched by should be loaded n any single seat nto the water from This test may be	The seating should be able to any permanent deformation of The seating should be capable damage should be sustained efficient functioning.	o support this damage. of supporting	this loading. No	Passed	age Failed Failed		

Model:		er:		Date:            Surveyor:            Organization:			
5.2.3.2 Seating spa	ice test		Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3				
Test Procee	dure	Acceptance	ce Criteria		Significant Test Data		
Test Procedure Test Procedure Acceptance Acceptance Acceptance Equipment can be operated v occupants. Equipment can be operated v occupants. The rescue boat must be capa persons and a person lying dow then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.		bable of carryin wn on a stretch s may be seate conforms to t I.1. vale, transom,	ng at least five her. ed on the floor, he leg space	Number of persons car Seated on seats Seated on floor Lying on a stretcher Total PassedFa Lifejacket and immersion the test: Lifejacket– Inflatable/In	ried:		

Rigid rescue boats	d rescue boats Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:					
5.2.4.1 Simultaneous release Reg			Regulations	ulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.12					
Test Proce	dure	Acceptance Criteria		Significant Test Data					
		each fall which any part of the hat the reso ach fall to which light condition	it is connected rescue boat or cue boat will n it is connected and in a 10%	Light condition Passed (N/A 1.1 x Loaded Mas Passed (N/A Comments/Obser	– Single fall, of ss: Failed – Single fall, of	f-load only) _kg N/A			

	Manufacturer:		Date:	Time:
	Model:			
Rigid rescue boats	Lot/Serial Number:		Organization:	
			- 9	
5.2.4.2 Towing release	e test		Regulations: L	SA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3
Т	est Procedure	Acceptance C	Criteria	Significant Test Data
With the operating me	chanism disconnected it should be	There should be no	damage as a	Operating mechanism disconnected and boat towed
	e rescue boat is loaded with its full	result of these tests.		at 5 kts:Pass Fail
	and equipment and towed at speeds of			
5 knots that the moveable	e hook component stays closed.		is released the release	Operating mechanism connected tests.
Furthermore, with the	operating mechanism connected, it	mechanism.		Test 1: 25% SWL, lengthwise to the boat at 45° to the
	that the rescue boat when loaded with			vertical:
	ersons and equipment when towed at			
	released. Both of the above should be	Single fall systems no	ot intended for	Force Applied: N.
demonstrated as follows:	:	on-load operation are exempt from		Forward direction:Pass Fail
		this test		Aft direction:Pass Fail
	of the safe working load of the hook			
	the hook in the lengthwise direction			Test 2: 100% SWL, athwartships at 20° to the vertical:
	ngle of 45° to the vertical. This test			
	in the aftward as well as the forward			Force Applied: N.
direction;				Starboard:Pass Fail Port: Pass Fail
2 a force aqual to the	safe working load of the hook should			PonPass raii
	ok in an athwartships direction at an			Test 3: 100% SWL, 45° to the longitudinal axis of the
	ertical. This test should be conducted			boat in plan view at an angle of 33° to the vertical.
on both sides; and				boat in plan view at an angle of 55 to the vertical.
				Force Applied: N.
.3 a force equal to the	safe working load of the hook should			Position 1:Pass Fail
	ok in a direction halfway between the			Position 2:Pass Fail
positions of tests 1 a	and 2 (i.e. 45° to the longitudinal axis			Position 3:PassFail
	ew) at an angle of 33° to the vertical.			Position 4:Pass Fail
This test should be o	conducted in four positions.			
				Comments/Observations

Rigid rescue boats	Model:	Date:       Time:          Surveyor:       Organization:			
5.2.4.3 Load and relea	ise test	Regulations	: LSA Code	4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2	
	ocedure	Acceptance Criteria		Significant Test Data	
A release mechanism she tested as follows: The rescue boat release the longest used co associated with the system adjusted according to ins equipment manufacturer of its safe working load a Load and release should The rescue boat release should then be disassem	and retrieval system and onnection cable/linkage m should be mounted and tructions from the original and then loaded to 100% nd released. be repeated 50 times. se and retrieval system bled, the parts examined e release and retrieval	Acceptance Criteria During the 50 releases, the rescue and retrieval system should b simultaneously from each fall to connected without any binding or da part of the lifeboat release and retrier The system should be considered any failure during the conditioning o release occurs when load is app system has not yet been operated.	e released which it is mage to any val system. as "failed" if r unintended		

Rigid rescue boats	ts Manufacturer:		Date:          Time:            Surveyor:          Organization:	
5.2.4.4 Cyclic loading	test		LSA Code 4	.4.7.6.4; MSC.81(70) 1/6.9.4.3
Test Procee		Acceptance Criteria		Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0° (fully reset position), and repeated at 45° in either direction, or 45° in one direction if		The specimen should remain closed during the test. The system should be considered as "failed" if any failure		Working Load:N Force Applied:N Check the box for each release and/or strike out the cam rotation if no applicable:
		occurs.		Cam rotation 0°: 1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 10: 10: 10: 10: 10: 10: 10: 10: 10
				Cam rotation +45°:         1:       2:       3:       4:       5:       6:         7:       8:       9:       10:       10:         Cam rotation -45°:       1:       2:       3:       4:       5:       6:
restricted by design.				7: 8: 9: 10: 7: 7: 7: 8: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7:
				Comments/Observations

	Manufacturer:			Time:
Rigid rescue boats	Model: Lot/Serial Number:			n:
			Organizatio	
5.2.4.5 Actuation forc	e test	Regulations	: LSA Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.4
Test F	Procedure	Acceptance Criteria		Significant Test Data
reconnected to the hook boat release and retriev demonstrated to operate working load. The demonstration shou indicators and handles a correctly positioned in ac	mechanism should then be a assembly; and the rescue val system should then be a satisfactorily under its safe ld verify that any interlocks, are still functioning and are cordance with the operation rom the original equipment	The actuation force should be r 100 N and no more than 300 N, used it should be the maxir specified by the manufacturer, an the same manner it would be se rescue boat. The release mechanism is deen passed the testing in 5.2.4.3, 5.2.4.5 when the tests have bee successfully. The system considered as "failed" if any failur test or any unintended release occurs.	if a cable is num length d secures in cured in the ned to have 5.2.4.4 and n conducted should be e during this	Actuation Force: N Passed: Failed: Comments/Observations

Rigid rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyor:	Time:
5.2.4.6 Second releas	e mechanism test - actuation fo	orce and tensile strength	Regulations:	LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2
Tes	t Procedure	Acceptance Crit	eria	Significant Test Data
<ul> <li>.1 the actuation force of be measured loaded load. If a cable is use length specified by the the same manner it we demonstration shoul indicators and handle correctly positioned in and safety instruction manufacturer; and</li> <li>.2 the release mechan tensile strength testing</li> </ul>	ism should be tested as follows: f the release mechanism should with 100% of its safe working ed, it should be of the maximum he manufacturer, and secured in ould be secured in a lifeboat. The ld verify that any interlocks, es are still functioning and are h accordance with the operation in from the original equipment ism should be mounted on a ng device. The load should be six times the working load of the	.1 The actuation force should 100 N and no more than 3 The release mechanism does	300 N.	Actuation Force:N Tensile strength @ 6xSWL. Force applied:N. Passed: Failed: Comments/Observations

Rigid rescue boats			Surveyo	Time: or: ation:	
5.2.5.1 Liferaft tow	ing		Regulations:	LSA Co	de 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70) 1/7.1.2
Test	Procedure		ance Criteria		Significant Test Data
The rescue boat should the mass of its equipmen which the rescue boat is towing force of the r determined.	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.			Smallest Engine Largest Engine Make/model:	
This information should b size of fully loaded lifera speed of at least 2 knots.				Bollard pull: N (Record on type approval certificate)	
The fitting designated for secured to a stationary o means to measure bolla operated ahead at full spe and the maximum force r				Observed damage: Propeller: Pitch:	
(For rescue boats equipp pull trials may be carrie powers to assess the res				Diameter: Passed Failed Comments/Observations	

Rigid rescue boats	Model:	er:	_	Surveyor:	Time: :	
5.2.5.2 Endurance, s	peed and fuel co	nsumption	Regulation	ns: LSA Code	4.4.6.8, 5.1.1.6, MSC.81(70)1/	7.1.5, 1/7.1.6
Test Proced	lure	Acceptance C	riteria		Significant Te	
(Note: Run this test afte drop tests in 5.2.7.1.)	r the impact and	The boat should operate satisfactorily throughout the 4-h operation.		Smallest En Make/model:	0 0	
The rescue boat should	be loaded with				Engine Speed: rpm	
weights equal to the mass and the number of perso	s of its equipment				Boat Speed: kts	
rescue boat is to be appr		The fuel tank should have sufficient capacity to operate at a speed of 6 knots for a period of 4 hours in calm water.		Consumption: L/h		
The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory					Fuel Tank Capacity:	L
operation.					Endurance: hrs	
The rescue boat should be run at a speed of not less than 6 knots for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during					Propeller: Pitch: Diameter:	
the 4-hour period of oper	•				Passed F	ailed
For rescue boats equipper motor, speed and ma should be carried out various powers to ass boat's performance.	noeuvring trials with engines of				Comments/Observations	

Model:				Surveyor:	Time:	
5.2.5.3 Engine out				LSA Code 4.4.	6.3, MSC.81(70)1/6.10.5	
Test Proced		Acceptanc			Significant Test Data	
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage.		The orgine should not be demaged as a result of this test		Passed Failed Comments/Observations		
Note: If a water flushing of to be used for this purp fitted during the test.						
5.2.5.4 Compass to	est		Regulations:	LSA Code 5.1.	2.2.3, MSC.81(70)1/6.10.7	
Test Procee	dure	Acceptanc	ce Criteria		Significant Test Data	
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.		The compass operates satisfactorily.		Compass Make:		
5.2.5.5 Helpless pe	erson recovery		Regulations	LSA Code 4.4.	3.4, 5.1.1.7, MSC.81(70)1/6.10.8, 7.1.1	
Test Procee	dure	Acceptanc	ce Criteria		Significant Test Data	
It should be demonstrated by test that it is possible to bring helpless people on board the rescue boat from the sea.		Helpless people can be brought on board the res from the sea.		e rescue boat	Method of recovery: Number of Persons required and any special equipment used: Comments/Observations	

	Manufacturer:			Date:	Time:
Divid receive basts					
Rigid rescue boats	Lot/Serial Numbe	er:		Organizatio	on:
5.2.5.6 Manoeuvrabil	ity with paddles o	r oars	Regulations	LSA Code	5.1.2.2.1, MSC.81(70)1/7.1.8
Test Proce	dure	Acceptance	Criteria		Significant Test Data
It should be demonstrate	ed that the rescue	The rescue boat should be cap	able of being s	atisfactorily	Distance travelled:m
boat can be propelled an its oars or paddles in calr	m water conditions	paddled and manoeuvred.	5	,	Time Required:s
at a speed of at least distance of at least 25 m	n. when laden with				Calculated speed:m/s =knots
the number of perso lifejackets and immersion is to be approved.					Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant
					Immersion suit – Uninsulated/Buoyant Insulated
					Passed Failed
5.2.6.1 Towing test			Populations	ISA Codo	4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1
	duro	Acceptones			
Test Proce	dure	Acceptance	Criteria		Significant Test Data
equipped rescue boat, loaded with a cha		The rescue boat should not exhibit unsafe or unstable characteristics.		unstable	Passed Failed
properly distributed ma		These should be use down one f			Comments/Observations
mass of the number of persons for which it is to be approved, can be towed at a speed					
of not less than 5 knots			531.		
on an even keel using					
painter securing device.					

Rigid rescue boats	Model:	r:		Surveyor:			
5.2.6.2 Painter rele	ase test		Regulations	: LSA Code 4.4.	.7.7, MSC.81(70)	1/6.11.23	
Test Proced	dure	Acceptanc	ce Criteria			Significant T	est Data
It should be demonstrate release mechanism can r on a fully equipped and lo that is being towed at a than 5 knots in calm wate The painter release mech tested in several distinct upper hemisphere not c canopy or other construct boat. The directions speci should be used if possible	d that the painter elease the painter baded rescue boat speed of not less er. hanism should be directions of the bbstructed by the ions in the rescue fied in test 5.2.4.2	The painter should release and to the rescue boat or its equip	d there should		Passed	Passed Passed Passed Passed Passed Passed	Failed

Rig	Model:	Model: Surveyor	r: Time: r: ation:
5.2	7.1 Impact, drop and operation after impact and drop te	drop and operation after impact and drop test Regulations:	LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 6.4.3, 6.4.5, 6.4.7
	Test Procedure		Significant Test Data
.1	For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The remainder of the weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface.	The impact and drop tests should be considered successful if: The impact and drop tests should the rescue boat's efficient functioning; The impact and drop tests should the rescue boat's efficient functioning; The impact and drop tests should the rescue boat, in a free hanging position, should erally to a position so that when released it will rigid vertical surface at a velocity of 3.5 m/s. ould be released to impact against the rigid ce. Scue boat with its engine, loaded as described d then be suspended above the water so that	d Load in boat:kg Observed Damage: YES NO ct nt Satisfactory Operation: YES NO e s y Ingress of Water: YES NO e weight of heaviest engine tested:
.3	<ul><li>the distance from the lowest point of the rescue boat to the water is 3 m. The rescue boat should then be released so that it falls freely into the water.</li><li>After the impact and drop tests, the boat should be examined to detect the position and extent of damage that may have occurred as a result of the tests, and an operational test should then be conducted in accordance with 5.2.5.2.</li></ul>	The rescue boat should then be released so bely into the water. Appact and drop tests, the boat should be detect the position and extent of damage that boccurred as a result of the tests, and an	Final Evaluation: Passed Failed Comments/Observations
.4	After the operational test, the rescue boat should be unloaded, cleaned, and carefully examined to detect the position and extent of damage that may have occurred as a result of the tests.	eaned, and carefully examined to detect the extent of damage that may have occurred as	

Rigid rescue boats	Model:			Surveyor:	Time	
5.2.7.2 Overload te	est		Regulations	: MSC.81(70)1/7	.1.4	
Test Proce	edure	Acceptar	ce Criteria		Sign	ificant Test Data
The rescue boat should properly distributed load weight to represent the complement of person 82.5 kg for which it is to suspended for 5 minute hooks. The weights shou proportion to the loading service condition, but the represent the persons in 300 mm above the seat bridle or hooks and fasted be examined after the conducted.	I of four times the equipment and full as each weighing b be approved and s from its bridle or ald be distributed in g of the boat in its he weights used to heed not be placed pan. The boat and ening device should	The rescue boat and its I should not show any signs o		se mechanism	Load in boat:	
Testing by filling the boar not be accepted. This mer not give the proper dis Machinery may be remove damage, in which case added to the boat to co removal of such machine The rescue boat and it (release mechanism) ar should be examined aft signs of damage.	thod of loading does tribution of weight. red in order to avoid weights should be compensate for the ry. ts bridle or hooks id fastening device				Passed	Failed

#### 5.3 INFLATED RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

- 5.3.0 General Information
  - 5.3.0.1 General data and specifications
    - 5.3.0.2 Submitted drawings, reports and documents
    - 5.3.0.3 Quality assurance
- 5.3.1 Visual inspection
  - 5.3.1.1 Occupant space
  - 5.3.1.2 Fittings, provisions and ladders
  - 5.3.1.3 Engine and starting system
  - 5.3.1.4 Steering mechanism and fuel tank
  - 5.3.1.5 Release mechanism
  - 5.3.1.6 Drain valve
- 5.3.2 Stability, damage, and loading tests
  - 5.3.2.1 Damage test
  - 5.3.2.2 Stability test
  - 5.3.2.3 Loading test
  - 5.3.2.4 Swamp test
  - 5.3.2.5 Righting test (for non self-righting rescue boats)
- 5.3.3 Seating strength and space tests
  - 5.3.3.1 Seating strength test
  - 5.3.3.2 Seating space test
- 5.3.4 Release mechanism tests
  - 5.3.4.1 Simultaneous release test
  - 5.3.4.2 Towing release test
  - 5.3.4.3 Load and release test
  - 5.3.4.4 Cyclic loading test
  - 5.3.4.5 Actuation force test
  - 5.3.4.6 Second release mechanism test actuation force and tensile strength
- 5.3.5 Operational tests
  - 5.3.5.1 Liferaft towing
  - 5.3.5.2 Endurance, speed and fuel consumption
  - 5.3.5.3 Engine out of water
  - 5.3.5.4 Compass test
  - 5.3.5.5 Manoeuvrability with paddles or oars
  - 5.3.5.6 Heavy weather/seas test
- 5.3.6 Towing and painter tests
  - 5.3.6.1 Towing test
  - 5.3.6.2 Painter release test
- 5.3.7 Strength tests
  - 5.3.7.1 Impact, drop and operation after impact and drop tests
  - 5.3.7.2 Ambient overload test
  - 5.3.7.3 Cold overload test
  - 5.3.7.4 Mooring out test
- 5.3.8 Materials tests
  - 5.3.8.1 Inflation chamber characteristics tests

#### 5.3 INFLATED RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Inflated rescue boats	Model:	nber:		Date:            Surveyor:            Organization:		
5.3.0.1 General data	and specification	ons	<b>Regulations:</b>	LSA Code 5	.1	
General Inform	nation	Rescue bo	oat Dimensions		Rescue boat Weight	
Construction Material:		Dimensions:			Design Weight:	
Power: Release mechanism(s) (if a	2	LOA: Breadth Maximum: Depth to Gunwale: Length to transom: Length of hull: (insert diagram of hull for refer Provision for securing hanging (if applicable):	rence)		Unloaded Boat: Loose Equipment: Fuel: Persons: Calculated Loaded Weight: Fully Equipped: With Persons: Weight as Tested: Fully Equipped:	
					Comments/Observations	

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:		Date: Time: Surveyor: Organization:	
5.3.0.2 Submitted of	drawings, reports and do	cuments		1
	Su	bmitted drawings and documents		Status
Drawing No.	Revision No. & date	Title	e of drawing	Status
				-
	S	ubmitted reports and documents		Otatura
Report/Document No.	Revision No. & date	Title of r	eport / document	Status
		Maintenance Manual -		
		Operations Manual -		

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:
5.3.0.3 Quality assur	ance	Regulations: MSC.81(70) 2/1.1,1.2
of the International Conve amended or the Internatio inspected, representatives inspections of manufactur appliances and materials approved prototype life-sav Manufacturers should be re ensure that life-saving application the prototype life-saving application to the prototype life-s	equired to institute a quality control procedure to liances are produced to the same standard as opliance approved by the Administration and to loction tests carried out in accordance with the	Quality assurance         Standard Used:         Quality assurance Procedure:         Quality assurance Manual:         Description of System:
		Quality assurance System acceptable
		Yes/No
		Comments/Observations

Inflated rescue boats	Model:	r: Imber:					
5.3.1.1 Occupant spa	ace		Regulations:	LSA Code	5.1, MSC.81(70)1/7.2.16		
Test Procedu	re	Acceptance	Criteria		Significant Test Data		
Visually inspect the rescue Conduct measurements clearances as required.		General Unless the rescue boat has ad provided with a bow cover ex 15% of its length. Length is at least 3.8 m and m Seating Space Width – at least 430 mm Depth – at least 100 mm eac from the back Knee Space (Seating on seats back Knee Width – at least 250 mm Leg Space (Seating on floor) the back Overlapping Seat Vertical Sep Seat Horizontal Overlap – 150 Each seating position should I Stretcher(s) space: Rescue boats should be capal seated persons and a perso minimum 2130 x 610 mm. Walkway Surfaces The surfaces on which person a non-skid finish.	lequate sheer, it stending for not ot over 8.5 m. ch side of a poin at least 635 mr – at least 1190 paration – at leas 0 mm maximum be clearly indicat ble of carrying at n lying on a str	less than t 215 mm n from the mm from st 350 mm ted. ted.	Passed       Failed         Passed       Failed         Passed       Failed         Width:      mm         Depth:      mm         Knee Space:      mm         Leg Space:      mm         Vert. Separation:      mm         Overlap:      mm         Position Indication:       PASSED FAILED         Stretcher space:      mm         Location:          Passed       Failed         Non-Skid Surface:       Passed         Comments/Observations       Failed		

Inflated rescue boats	Manufacturer:			Date:          Time:            Surveyor:          Organization:			
5.3.1.2 Fittings, prov	isions and ladd	ers	<b>Regulations:</b>	LSA Code 4.4.	3.3, 5.1.3, MSC.81	1(70)1/7.2.16	
Test Procedu	re	Acceptano				Significant Test Dat	а
Visually inspect the rescue	boat.	Colour: The boat is of international or vivid reddish orange, or a highly visible colour where it will assist detection.		Passed	Failed	_	
Conduct measurements	and verify				Passed	Failed	_
clearances as required.		Buoyancy compartments fitt Non-return valve for manual in			Passed	Failed	_N/A
		Means for deflation			Passed	Failed	
		Safety relief valve unless waiv Suitable patches for securing			Passed	Failed	_
		Fittings and Provisions Suitable handholds or buoyar outside of the rescue boat at reach of a person in the wate rudder and propeller	ove the waterli	ne and within	Passed	Failed	_N/A
		On other than self-righting rea			Passed	Failed	_
		underside arranged to break rescue boat Weathertight stowage for sma		0.0	Passed	_Failed	_
		Approved position indicating li	ght provided at I	nighest point	Passed	_Failed	_
		Rubbing strips on bottom an outside Transom, if fitted, not inset to length			Passed	_Failed	_

5.3.1.2 Fittings, provisions and ladders (cont'd)		Regulations: LSA Code 4.4.	.3.3, 5.1.3, MSC.81(70)1/7.2.16		
Test Procedure	Accep	ptance Criteria	Significant Test Data		
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		eans of bailing or be automatically	Passed Failed Comments/Observations		
	Ladders	at any entrance should be on board	YES NO N/A		
		n in place should not be less than			
			Comments/Observations		

Inflated rescue boats	Model:	ber:	Date:          Time:            Surveyor:          Organization:		
5.3.1.3 Engine and st	tarting system	Reg	gulations: LSA Code 4.4.6	, 5.1, MSC.81(70)1/7.2.16	
Test Procedu	re	Acceptance Cr	riteria	Significant Test Data	
Visually inspect the rescue Conduct measurements clearances as required.		<ul> <li>Type of starting system</li> <li>Two independent rechargeable enpower starting systems</li> <li>Required starting aids provided</li> <li>Starting system is not impeded by other obstructions</li> <li>Propeller arranged to be disengal provision for ahead and astern providing system from floating debris</li> <li>Engine casing made of fire-retassuitable arrangements providing s</li> <li>Personnel are protected from hot</li> <li>Shouted order can be heard with necessary for 6 knot operation</li> <li>Watertight casing around botto batteries with a tightly fitting top venting</li> <li>Means for recharging engine start batteries provided by solar charge</li> <li>Radio batteries not used to provid</li> <li>Towing arrangement for marshalli</li> </ul>	nergy sources provided for y engine casing, thwarts or aged from the engine and opulsion ter from entering engine in to the safety of persons in damage to the propulsion tardant material or other similar protection and moving parts n engine running at speed of and sides of starter p which provides for gas ting, radio, and searchlight er or ship's power supply de power for engine starting	Manual Power         YES       NO       N/A         Passed       Failed         Passed       Failed	

Model:	urer: Number:		Surveyor:		_ Time:
arting system		<b>Regulations:</b>	LSA Code 4.4.6,	5.1, MSC.81(	70)1/7.2.16
9					Significant Test Data
and starting	<ul> <li>Recharging for engine batters supply does not exceed 50 v</li> <li>Recharging means for enginerat the rescue boat embarkat</li> <li>Instructions for starting and</li> </ul>	eries provided t / e batteries can t ion station d operating en	e disconnected gine are water	Passed Passed Passed	Failed Failed
2	Model: Lot/Serial Numl rting system	Model:	Model:	Model:	Model:

Inflated rescue boats	Model:		Date:          Surveyor:          Organization:				
5.3.1.4 Steering mechar	nism and fuel ta	nk	Regulations:	LSA Code 4.4.	7.2, 5.1.1.8, MSC.81(70	0)1/7.2.16	
Test Procedur	e	Acceptanc	e Criteria		Signif	ficant Test Data	
Visually inspect the rescue		Steering A tiller should be capable of controlling the rudder (rudder F			Passed	Failed	
clearances as required	and verify	and tiller may form part of out		,			
		Rudder permanently attached	to the rescue bo	pat	Passed	Failed	N/A
		Except when remote steering is provided, the tiller is permanently attached or linked to the rudder stock			Passed	Failed	N/A
		Rudder and tiller arranged s operation of the release mecha			Passed	Failed	-
		Fuel Tank					
		If fitted with petrol-driven our should be specially protected a			Passed	Failed	_N/A
					Comments/Observation	ons	

Inflated rescue boats	Model:	Sur			te: Time: rveyor: ganization:			
5.3.1.5 Release mecl	hanism		<b>Regulations:</b>	LSA	Code 4.4.7, 5.1, MS	C.81(70)1/7.2.16		
Test Procedure		Acceptance Criter	ia		Sig	nificant Test Data		
Visually inspect the rescue	boat.	Clear operating instructions			Passed	Failed		
Conduct measurements clearances as required	and verify	Release control marked in a colour the surroundings	that contrasts	with	Passed	Failed		
		For on-load release mechanisms:						
		Suitably worded danger sign for or	load release		Passed	Failed	N/A	
		Mechanical protection (interlock) e mechanism is completely and prevent accidental release during r	properly reset		Passed	Failed	N/A	
		On-load release mechanism nee continued action by the operator	ds deliberate	and	Passed	Failed	N/A	
		Mechanical protection provided be required for off load release	yond that norm	nally				
					Passed	Failed	N/A	
		For a single fall and hook system w on-load release capability is not re arrangement a single capability to only when it is fully waterborne will	equired; in such release the t	n an	Passed Comments/Observa		N/A	
		NOTE: Such single fall hook system to the boat or to the davit fall wire	ns may be attac	hed				

Inflated rescue boats	Model:	Surveyor:			Time:		
5.3.1.6 Drain valve			Regulation	s: LSA Code 4	4.4.7.1, 5.1	, MSC.81(70)1/7.2.16	
Test Proce	dure	Acceptar	nce Criteria			Significant Test Data	
Visually inspect the rescue	boat	Fitted near lowest point of	n the hull		Passed	Failed	
Conduct measurements and verify clearances as required (not applicable for self-bailing boats)		Automatically opens when the boat is not waterborne and closes to prevent water entry when the boat is waterborne		Passed _	Failed		
		Cap or plug attached to t	he hoat hy a l	anvard chain	Passed _	Failed	
		Cap or plug attached to the boat by a lanyard, chain or equivalent		anyara, onam	Passed _	Failed	
		Readily accessible from inside the rescue boat		Passed	Failed		
		Position clearly marked				ts/Observations	
5.3.2.1 Damage test				LSA Code 5.		C.81(70)1/7.2.89	
Test Proce			nce Criteria		Significar	nt Test Data	
The following tests should be inflated rescue boat loaded persons (of 82.5 kg mass) approved both with and with or an equivalent mass in engine and fuel tank:	be carried out with the In each of the conditions p d with the number of persons for which the res ) for which it is to be should be supported with thout engine and fuel		scue boat is to	be approved	1 Passed	ts/Observations With engine and fuel: Failed Without engine and fuel Failed Failed	
.1 with forward buoy deflated;					Passed	With engine and fuel: Failed Without engine and fuel	
<ul><li>.2 with the entire buoya the rescue boat deflat</li><li>.3 with the entire buoyar the bow compartment</li></ul>	ed; and ncy on one side and				3 Passed	Without engine and fuel	
					Passed	Failed	

<ul> <li>initiated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and</li> <li>i.2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescues boat so that he cannot assist the rescuers. All persons should wear approved lifejackets.</li> <li>These stability tests may be carried out with the</li> </ul>	Inflated rescue boats	Model:		Su	urveyor:	Time:
The following tests should be carried out with engine and fuel or an equivalent mass in place of the engine and fuel tanks:       1       Under these conditions the freeboard should be inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and       1       Under these conditions the freeboard should be the everywhere positive.       1       Freeboard crowded to one side	5.3.2.2 Stability test			Regulations: LS	SA Code 4.4.5,	MSC.81(70)1/6.10.8, 7.2.67
<ul> <li>engine and fuel or an equivalent mass in place of the engine and fuel tanks:</li> <li>1 the number of persons for which the inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and</li> <li>2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat should wear approved lifejackets.</li> <li>These stability tests may be carried out with the</li> </ul>	Test Proce	dure	Acceptar	nce Criteria		Significant Test Data
<ul> <li>boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets.</li> <li>These stability tests may be carried out with the</li> <li>2 The rescue boat should be stable.</li> <li>2 Stability observations during recovery of unconscious person:</li></ul>	engine and fuel or an equiv of the engine and fuel tanks .1 the number of perso inflated rescue boat should be crowded to this complement seate tube, and then to one e	valent mass in place s: ons for which the is to be approved one side with half ed on the buoyancy nd. In each case the		s the freeboard sho	ould be 1	Freeboard crowded to one sidemm To bow:mm To stern:mm PassedFailed
Depend Foiled	boarding should be a persons in the rescue that they can readily a a third person who is unconsciousness. The have his back toward rescue boat so that h rescuers. All perso approved lifejackets.	ascertained by two boat demonstrating ssist from the water s required to feign third person should ds the side of the e cannot assist the ons should wear	.2 The rescue boat should	d be stable.	Nu	recovery of unconscious person: Clothing/Suits on helpless person: Method of recovery: umber of persons required and any special
rescue boat floating in still water.						assed Failed

	Manufacturary			Data	Time	
	Manufacturer: Model:				Time:	
Inflated rescue boats	Lot/Serial Number:			Organization:		
				Organization.		
5.3.2.3 Loading test			Regulations: N	ISC.81(70)1/7	/.2.45	
Test Proc	cedure	Acce	ptance Criteria		Significant Test Data	
The freeboard of the inflate	d rescue boat should be	In each condition the	minimum freeboa	ard should be	.1 Freeboard at Buoyancy Tubes:m	nm
taken in the various loading		not less than 300 m				nm
.1 rescue boat with all its e	auinmont:	not less than 250 m	m from the lowes	st part of the		
		transom.			.2 Freeboard at Buoyancy Tubes:r	nm
.2 rescue boat with all its					Freeboard at Transom:r	mm
represent engine and fu	nt mass positioned to					
					.3 Freeboard at Buoyancy Tubes:r	
.3 rescue boat with all					Freeboard at Transom:r	mm
	which it is to be approved				.4 Freeboard at Buoyancy Tubes:r	mm
	s of 82.5 kg so arranged d is achieved at the side				Freeboard at Transom:r	
buoyancy tubes; and						
	mhar of naroona far which				Passed Failed	
.4 rescue boat with the nur	all its equipment, engine					
and fuel or an equivalen					Comments/Observations	
engine and fuel and the					Comments/Observations	
re-trimmed as necessar						
5.3.2.4 Swamp test			Regulations: M	ISC.81(70)1/7	/.2.11	
Test Proc	cedure	Acce	ptance Criteria		Significant Test Data	
It should be demonstrated	d that the rescue boat,	The rescue boat sho	uld be capable of	supporting	Passed Failed	
when fully swamped, is cap		the full load and shou				
equipment, the number of						
82.5 kg for which it is to b					Comments/Observations	
equivalent to its engine an						
should also be demonstrat						
does not seriously deform in		1				

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor:	Time:		
5.3.2.5 Righting test	(for non self-righting rescue b	oats)	Regulations: M	/ISC.81(70)1/7.1	.7		
Test F	Procedure	A	Acceptance Crite	ria	Sign	ificant Test Data	
engine and fuel or an equencine and fuel tank, the rearighted by not more than two water. For rescue boats with inbeengine and fuel is not applied	d that both with and without uivalent mass in place of the escue boat is capable of being o persons if it is inverted on the bard engines, the test without cable.		oat should be ca t more than two e water.			bat report 4.5.2.3) ted by 2 persons? : Failed uel: Failed	
					Comments/Observati	ions	
5.3.3.1 Seating stren		•			1.5, MSC.81(70)1/6.6.1		
	Procedure		cceptance Criter		, ,	icant Test Data	
	ded with a mass of 100 kg in a person to sit in the rescue		should be able t ut any permane		Observed damage Passed	Failed	
seat should be loaded with seat location when dropped	a mass of 100 kg in any single into the water from height of at performed in conjunction with	this loading. N	hould be capable lo damage shoul affect the se	d be sustained	Passed Comments/Observation		N/A

Inflated rescue boats Manufacturer: Model: Lot/Serial Number:				Date: Time: Surveyor: Organization:		
5.3.3.2 Seating space	e test		Regulations:	LSA Code 5.1	.1.3.2, MSC.81(70)1/7.1.3	
Test Procedur	e	Acceptanc	ce Criteria		Significar	nt Test Data
The rigid rescue boat she with its engine and all its en- number of persons for whi boat is to be approved average mass of at least 8 wearing lifejackets and im and any other essentia required, should then boar should lie down on a stretch dimensions to those show and the others should be print the rescue boat. The rigit should then be manoeut equipment on board demonstrate that it can without difficulty or interfer occupants.	quipment. The ch the rescue l, having an 2.5 kg, and all mersion suits al equipment d; one person cher of similar n in the figure roperly seated d rescue boat vred and all tested to be operated ence with the	Equipment can be operated occupants. The rescue boat must be of 5 persons and a person lying Except the helmsmen, pers floor, provided the space used requirements of test form 5.3 No seating is on the gunw chambers on the sides of the	capable of carry down on a stret ons may be se d conforms with t .1.1. vale, transom, o	ving at least ocher. eated on the the leg space	Equipment operated: Number of persons carried: Seated on seats Seated on floor Lying on a stretcher Total Passed F Lifejacket and immersion suit Lifejacket – Inflatable/Infl Immersion suit – Uninsulate	ailed it used during the test: herently Buoyant

Inflated rescue boats	Model:	ər:		Surveyor:	Time		
5.3.4.1 Simultaneou	s release test		Regulation	s: LSA Code 4.4	.7.6, MSC.81(70)1/6.9	9.12	
Test Procedu	re	Acceptano	e Criteria		Sig	gnificant Test Da	ta
For rescue boats launched the rescue boat with its should be suspended from mechanism just clear of th water. The rescue boat sh so that the total mass equa mass of the rescue boat, a and the number of person rescue boat is to be approve boat should be released from each fall to which is without binding or damage the rescue boat or the released (Single fall systems not on-load operation are ex- test.)	s engine fitted om the release e ground or the ould be loaded als 1.1 times the all its equipment s for which the yed. The rescue simultaneously t is connected to any part of ase mechanism.	It should be confirmed to simultaneously release from a without binding or damage to or the release mechanism. It should be confirmed to simultaneously release from connected when fully waterboo in a 10% overload condition.	each fall which any part of th hat the resc n each fall t	it is connected ne rescue boat cue boat will o which it is	Light condition PassedI (N/A – Single fall, 1.1 x Loaded Mass Passed (N/A – Single fall, Comments/Observa	off-load only) : Failed , off-load only)	kg

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:		Time:
5.3.4.2 Towing release to	est	Regulations:	LSA Code 4.4.	7.6.5; MSC.81(70) 1/6.9.3
	Procedure	Acceptance Crite		Significant Test Data
<ul> <li>With the operating mechan demonstrated when the rescomplement of persons a speeds of 5 knots that the meclosed.</li> <li>Furthermore, with the oper should be demonstrated that with its full complement of towed at speeds of 5 knots above should be demonstrated.</li> <li>.1 a force equal to 25% hook should be applied direction of the boat at This test should be conducted of a should be applied to direction at an angle of should be conducted of the should be applied to the should be ap</li></ul>	ating mechanism connected, it and equipment and towed at noveable hook component stays ating mechanism connected, it at the rescue boat when loaded persons and equipment when s can be released. Both of the at do the hook in the lengthwise an angle of 45° to the vertical. Inducted in the aftward as well on; safe working load of the hook the hook in an athwartships of 20° to the vertical. This test	Acceptance Crite There should be no damage a these tests. The rescue boat is released sa the release mechanism. Single fall systems not intende operation are exempt from this	as a result of atisfactorily by ed for on-load	Operating mechanism disconnected and boat towed at 5 kts:PassFail         Operating mechanism connected tests.         Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical:         Force Applied:N.         Forward direction:PassFail         Aft direction:PassFail         Test 2: 100% SWL, athwartships at 20° to the vertical:         Force Applied:N.         Starboard:PassFail         Port:PassFail         Port:PassFail         Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical.         Force Applied:N.         Position 1:PassFail         Position 2:PassFail         Position 3:PassFail         Position 3:PassFail         Position 4:PassFail
in four positions.				Comments/Observations

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:          Surveyor:          Organization:	
5.3.4.3 Load and relea	ase test	Regulations: L	SA Code 4.	4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2
Test Proc		Acceptance Criteria		Significant Test Data
A release mechanism shou tested as follows: The rescue boat release ar the longest used com associated with the syster and adjusted according to original equipment manufa- to 100% of its safe working Load and release should be The rescue boat release should then be disassemble and wear recorded. The system should then be reas	Id be conditioned and nd retrieval system and nection cable/linkage m should be mounted o instructions from the cturer and then loaded load and released. e repeated 50 times. and retrieval system ed, the parts examined release and retrieval	During the 50 releases, the rescue bo and retrieval system should be simultaneously from each fall to w connected without any binding or dama part of the lifeboat release and retrieval The system should be considered as any failure during the conditioning or u release occurs when load is applied system has not yet been operated.	released hich it is age to any I system. "failed" if nintended	Working Load:N         Force Applied:N         Check the box for each release:         1:2:3:4:5:6:         7:8:9:10:11:12:         13:14:15:16:17:18:         19:20:21:22:23:24:         25:26:27:28:29:30:         31:32:33:34:35:36:         37:38:39:40:         43:44:45:46:         49:50:         Passed Failed         Comments/Observations

Inflated rescue boats	Model:	ber:	Surveyor:	Time: 
5.3.4.4 Cyclic loading tes	st	Regulations: L	SA Code 4.	.4.7.6.4; MSC.81(70) 1/6.9.4.3
Test Procedu	re	Acceptance Criteria		Significant Test Data
The hook assembly, while from the operating mechar tested 10 times with cycli zero load to 1.1 times th load, at a nominal 10 sect unless the release mecha specifically designed to op load hook with on-load cap weight of the boat to close to case the cyclic load shou more than 1% to 1.1 times For cam-type designs, the carried out at an initial car (fully reset position), and re either direction, or 45° in restricted by design.	e disconnected hism, should be ic loading from e safe working onds per cycle; nism has been erate as an off- ability using the the hook, in this Id be from no the SWL. test should be m rotation of 0° peated at 45° in	The specimen should remain closed during th The system should be considered as "failed" if during this test or any unintended release o occurs.	any failure	Working Load:N Force Applied:N
				Comments/Observations

Inflated rescue boats	Model:		Surveyor:	on:
5.3.4.5 Actuation force	test	Regula	tions: LSA Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.4
Test Pro	ocedure	Acceptance Cri	teria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load.		and no more than 300 N, if a cable is used it should be the maximum length specified by the		Actuation Force: N Passed: Failed:
The demonstration should indicators and handles are correctly positioned in acco and safety instruction from manufacturer.	e still functioning and are	The release mechanism is passed the testing in 5.3. 5.3.4.5 when the tests have successfully. The syste considered as "failed" if any test or any unintended rel occurs.	4.3, 5.3.4.4 and been conducted m should be failure during this	Comments/Observations

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyor:	Time:
5.3.4.6 Second release	mechanism tests- actuation for	orce and tensile strength	<b>Regulations: LSA</b>	Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2
Test P	rocedure	Acceptance	Criteria	Significant Test Data
<ol> <li>the actuation force of t be measured loaded v load. If a cable is used length specified by the the same manner it w The demonstration sho indicators and handles correctly positioned in and safety instruction manufacturer; and</li> <li>the release mechanis tensile strength testing</li> </ol>	n should be tested as follows: he release mechanism should with 100% of its safe working l, it should be of the maximum manufacturer, and secured in ould be secured in a lifeboat. ould verify that any interlocks, s are still functioning and are accordance with the operation from the original equipment m should be mounted on a g device. The load should be x times the working load of the	.1 The actuation force than 100 N and no m The release mechanism o	should be no less ore than 300 N.	

Inflated rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:            Surveyor:            Organization:		
5.3.5.1 Liferaft towin	g		Regulations: L	SA Coo	de 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2
Test Pro	ocedure		ance Criteria		Significant Test Data
for which the rescue boa	loaded with weights equal and the number of persons t is to be approved. The ne rescue boat should then	The maximum tow boat should be approval certificate There should be n fitting or its support	recorded on the e. o damage to the to	e type	Smallest Engine       Largest Engine         Make/model:
	e used to determine the liferaft the rescue boat can knots.				Bollard pull: N (Record on type approval certificate)
secured to a stationary obje a means to measure bollard operated ahead at full spe 2 minutes and the maximum (For rescue boats equipp bollard pull trials may be o	ed for a period of at least				Observed damage: Propeller: Pitch: Diameter: Passed Failed Comments/Observations

Inflated rescue boats	Model:	ber:		Surveyor: _	Time: on:
5.3.5.2 Endurance, speed	l and fuel consu	mption	Regulation	ns: LSA Co	ode 5.1.1.6, MSC.81(70)1/7.1.5, 1/7.1.6
Test Procedu	re	Acceptance Crit	teria		Significant Test Data
(Note: Run this test after in tests in 5.3.7.1.)	npact and drop	The boat should operate satisfactor operation.	orily through		Smallest Engine       Largest Engine         Make/model:
The rescue boat should be weights equal to the mass of and the number of person rescue boat is to be approved	of its equipment s for which the	The fuel tank should have sufficien a speed of 6 knots for a period of 4		operate at Im water.	Engine Speed: rpm Boat Speed: kts
The engine should be start manoeuvred for a period o demonstrate satisfactory op	f at least 4 h to				Consumption: L/h
The rescue boat should be of not less than 6 knots for is sufficient to ascert consumption and to establi tank has the required of determination may be	a period which ain the fuel ish that the fuel capacity. (This made during				Endurance: hrs Propeller: Pitch: Diameter:
the 4-hour period of operation For rescue boats equipped motor, speed and man should be carried out w various powers to assess the performance.	d with outboard oeuvring trials ith engines of				Passed Failed Comments/Observations

Inflated rescue boats	Model:	Surveyor:			Time:		
5.3.5.3 Engine out of	water		Regulations:	LSA Code 4.4.	6.3, MSC.81(70)1/6.10.5		
Test Procedu	re	Acceptano	ce Criteria		Significant Test Data		
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage.The engine should not be daNote: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.Fitted during the test.		naged as a resul	t of this test.	Passed Failed Comments/Observations			
5.3.5.4 Compass test	t		<b>Regulations:</b>	LSA Code 5.1.	.2.2.3, MSC.81(70)1/6.10.7		
Test Procedu	re	Acceptano	ce Criteria	Significant Test Data			
It should be determined the performance is satisfactory unduly affected by magne equipment in the rescue bo	and that it is not etic fittings and	The compass operates satisfa	ctorily.		Compass Make: Compass Model: Passed Failed Comments/Observations		

Inflated rescue boats	Manufacturer: _ Model: Lot/Serial Numl	ber:		Date:          Time:            Surveyor:          Organization:		
5.3.5.5 Manoeuvrability	with paddles o	r oars	Regulations:	LSA Code 5.1.	2.2.1, MSC.81(70)1/7.1.8	
Test Procedu	re	Acceptance	e Criteria		Significant Test Data	
It should be demonstrated boat can be propelled and its oars or paddles in calm v at a speed of at least 0.3 distance of at least 25 m. v the number of persons lifejackets and immersion s is to be approved.	manoeuvred by water conditions 5 knots over a when laden with s, all wearing	The rescue boat should be capaddled and manoeuvred.	bable of being s	atisfactorily	Distance travelled:m Time Required:s Calculated speed:m/s =knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant Immersion suit – Uninsulated/Buoyant Insulated Passed Failed Comments/Observations	

Inflated rescue beats Model:	er:	Surveyor: _	Time: n:
5.3.5.6 Heavy weather/seas test	R	Regulations: LSA Co	de 5.1.3, MSC.81(70)1/7.2.10
Test Procedure	Acceptance Criteria	а	Significant Test Data
To simulate use in heavy weather inflated rescue boat should be fitted w larger powered engine than is intended	n a permanent strain nor have lost n to pressure.		Tube pressure before test:      mbar         Pressure relief valves open/closed?
be fitted and driven hard in a wind of f 4 or 5 or equivalent rough water for at 30 minutes.			Wave height m Wind Speedm/s
For boats with inboard engines the po does not need to be greater than intended to be used.			Tube pressure after test:mbar Passed Failed Comments/Observations
5.3.6.1 Towing test	R	Regulations: LSA Co	de 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1
Test Procedure	Acceptance Criteria	а	Significant Test Data
It should be demonstrated that the equipped rescue boat, loaded wit properly distributed mass equal to mass of the number of persons for wh is to be approved, can be towed at a sp of not less than 5 knots in calm water on an even keel using the rescue b painter securing device.	<ul> <li>a characteristics.</li> <li>he</li> <li>hit There should be no damage to the</li> <li>ed equipment as a result of this test.</li> <li>nd</li> </ul>		

Inflated rescue boats	Model:	ber:		Surveyor:			
5.3.6.2 Painter relea	se test		Regulations:	LSA Code 4.4.	.7.7, MSC.81(70)	)1/6.11.23	
Test Procedu	ire	Acceptan	ce Criteria			Significant T	est Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water.		The painter should release an to the rescue boat or its equip		•	Passed		Failed
						Passed	Failed
The painter release mecha tested in several distinct of upper hemisphere not ob	directions of the					Passed	
canopy or other construction						Passed	Failed
boat. The directions specific should be used if possible.						Passed	Failed
						Passed	Failed
						Passed	Failed
					Comments/Ob	servations	

Model:				Surveyor:	Tim ion:	
5.3.7	7.1 Impact, drop a	and operation after impac	t and drop tests	Regulatior	ns: LSA Code 4.4.1.7, MS	C.81(70)1/6.4.1, 7.2.2. & 7.2.3
	Test Pro		Acceptance Criteria			ant Test Data
.1	equipped rescue boa should be loaded with of the number of pers boat is to be approved should be a weight of each type of seat inst weights should be dis normal loading in th weights need not be p seatpan.) Skates or fe be in position. The resc position, should be pu so that when released vertical surface at a v raised 0.624 m above to The boat should be resc	by fall or falls, the fully at, including its engine, weights equal to the mass cons for which the rescue d. Included in this loading 100 kg loaded in one of talled in the lifeboat. The stributed to represent the ne rescue boat. (These blaced 300 mm above the enders, if required, should cue boat, in a free hanging illed laterally to a position d it will strike a fixed rigid elocity of 3.5 m/s (keel is the free hanging position). eleased to impact against	<ul> <li>The impact and drop tests should considered successful if:</li> <li>.1 no damage has been sus would affect the efficient fur the rescue boat and its equip</li> <li>.2 the damage caused by the drop tests has not increased as a result of the operation 5.3.5.2;</li> <li>.3 machinery and other equin operated to full satisfaction; a</li> <li>.4 no significant ingress of second courred.</li> </ul>	tained that actioning of ment; impact and significantly onal test in pment has ind	Load in boat: Observed Damage: Increased Damage: Satisfactory Operation: Ingress of Water: Weight of heaviest engin Final Evaluation:	_kg YES NO YES NO YES NO
.2	and with a mass equivalent in the position of its ended by the dropped three time 3 m on to water. The 45-degree bow-down, stern-down attitudes.	lete with all its equipment alent to its engine and fuel agine and fuel tank should s from a height of at least drops should be from the level trim, and 45-degree				iileds
.0	its equipment should b					

Inflated rescue boats	Model:	ber:		Surveyor:	Time:	
5.3.7.2 Ambient over	load test		Regulations: L	LSA Code 5.1.	3.2.2, MSC.81(70)1/7.2.12	
Test Procedu	re	Acceptanc	ce Criteria		Significant	Test Data
With all relief valves in inflated rescue boat should four times the mass of the f of persons and equipment f be approved and suspende from its bridle at an ambient $+20 \pm 3^{\circ}$ C.	be loaded with full complement for which it is to d for 5 minutes	The rescue boat and its bridle not show any signs of damage		anism should	Passed Comments/Observations	Failed
The rescue boat and its b examined after the test is co						
5.3.7.3 Cold overload	d test	Regulations: LSA Code 5.1.3.2.3, MSC.81(70)1/7.2.13				
Test Procedu	re	Acceptance Criteria		Significant Test Data		
With all relief valves operative conditioning at a temperature inflated rescue boat should 1.1 times the mass of the f of persons and equipment f be approved and suspende from its bridle. The rescue boat and brid examined after the test is contracted the test is contracted.	re of -30°C, the be loaded with full complement for which it is to ed for 5 minutes	The rescue boat and its bridle not show any signs of damage		anism should	Passed	Failed

Inflated rescue boats Manufacturer: Lot/Serial Number:			Surveyor:	Time:	
5.3.7.4 Mooring out test			<b>Regulations:</b>	LSA Code 5.1.	3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.78
Test Procedure		Accepta	nce Criteria		Significant Test Data
The rescue boat should be loaded equal to the mass of the total numb for which it is to be approved and and moored in a location at sea or harbour. The rescue boat should in that location for 30 days. The be topped up once a day using pump; however, during any 24-ho rescue boat should retain its shap Each inflatable compartment in the should be tested to a pressure et times the working pressure. Each p valve should be made inoperative air should be used to inflate the infl boat and the inflation source remo should continue for at least 30 min The measurement of pressure leakage can be started when assumed that compartment mate completed stretching due to pressure and achieved equilibrium	ber of persons d its equipment r in a seawater d remain afloat pressure may ng the manual nour period the pe. the rescue boat equal to three pressure relief e, compressed flatable rescue noved. The test inutes. drop due to it has been erial has been the inflation	The rescue boat should would impair its performant The pressure should not of determined without comp atmospheric pressure char seam slippage, cracking boat.	nce. decrease by mo ensating for ten inges, and there	re than 5% as nperature and should be no	Compartment 1         Initial Pressure:       mbar         Final Pressure:       mbar         Calculated Decrease:       Percent         Compartment 2       mbar         Initial Pressure:       mbar         Final Pressure:       mbar         Calculated Decrease:       Percent         Compartment 2       mbar         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 3       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 4       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 5       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Passed       Failed         Passed       Failed

Inflated rescue boats	Model:	ber:		Date:          Time:            Surveyor:          Organization:		
5.3.8.1 Inflation cham	nber characteris	stics tests	<b>Regulations:</b>	LSA Code	e 1.2.2, MSC.81(70)1/7.2.14	
Test Procedur	е	Acceptance	Criteria		Significant Test Data	
The inflatable compartment to construct the rescue be tested for the following chara .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resis	oat should be acteristics:	The material characteristics sh ISO 15372:2000.			.1       tensile strengthN         .2       tear strengthN         .3       heat resistance – Blocking         .4       cold resistance – Cracking         .5       heat ageing% retained strength N/50 mm width         .6       weathering% retained strength N/50 mm width         .6       weathering% retained strength N/50 mm width         .7       flex cracking – Cracking or deterioration         .8       abrasionmg/rev.; Base fabric not visible         .9       coating adhesionN/50 mm width         .10       oil resistance – Tackiness or other deterioration         .11       elongation at break%         .12       piercing strength	

# 5.4 RIGID/INFLATED RESCUE BOATS EVALUATION AND TEST REPORT

- 5.4.0 General Information
  - 5.4.0.1 General data and specifications
    - 5.4.0.2 Submitted drawings, reports and documents
  - 5.4.0.3 Quality assurance
- 5.4.1 Visual inspection
  - 5.4.1.1 Occupant space
  - 5.4.1.2 Fittings, provisions and ladders
  - 5.4.1.3 Engine and starting system
  - 5.4.1.4 Steering mechanism and fuel tank
  - 5.4.1.5 Release mechanism
  - 5.4.1.6 Drain valve
- 5.4.2 Stability, damage and loading tests
  - 5.4.2.1 Damage test
  - 5.4.2.2 Stability test
  - 5.4.2.3 Loading test
  - 5.4.2.4 Swamp test
  - 5.4.2.5 Flooded stability test
  - 5.4.2.6 Righting test (for non self-righting rescue boats)
- 5.4.3 Seating strength and space tests
  - 5.4.3.1 Seating strength test
  - 5.4.3.2 Seating space test
- 5.4.4 Release mechanism tests
  - 5.4.4.1 Simultaneous release
  - 5.4.4.2 Towing release test
  - 5.4.4.3 Load and release test
  - 5.4.4.4 Cyclic loading test
  - 5.4.4.5 Actuation force test
  - 5.4.4.6 Second release mechanism test actuation force and tensile strength
- 5.4.5 Operational tests
  - 5.4.5.1 Liferaft towing
  - 5.4.5.2 Endurance, speed and fuel consumption
  - 5.4.5.3 Engine out of water
  - 5.4.5.4 Compass test
  - 5.4.5.5 Manoeuvrability with paddles or oars
  - 5.4.5.6 Heavy weather/seas test
- 5.4.6 Towing and painter tests
  - 5.4.6.1 Towing test
  - 5.4.6.2 Painter release test
- 5.4.7 Strength tests
  - 5.4.7.1 Impact, drop and operation after impact & drop test
  - 5.4.7.2 Overload test
  - 5.4.7.3 Mooring out test
- 5.4.8 Materials tests
  - 5.4.8.1 Inflation chamber characteristics tests

### 5.4 RIGID/INFLATED RESCUE BOATS

### **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Bigid/inflated rescue beats	Manufacturer: Model: Lot/Serial Number:	Surv	: Time: eyor: anization:
5.4.0.1 General data and spe	ecifications	Regulations: LSA Coc	le 4.4, 5.1, MSC.81(70)1/7.2.16
General Information		boat Dimensions	Rescue boat Weight
Construction Material:         Hull:         Canopy:         Fire-retardancy documentation:_         Rescue Boat Inherent Buoyancy (T         App.) Material:         Weight:         Occupancy:         Persons (82.5 kg each):         Engine(s) Installed:         1         Type App by:         Manufacturer:         Type:         Power:         Gear ratio (inboard engine):         1         Manufacturer:         Type:         SWL:	Dimensions:         LOA:         Breadth Maximum:         Breadth Maximum:         Depth to Sill:         Depth to Gunwale:         Moulded Breadth:         Moulded Depth:         Provision for securing hangin applicable):         ncy:         2         1	ng-off pendant (if	Design Weight:         Unloaded Boat:         Loose Equipment:         Fuel:         Persons:         Calculated Loaded Weight:         Fully Equipped:         With Persons:         Weight as Tested:         Fully Equipped:         Comments/Observations
500L.			

Divid/inflated receive basts IVIODEI:			Date: Time: Surveyor: Organization:	
5.4.0.2 Submitted dr	awings, reports and do	cuments		
	Su	mitted drawings and documents		Statua
Drawing No.	Revision No. & date	Title	of drawing	Status
	S	bmitted reports and documents		Status
Report/Document No.	Revision No. & date	Title of rep	port / document	Status
		Maintenance Manual -		
		Operations Manual -		

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:					
5.4.0.3 Quality assurance		Regulations: MS	SC.81(70) 2/1.1, 1.2				
of the International Convention amended or the International Li inspected, representatives of th inspections of manufacturers to appliances and materials used approved prototype life-saving ap Manufacturers should be required ensure that life-saving appliances the prototype life-saving appliances	particular type are required by chapter III for the Safety of Life at Sea, 1974, as fe-Saving Appliance (LSA) Code, to be the Administration should make random to ensure that the quality of life-saving comply with the specification of the opliance. If to institute a quality control procedure to a are produced to the same standard as are approved by the Administration and to tests carried out in accordance with the	Quality assurance Standard Used: Quality assurance Quality assurance Description of Sys	e Procedure: e Manual:				
			Quality assurance System acceptable				
		Yes/No					
		Comments/Obser	rvations				

Rigid/inflated rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Survey	or: zation:	
5.4.1.1 Occupant space Regulations: LSA				A Code	4.4.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.2.16
Test Procedure		Acceptance	Criteria		Significant Test Data
Visually inspect the rescue boat. Conduct measurements and clearances as required.	verify	<b>General</b> Unless the rescue boat has ad provided with a bow cover ex 15% of its length.			Passed Failed
		Length is at least 3.8 m and no	ot over 8.5 m.		Passed Failed
		Seating Space Width – at least 430 mm Depth – at least 100 mm eac from the back Knee Space (Seating on seats back Knee Width – at least 250 mm Leg Space (Seating on floor) the back Overlapping Seat Vertical Sep Seat Horizontal Overlap – 150 Each seating position should b Stretcher(s) space: Rescue boats should be capal seated persons and a perso minimum 2130 x 610 mm. Walkway Surfaces The surfaces on which person a non-skid finish.	at least 635 mm fr – at least 1190 m paration – at least 3 mm maximum be clearly indicated ble of carrying at least n lying on a streto	rom the m from 50 mm ast five cher of	Width:      mm         Depth:      mm         Knee Space:      mm         Knee Width:      mm         Leg Space:      mm         Vert. Separation:      mm         Overlap:      mm         Position Indication:       PASSED FAILED         Stretcher space:      mm         Location:      mm         Passed       Failed         Non-Skid Surface:       Passed         Comments/Observations       Failed

Rigid/inflated rescue boats	Model:		Surveyor:		Time: on:		
5.4.1.2 Fittings, provisions and ladders Regulations: LSA Code 5.1				A Code 5.1.3	3, MSC.81(70)1/7	.2.16	
Test Procedure			ce Criteria			Significant Test Dat	а
Visually inspect the rescue boat.		Buoyancy compartments fitte Non-return valve for manual in			Passed	Failed	
Conduct measurements and clearances as required.	d verify	Means for deflation			Passed	Failed	
		Safety relief valve unless waiv	ed by Administratic	n	Passed	Failed	N/A
		Suitable patches for securing Fittings and Provisions	Suitable patches for securing painters fore and aft Fittings and Provisions				
		Suitable handholds or buoyar outside of rescue boat above of a person in the water, exce and propeller	the waterline and w	vithin reach	Passed	Failed	
		On other than self-righting reaunderside arranged to break rescue boat			Passed	Failed	
		Weathertight stowage for small items of equipment Approved position indicating light provided at highest point		Passed	Failed	N/A	
		Provided with effective means self-bailing	s of bailing or be au	tomatically		Failed	
					Comments/Obse		

Rigid/inflated rescue boats	Model:	Surveyor:		Time: on:	
5.4.1.2 Fittings, provisions and ladders (cont'd) Regulations: LSA				Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16	
Test Procedure		Acceptance Criteria			Significant Test Data
Visually inspect the rescue boat. Conduct measurements and clearances as required.	d verify	Ladders Ladders that can be used at any entr board and the lowest step when in place than 0.4 m below the light waterline. Other Provisions Buoyant material may be installed exter boat, provided it is adequately protect and is capable of withstanding exposure open deck on a ship at sea and for 30 c condition. Colour The boat should be of a highly visible assist detection.	ance should hal to the ed again when sto lays afloa	not be less hull of the st damage owed on an at in all sea	Passed Failed Lowest stepm below waterline YES NO N/A Passed Failed Highly visible colour: PassedFailed Comments/Observations

Rigid/inflated rescue boats	Dats Manufacturer: Model: Lot/Serial Number:				Date:          Time:            Surveyor:          Organization:			
5.4.1.3 Engine and starting	l system		Regulations: LS/	A Code 4.4.6	6, 5.1, MS	C.81(70	)1/7.2.16	
Test Procedure		Acceptance	e Criteria				Significant Test Data	
Test Procedure Visually inspect the rescue boat. Conduct measurements and clearances as required.	I verify fo R S P P F F S S F S S S S S S S S S S S S	Acceptance pe of starting system Two independent rechargeal or power starting systems. Required starting aids provid Starting system is not imped or other obstructions. Propeller arranged to be dise provision for ahead and aster Exhaust arranged to prevent formal operation. System designed with due re- n the water and to the poropulsion system from floati Engine casing made of fire suitable arrangements provid Personnel are protected from Shouted order can be heard necessary for 6 knot operation Natertight casing around to batteries with a tightly fitting venting. Means for recharging er searchlight batteries provide power supply. Radio batteries not used to starting. Towing arrangements for ma	ole energy source ed. ed by engine casin engaged from the e in propulsion. water from enterin gard to the safety ossibility of dama ng debris. retardant materia ing similar protection hot and moving p with engine runnin n. pottom and sides top which provid ngine starting, re d by solar charge o provide power	ng, thwarts engine and g engine in of persons age to the al or other on. arts. g at speed of starter es for gas adio, and er or ship's	Passed_ Passed_ Passed_ Passed_ Passed_ Passed_ Passed_ Passed_ Passed_ Passed_	Power NO	Significant Test Data N/A _Failed Failed Failed Failed Failed Failed Failed Failed Failed Failed	

Rigid/inflated rescue boats	Model: Surveyo		r: ation:
5.4.1.3 Engine and startin	g system	Regulations: LSA Code	.4.6, 5.1, MSC.81(70)1/7.2.16
Test Procedure	Acceptar	nce Criteria	Significant Test Data
Visual Inspection-Engine and sta system (continued)	<ul> <li>Recharging for engine batt supply does not exceed 50</li> <li>Recharging means for engin at the rescue boat embarkat</li> <li>Instructions for starting an resistant and mounted in engine starting controls.</li> </ul>	v. le batteries can be disconne- tion station. ld operating engine are w	ted PassedFailed

Rigid/inflated rescue boats	Model:	Su		Date:          Surveyor:          Organization:			
5.4.1.4 Steering mechanis	m and fue	tank	Regulations: L	SA Code 4.4.7.2, 5.1.1.8, MS	C.81(70)1/7.2.16		
Test Procedure		Acceptance Crit	Acceptance Criteria		int Test Data		
Visually inspect the rescue boat.		Steering		Passed	Failed		
Conduct measurements and clearances as required.	d verify	A tiller should be capable of co (rudder and tiller may form part			Failed	N/A	
		Rudder permanently attached to	o the rescue boat	Passed	Failed	N/A	
		Except when remote steering is provided, the tiller			Failed		
		Rudder and tiller arranged so as by operation of the release mec <b>Fuel Tank</b>	•		Failed	N/A	
		If fitted with petrol-driven outbo tank(s) should be specially pro and explosion			;		

Disidiated second basts Model:		urer: Number:		Surveyor: _		_ Time:	
5.4.1.5 Release mechanism	n		Regulations: LS	A Code 4.4.	7.6.5, MSC.81(70) <sup>2</sup>	1/7.2.16	
Test Procedure		Acceptano	ce Criteria		S	Significant Test Data	a
Visually inspect the rescue boat.		Clear operating instructions			Passed	Failed	
Conduct measurements and verify Release control marked in surroundings		Release control marked in a surroundings	colour that contras	sts with the	Passed	Failed	
		For on-load release mechanis	ms:				
		Suitably worded danger sign for	Suitably worded danger sign for on load release				N/A
		mechanism is completely an	Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery			Failed	N/A
		On-load release mechanism needs deliberate and continued action by the operator			Passed	Failed	N/A
		Mechanical protection provi required for off load release	ded beyond tha	t normally	Passed	Failed	N/A
		For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate			Passed	Failed	N/A
		NOTE: Such single fall hook sy boat or to the davit fall wire	OTE: Such single fall hook systems may be attached to the oat or to the davit fall wire				

Rigid/inflated rescue boats	Manufacturer:		Date:          Surveyor:          Organization:			
5.4.1.6 Drain valve			Regulations: LS	SA Code 4.4.7.1, 5.1, MSC.81(70)1/7.2.16		
Test Pr	ocedure	Acceptance	Criteria	Significant Test Data		
Visually inspect the rescue boat.		Fitted near lowest point of		PassedFailed		
Conduct measurements and verify clearances as required (not applicable for self-bailing boats).		Automatically opens wh waterborne and closes entry when the boat is wa	to prevent water	PassedFailed		
		Cap or plug attached lanyard, chain or equivale		PassedFailed		
		Readily accessible from boat.	inside the rescue	PassedFailed		
		Position clearly marked.		PassedFailed Comments/Observations		
5.4.2.1 Damage test (Does r	not apply if waterline is below low	ver side of inflated tube)	Regulations: LS	SA Code 5.1.3.5, MSC.81(70)1/7.2.89, 7.3.2		
Test Pr	ocedure	Acceptance	Criteria	Significant Test Data		
rescue boat loaded with the num	Ū.	In each of the conditions number of persons for wh is to be approved should the rescue boat.	nich the rescue boat	Comments/Observations         1       With engine and fuel:         Passed       Failed         Without engine and fuel         Passed       Failed         2       With engine and fuel:         Passed       Failed         Without engine and fuel:       Failed         Without engine and fuel       Without engine and fuel		
deflated; and	n one side of the rescue boat			Without engine and fuel         Passed       Failed         3       With engine and fuel:         Passed       Failed		
.3 with the entire buoyancy of compartment deflated.	n one side and the bow			Without engine and fuel Passed Failed		

Rigid/inflated rescue boats	Model:	r: mber:		Surveyor: _	on:
5.4.2.2 Stability test			Regulations: LS	SA Code 4.4	.5, MSC.81(70)1/6.10.8, 7.2.67,
Test Procedure		Acceptan	ce Criteria		Significant Test Data
The following tests should be can engine and fuel or an equivalent n of the engine and fuel tanks: .1 the number of persons f rigid/inflated rescue box approved should be crow side with half this comple on the buoyancy tube, an end. In each case th should be recorded; and	nass in place or which the at is to be wded to one ement seated d then to one	.1 Under these condition everywhere positive.	is the freeboard s	should be	.1 Freeboard crowded to one sidemm To bow:mm To stern:mm PassedFailed
.2 the stability of the rescue boarding should be ascert persons in the re demonstrating that they assist from the water a who is required unconsciousness. The should have his back tow of the rescue boat so the assist the rescuers. All pe wear approved lifejackets	tained by two scue boat can readily third person to feign third person ards the side at he cannot trsons should s.	.2 The rescue boat should	d be stable.		.2       Stability observations during recovery of unconscious person:         Clothing/Suits on helpless person:
These stability tests may be car the rescue boat floating in still wa					Comments/Observations

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor: _	Time: on:
5.4.2.3 Loading test		-	Regulations: LS	A Code 5.1.3	3.6, MSC.81(70)1/7.2.45
Test Proc	edure		Acceptance Criteria	а	Significant Test Data
<ul> <li>The freeboard of the rescue boat various loading conditions as follo</li> <li>.1 rescue boat with all its equipmequivalent mass positioned to</li> <li>.2 rescue boat with all its equipmed for which it is to be approved 82.5 kg so arranged that a unthe side buoyancy tubes; and</li> <li>.4 rescue boat with the number of approved and all its equipmed as neceboat being retrimmed as neceboat</li> </ul>	ows: ment; ment, engine and fuel, or an represent engine and fuel; ent and the number of persons d having an average mass of iform freeboard is achieved at of persons for which it is to be ment, engine and fuel or an engine and fuel and the rescue	freeboard mm at the	condition the should be not less buoyancy tubes a mm from the lowest	s than 300 nd not less	.1       Freeboard at Buoyancy Tubes:mm         Freeboard at Transom:mm         .2       Freeboard at Buoyancy Tubes:mm         Freeboard at Transom:mm         .3       Freeboard at Buoyancy Tubes:mm         .4       Freeboard at Buoyancy Tubes:mm         Freeboard at Buoyancy Tubes:mm         .4       Freeboard at Buoyancy Tubes:mm         Passed       Failed
				00.04(70)4/	Comments/Observations
5.4.2.4 Swamp test			Regulations: M		
Test Proc	edure		Acceptance Criter	ia	Significant Test Data
It should be demonstrated that swamped, is capable of support number of persons each weighin approved and a mass equivalent to tank. It should also be demonstration not seriously deform in this conditional series and the series of th	orting its full equipment, the g 82.5 kg for which it is to be to its engine and fully filled fuel ted that the rescue boat does		ue boat should be c g the full load and s deform.	•	Passed Failed Comments/Observations

Rigid/inflated rescue boats	Model:		Date:          Time:            Surveyor:          Organization:		
5.4.2.5 Flooded stability te inflated tube)	est (Required only when	waterline is below lower side of		Regu	lations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.13
Test Proced	ure	Acceptance Criteria	e Criteria Significant Test Data		
The rescue boat should be loade provision lockers, water tanks ar removed, they should be floode waterline resulting from this test. watertight stowage compartme individual drinking water contain containers aboard and plac compartments which should be s the flooding tests. Ballast of equiv should be substituted for the installed equipment that can be d Weights representing persons ( would be in the water when the (water level more than 500 mm a be omitted.	nd fuel tanks cannot be ed or filled to the final Rescue boats fitted with ents to accommodate ears should have these ed in the stowage sealed watertight during alent weight and density engine and any other amaged by water. of 82.5 kg mass) who rescue boat is flooded	When loaded as specified, the should have positive stability wh water to represent flooding which when the rescue boat is holed location below the waterline assu of buoyancy material and no other	en filled would o in any ming no	with occur one loss	Passed Failed Comments/Observations

Rigid/inflated rescue boats       Manufacturer:         Model:       Lot/Serial Number:		Date:          Surveyor:          Organization:			
5.4.2.5 Flooded stability t inflated tube) (con		only when waterline is below lower side of	Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6		
Test Procedure Weights representing persons works not be in the water when the rest flooded (water level more than above the seat pan) should be planormal seating positions of suc with their centre of gravity app 300 mm above the seat pan representing persons who would submerged in the water when the flooded (water level between 0 and above the seat pan) should a have an approximate density of (for example water ballast com represent a volume similar to body.	cue boat is 500 mm aced in the h persons roximately . Weights d be partly e lifeboat is nd 500 mm additionally f 1 kg/dm <sup>3</sup> tainers) to	Acceptance Criteria		Significant Test Data	
Note: Several tests may ha conducted if holes in different ar create different flooding conditio	eas would				

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:			
5.4.2.6 Righting test (for r	non-self-rig	ghting rescue boats) Regulations: MSC.81(70)1/7			7.1.7		
Test Procedure		Acceptan	ce Criteria		Significant	Test Data	
It should be demonstrated that and without engine and fue equivalent mass in place of the e fuel tank, the rescue boat is o being righted by not more than tw if it is inverted on the water.	el or an engine and capable of	The rescue boat should be ca more than two persons if it is i			Is the boat self-righting? (If YES, refer to lifeboat rep Can the boat be righted by 2 With engine and fuel:	,	
For rescue boats with inboard en test without engine and fuel is no applicable.					Passed	Failed	
Note: Test without engine is only for outboard engines.	applicable				Without engine and fuel: Passed	Failed	
					Method used to right boat:		

Rigid/inflated rescue boats	Model:	Manufacturer: Model: Lot/Serial Number:			Time: on:
5.4.3.1 Seating strength test			Regulations: LS	A Code 4.4.	1.5, MSC.81(70)1/6.6.1
Test Procedure		Acceptan	ce Criteria		Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat.		any permanent deformation or damage.		Observed damage	
In the case of a rescue boat lau falls, each type of seat should k with a mass of 100 kg in any si location when dropped into the w height of at least 3 m. (This tes performed in conjunction with the in 5.4.7.1)	be loaded ingle seat vater from st may be	The seating should be capable No damage should be sustain efficient functioning.			Passed Failed Passed Failed N/A Comments/Observations

Rigid/inflated rescue boats       Manufacturer:         Model:       Lot/Serial Number:					
5.4.3.2 Seating space test	Regulations: LS	A Code 5.1.1	1.3.2, MSC.81(70)1/7.1.3		
Test Procedure	Acceptance	ce Criteria		Significant Test Data	
The rescue boat should be fitte engine and all its equipment. The of persons for which the rescue be approved, having an average r least 82.5 kg, and all wearing I and immersion suits and an essential equipment required, sh board; one person should lie do stretcher of similar dimensions shown in the figure below and t should be properly seated in th boat. The rescue boat should manoeuvred and all equipment tested to demonstrate that it operated without difficulty or int with the occupants.	<ul> <li>e number boat is to nass of at ifejackets ny other ould then bown on a to those he others he rescue then be on board can be erference</li> <li>Image: A state of the state of the</li></ul>	apable of carrying own on a stretcher. Is may be seated o onforms with the 1.1. wale, transom, or	at least 5 in the floor, leg space	Equipment operated: YES NO Number of persons carried: Seated on seats Seated on floor Lying on a stretcher Total PassedFailed Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant  Immersion suit– Uninsulated/Buoyant Insulated	

Rigid/inflated rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Date:            Surveyor:            Organization:			
5.4.4.1 Simultaneous release Regulations: L			Regulations: LS	SA Code 4.4.7.6, MSC.81(70)1/6.9.12		
Test Procedure		Acceptanc	e Criteria		Significant Test Data	
For rescue boats launched by fall the rescue boat with its engine fitte be suspended from the release me just clear of the ground or the wa rescue boat should be loaded so total mass equals 1.1 times the ma rescue boat, all its equipment number of persons for which th boat is to be approved. The res should be released simultaneou each fall to which it is connected binding or damage to any part of th boat or the release mechanism.	ed should sin echanism wit ater. The the o that the ass of the It and the sin e rescue wh cue boat ov usly from d without	should be confirmed the imultaneously release from envithout binding or damage to a me release mechanism. should be confirmed the imultaneously release from eavine fully waterborne in the verload condition.	ach fall which it is any part of the resc hat the rescue ach fall to which it is	connected cue boat or boat will connected	Light condition PassedFailedN/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:kg PassedFailedN/A (N/A – Single fall, off-load only) Comments/Observations	
(Single fall systems not inter on-load operation are exempt f test.)						

	Date:		Time:	
	Model:			·
Rigid/inflated rescue boats	Lot/Serial Number:		Organiza	tion:
			5	
5.4.4.2 Towing release test		Regulations: LS	A Code 4.4	4.7.6.5; MSC.81(70) 1/6.9.3
Test Proce		Acceptance Criteria		Significant Test Data
With the operating mechanism		There should be no damage as	a result of	Operating mechanism disconnected and boat towed
demonstrated when the rescue		these tests.		at 5 kts:Pass Fail
complement of persons and equi				
of 5 knots that the moveable hoo	k component stays closed.	The rescue boat is released sates by the release mechanism.	tisfactorily	Operating mechanism connected tests.
Furthermore, with the operating	mechanism connected, it			Test 1: 25% SWL, lengthwise to the boat at 45° to
should be demonstrated that the				the vertical:
with its full complement of pers		Single fall systems not inte		
towed at speeds of 5 knots can		on-load operation are exempt	from this	Force Applied: N. Forward direction: Pass Fail
above should be demonstrated a	s follows:	test		
				Aft direction:PassFail
.1 a force equal to 25% of t	the hook in the lengthwise			Test 2: 100% SWL, athwartships at 20° to the
	angle of 45° to the vertical.			vertical:
	ucted in the aftward as well			Vertical.
as the forward direction;				Force Applied: N.
				Starboard:Pass Fail
.2 a force equal to the safe	e working load of the hook		Port:Pass Fail	
	e hook in an athwartships			
	20° to the vertical. This test			Test 3: 100% SWL, 45° to the longitudinal axis of
should be conducted on	both sides; and			the boat in plan view at an angle of 33° to the
				vertical.
.3 a force equal to the safe				
	hook in a direction halfway			Force Applied: N.
	between the positions of tests 1 and 2 (i.e. 45° to the			Position 1:PassFail
longitudinal axis of the boat in plan view) at an angle of 33° to the vertical. This test should be conducted				Position 2:PassFail Position 3:PassFail
in four positions.				Position 3:Pass Fail
				Comments/Observations

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:		
5.4.4.3 Load and release test		Regulations: LS	Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2			
Test Procedure		Acceptance Criteria		Significant Test Data		
A release mechanism should be of tested as follows: The rescue boat release and retr the longest used connection associated with the system should adjusted according to instructions equipment manufacturer and ther of its safe working load and release Load and release should be repeat The rescue boat release and should then be disassembled, the and wear recorded. The release system should then be reassemb	ieval system and n cable/linkage l be mounted and from the original n loaded to 100% sed. ated 50 times. retrieval system e parts examined se and retrieval	During the 50 releases, the rescue boat and retrieval system should be r simultaneously from each fall to whic connected without any binding or damage part of the lifeboat release and retrieval sy The system should be considered as "f any failure during the conditioning or unit release occurs when load is applied system has not yet been operated.	eleased ch it is e to any ystem. failed" if ntended	Working Load:       N         Force Applied:       N         Check the box for each release:       1:       2:       3:       4:       5:       6:       1:         7:       8:       9:       10:       11:       12:       12:       11:		

Rigid/inflated rescue boats	Model:	urer:		Time: /or:
Rigiu/iiiialeu rescue boals	Lot/Serial	Number:	Organi	zation:
5.4.4.4 Cyclic loading test		Regulations: LS	SA Code	4.4.7.6.4; MSC.81(70) 1/6.9.4.3
Test Procedure		Acceptance Criteria		Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from		The specimen should remain closed during the t		Working Load:N Force Applied:N
zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been		failure during this test or any unintended release or		Check the box for each release and/or strike out the cam rotation if no applicable:
specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no				Cam rotation 0°: 1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 10: 10: 10: 10: 10: 10: 10: 10: 10
more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0°				Cam rotation +45°: 1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 10: 10: 10: 10: 10: 10: 10: 10: 10
(fully reset position), and repeated either direction, or 45° in one of restricted by design.				Cam rotation -45°: 1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 10: 10: 10: 10: 10: 10: 10: 10: 10
				Passed: Failed:
				Comments/Observations

Rigid/inflated rescue boats	Manufacturer:		Date:         Time:           Surveyor:			
Rigid/inflated rescue boats         5.4.4.5 Actuation force test         Test Procedure         The cable and operating mechan         reconnected to the hook assemil         boat release and retrieval system         demonstrated to operate satisfact         working load.         The demonstration should verify         indicators and handles are still to correctly positioned in accordance         and safety instruction from the manufacturer.	Lot/Serial Number: ism should then be bly; and the rescue em should then be torily under its safe that any interlocks, functioning and are e with the operation	Regulations: LSA Code 4           Acceptance Criteria           The actuation force should be no less than 100           N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat.           The release mechanism is deemed to have passed the testing in 5.4.4.3, 5.4.4.4 and 5.4.4.5 when the tests have been conducted		Actuation Force: N Passed: Failed: Comments/Observations		
		occurs.				

Rigid/inflated rescue boat	Model:		Date:          Time:            Surveyor:          Organization:		
5.4.4.6 Second relea	se mechanism tests- actuat	ion force and tensile strength	Regulation 6.9.5.2	s: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1,	
Test P	ocedure	Acceptance Criteri	a	Significant Test Data	
A second release mechanism .1 the actuation force should be measured I working load. If a cabl maximum length spe and secured in the secured in a lifeboat. verify that any interlo are still functioning an accordance with th instruction from manufacturer; and .2 the release mechanis tensile strength testing	n should be tested as follows: of the release mechanism baded with 100% of its safe e is used, it should be of the cified by the manufacturer, same manner it would be The demonstration should cks, indicators and handles d are correctly positioned in e operation and safety the original equipment m should be mounted on a device. The load should be ix times the working load of	Acceptance Criterio .1 The actuation force should than 100 N and no more the The release mechanism does	d be no less an 300 N.	Actuation Force:       N         Tensile strength @ 6xSWL.         Force applied:       N.         Passed:       Failed:         Comments/Observations	

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:				Surveyor:	Time: _	
5.4.5.1 Liferaft towing			Regulatio	ns: LS	SA Code 4.4.6.8, 5	.1.1.7, 5.1.1.9, MSC.8	1(70)1/7.1.2
Test Procedu	ure	Acceptance			Signifi	cant Test Data	
The rescue boat should be load to the mass of its equipment persons for which the rescue bo The maximum towing force of th then be determined. This information should be us largest size of fully loaded liferaft can tow at a speed of at least 2. The fitting designated for towing secured to a stationary object by a means to measure bollard pull. operated ahead at full speed for 2 minutes and the maximum ford (For rescue boats equipped v bollard pull trials may be carrie various powers to assess performance.)	ed with weights equal and the number of bat is to be approved. he rescue boat should sed to determine the which the rescue boat knots. g other craft should be y a tow rope fitted with The engine should be or a period of at least ce recorded. with outboard motor, d out with engines of	Acceptance The maximum to force of the reso should be record type approval co There should damage to th fitting or its s structure.	owing cue boat ded on the ertificate. be no le towing	Bolla (Rec Obse Prop P D Pass	e/model: Ird pull: N ord on type approv erved damage: eller: itch:	Smallest Engine	

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:          Surveyor:          Organization:		
5.4.5.2 Endurance, speed	l and fuel o	consumption	Regulat	ations: LSA Code 5.1.1.6,MSC.81(70)1/7.1.5, 1/7.1.6		
Test Procedure		Acceptance Criteria		Significant Test Data		
<ul> <li>(Note: Run this test after impadrop tests in 5.4.7.1.)</li> <li>The rescue boat should be load weights equal to the mass equipment and the number of p for which the rescue boat is approved.</li> <li>The engine should be started boat manoeuvred for a period of 4 hours to demonstrate sat operation.</li> <li>The rescue boat should be r speed of not less than 6 knoperiod which is sufficient to ascefuel consumption and to estab the fuel tank has the required of (This determination may be mad the 4-hour period of operation.)</li> <li>For rescue boats equipped with a motor, speed and manoeuvrir should be carried out with environment.</li> </ul>	led with of its persons to be and the fat least isfactory un at a ts for a ertain the lish that capacity. le during putboard ng trials gines of	The boat should operate satisfactorily the 4-h operation. The fuel tank should have sufficient of operate at a speed of 6 knots for a per 4 hours in calm water.	apacity to	Smallest Engine       Largest Engine         Make/model:		

Bigid/inflated receive boots Model:		urer: Number:		Surveyor: _	Time: n:	
5.4.5.3 Engine out of wat	er		Regulations: L	SA Code 4.4	.6.3, MSC.81(70)1/6.10.5	
Test Procedure		Acceptanc	e Criteria		Significant Test Data	
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.		The engine should not be damaged as a result of this test.		Passed Failed Comments/Observations		
5.4.5.4 Compass test		Regulations: L	1.2.2.3, MSC.81(70)1/6.10.7			
Test Procedure		Acceptance Criteria			Significant Test Data	
It should be determined the compass performance is sate and that it is not unduly affer magnetic fittings and equipmer rescue boat.	isfactory ected by	The compass operates satisf	actorily.		Compass Make: Compass Model: Passed Failed Comments/Observations	

Rigid/inflated rescue boats	Model:	urer: Number:		Surveyor: _	Time: on:
5.4.5.5 Manoeuvrability with paddles or oars Re			Regulatio	ns: LSA Coo	de 5.1.2.2.1, MSC.81(70)1/7.1.8
Test Procedure		Acceptance Cr	teria		Significant Test Data
It should be demonstrated to rescue boat can be propel manoeuvred by its oars or pa calm water conditions at a spe- least 0.5 knots over a distance of 25 m. when laden with the nu- persons, all wearing lifejack immersion suits, for which it approved. For boats with inboard enging power does not need to be great that intended to be used.	led and addles in eed of at of at least umber of ets and is to be nes the	The rescue boat should be capabl paddled and manoeuvred.	e of being sat	tisfactorily	Distance travelled:m Time Required:s Calculated speed:m/s =knots Lifejacket and immersion suit used during the test: Lifejacket - Inflatable/Inherently Buoyant Immersion suit - Uninsulated/Buoyant Insulated PassedFailed Comments/Observations

Rigid/inflated rescue boats	d/inflated rescue boats Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:		
5.4.5.6 Heavy weather/seas	s test		Regulations: L	SA Code	∋ 5.1.3, MSC.81(70)1/7.2.10	
Test Procedure		Acceptance	Criteria		Significant Test Data	
To simulate use in heavy wearescue boat should be fitted with powered engine than is intender fitted and driven hard in a wind 4 or 5 or equivalent rough wat least 30 minutes.	vy weather the The rescue boat should not ted with a larger intended to be pressure. a wind of force		t show undue flexing or		Tube pressure before test:      mbar         Pressure relief valves open/closed?          Wave height m      ms         Wind Speed m/s      mbar         Passed Failed          Comments/Observations	
5.4.6.1 Towing test			Regulations: L	SA Code	e 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1	
Test Procedure		Acceptance	Acceptance Criteria		Significant Test Data	
It should be demonstrated that equipped rescue boat, loaded properly distributed mass equa mass of the number of persons f it is to be approved, can be tow speed of not less than 5 knots water and on an even keel u rescue boat's painter securing d	d with a al to the for which wed at a a in calm sing the	The rescue boat should not characteristics. There should be no damage equipment as a result of this	to the rescue boat		Passed Failed	

Rigid/inflated rescue boats	Model:	ber:		Surveyor: _	on:		
5.4.6.2 Painter release tes	st		Regulations: L	SA Code 4.4	.7.7, MSC.81(70)	1/6.11.23	
Test Procedure		Acceptanc	e Criteria			Significant T	est Data
It should be demonstrated to painter release mechanism can the painter on a fully equipp loaded rescue boat that is being a speed of not less than 5 knots water. The painter release mechanism be tested in several distinct dire the upper hemisphere not obstru- the canopy or other construction rescue boat. The directions spe- test 5.4.4.2 should be used if po	n release dar bed and this towed at s in calm n should ctions of ucted by ns in the ecified in	e painter should release ar mage to the rescue boat or s test.			Passed	Passed Passed Passed Passed Passed Passed	Failed Failed Failed

Rigid/inflated rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:			
5.4.7.1 Impact, drop and	operation after impa	act and drop test	Regulations:	LSA Code 4	4.4.1.7, MSC.81(70)1	/6.4.1, 7.2.2, 7.2.3
Test Procedur	е		ance Criteria			ignificant Test Data
.1 For boats launched by fa equipped rescue boat, ind should be loaded with we mass of the number of per rescue boat is to be approv loading should be a weigh in one of each type of se lifeboat. The weights shou represent the normal load boat. (These weights new 300 mm above the sea fenders, if required, should	cluding its engine, eights equal to the sons for which the red. Included in this t of 100 kg loaded eat installed in the ld be distributed to ding in the rescue ed not be placed (tpan.) Skates or	successful if: .1 no damage has affect the efficient boat and its equ .2 the damage cause tests has not in	been sustained the functioning of the functioning of the functioning of the functioning of the function ing of the function in	hat would he rescue and drop intly as a	Load in boat: Increased Damage Satisfactory Operat	: YES NO
rescue boat, in a free hangi be pulled laterally to a pos released it will strike a surface at a velocity of 3 should be released to impa vertical surface.	sition so that when fixed rigid vertical 3.5 m/s. The boat act against the rigid	operated to full s	other equipm satisfaction; and ngress of seaw		Final Evaluation:	engine tested:
<ul> <li>.2 The rescue boat comp equipment and with a mas engine and fuel in the pos and fuel tank should be du from a height of at least 3 drops should be from bow-down, level trim, stern-down attitudes.</li> <li>.3 On completion of these tes and its equipment sho examined.</li> </ul>	ess equivalent to its sition of its engine ropped three times m on to water. The the 45-degree and 45-degree sts the rescue boat				Passed	

Rigid/inflated rescue boats	Model:	ber:		Surveyor:	Time: on:
5.4.7.2 Overload test	•		Regulations: MS	SC.81(70)1/7	<b>/.1.4</b>
Test Procedure	9	Accep	tance Criteria		Significant Test Data
The rescue boat should be load distributed load of four time represent the equipment and fu persons each weighing 82.5 kg be approved and suspended for its bridle or hooks. The we distributed in proportion to the kg in its service condition, but the represent the persons need 300 mm above the seat pan. Th or hooks and fastening de examined after the test has bee Testing by filling the boat with be accepted. This method of give the proper distribution of w may be removed in order to a which case weights should be a to compensate for the re machinery.	ed with a properly s the weight to all complement of for which it is to or 5 minutes from ights should be bading of the boat weights used to not be placed be boat and bridle vice should be en conducted. water should not loading does not veight. Machinery avoid damage, in added to the boat	The rescue boat and its should not show any sig	bridle or release m	nechanism	Load in boat:kg Comments/Observations
The rescue boat and its bridle of mechanism) and fastening de examined after the test for any	evice should be				Passed Failed

Rigid/inflated rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor: _	Time: on:
5.4.7.3 Mooring out test (Display="block") lower side of inflat		f waterline is below	Regulations: LS	A Code 5.1.	3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.78
Test Procedure	•	Accep	tance Criteria		Significant Test Data
The rescue boat should be load equal to the mass of the total num for which it is to be approved an and moored in a location at sea of harbour. The rescue boat should that location for 30 days. The pri topped up once a day using the however, during any 24-hour per boat should retain its shape. Each inflatable compartment in the should be tested to a pressure times the working pressure. Each valve should be made inoperative air should be used to inflate the in boat and the inflation source remishould continue for at least 30 milling The measurement of pressure leakage can be started when assumed that compartment matic completed stretching due to the im and achieved equilibrium.	hber of persons d its equipment or in a seawater remain afloat in ressure may be manual pump; riod the rescue he rescue boat equal to three pressure relief re; compressed inflatable rescue hoved. The test nutes.	The rescue boat should would impair its perform The pressure should not determined without com atmospheric pressure ch seam slippage, cracking boat.	ance. t decrease by more pensating for temponanges, and there sl	than 5% as erature and hould be no	Compartment 1       Initial Pressure:mbar         Final Pressure:mbar       Calculated Decrease:Percent         Compartment 2       Initial Pressure:mbar         Final Pressure:mbar       Calculated Decrease:Percent         Compartment 3       Initial Pressure:mbar         Calculated Decrease:mbar       Percent         Compartment 3       Initial Pressure:mbar         Calculated Decrease:mbar       Calculated Decrease:Percent         Compartment 4       Initial Pressure:mbar         Calculated Decrease:mbar       Calculated Decrease:Percent         Compartment 5       Initial Pressure:mbar         Calculated Decrease:mbar       Final Pressure:mbar         Calculated Decrease:mbar       Percent         Passed       Failed         Comments/Observations       Failed

Divid/inflated receive bacts	Manufacturer: Model: Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:
5.4.8.1 Inflation chamber ch	haracteristics tests	Regulations: LS	SA Code 1.2.2, MSC.81(70)1/7.2.14
Test Procedure	Acceptance Crit	eria	Significant Test Data
The inflatable compartment materia to construct the rescue boat shi tested for the following characterist .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	hould be with ISO 15372:2000.	.2 .3 .4 .5 .6 .7 .8 .9 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	2 tear strengthN 3 heat resistance – Blocking 4 cold resistance – Cracking 5 heat ageing% retained strength N/50 mm width

#### 5.5 RIGID FAST RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

- 5.5.0 General Information
  - 5.5.0.1 General data and specifications
  - 5.5.0.2 Submitted drawings, reports and documents
  - 5.5.0.3 Quality assurance
- 5.5.1 Visual inspection
  - 5.5.1.1 Occupant space
  - 5.5.1.2 Fittings, provisions and ladders
  - 5.5.1.3 Engine and starting system
  - 5.5.1.4 Steering mechanism and fuel tank
  - 5.5.1.5 Release mechanism
- 5.5.2 Freeboard, stability and self-righting tests
  - 5.5.2.1 Flooded stability test
  - 5.5.2.2 Freeboard test
  - 5.5.2.3 Righting test (for non self-righting fast rescue boats)
  - 5.5.2.4 Self-righting test (for self-righting fast rescue boats only)
  - 5.5.2.5 Flooded capsizing test
  - 5.5.2.6 Engine inversion test (inboard)
- 5.5.3 Seating strength and space tests
  - 5.5.3.1 Seating strength test
  - 5.5.3.2 Seating space test
- 5.5.4 Release mechanism tests
  - 5.5.4.1 Simultaneous release
  - 5.5.4.2 Towing release test
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  - 5.5.4.4 Cyclic loading test
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- 5.5.5 Operational tests
  - 5.5.5.1 Liferaft towing
  - 5.5.5.2 Endurance, speed, and fuel consumption
  - 5.5.5.3 Engine out of water
  - 5.5.5.4 Compass test
  - 5.5.5.5 Helpless person recovery
  - 5.5.5.6 Manoeuvrability with paddles or oars
- 5.5.6 Towing and painter tests
  - 5.5.6.1 Towing test
  - 5.5.6.2 Painter release test
- 5.5.7 Strength tests
  - 5.5.7.1 Impact, drop and operation after impact & drop test
  - 5.5.7.2 Overload test

#### 5.5 RIGID FAST RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date: Time: Surveyor: Organization:	
5.5.0.1 General data an	nd specificatio	ons	Regulations: L	SA Code 4.4,	5.1, MSC.81(70)1/7.1.9
General Informa	tion	Rescue bo	oat Dimensions		Rescue boat Weight
Construction Material: Hull: Canopy: Fire-retardancy documenta		Dimensions: LOA (including fixed fende Breadth Maximum:		_	Design Weight: Unloaded Boat: Loose Equipment: Fuel: Persons:
Rescue Boat Inherent Buoyar (Type App.) Material: Weight: Occupancy: Persons (82.5 kg each):		Depth to Sill: Depth to Gunwale: Moulded Breadth: Moulded Depth:		_	Calculated Loaded Weight: Fully Equipped: With Persons: Weight as Tested:
Engine(s) Installed: 1 Type App by: Manufacturer: Type: Power: Gear ratio (inboard engine)		Provision for securing hanging			Fully Equipped:
Additional rigid or inflatable bu Release mechanism(s) (if app					
Manufacturer:1 Type: SWL:	2				

Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Date:       Time:          Surveyor:         Organization:       Organization:	
5.5.0.2 Submitted of	Irawings, reports and doc	cuments	
	Sub	pmitted drawings and documents	Ctotus
Drawing No.	Revision No. & date	Title of drawing	Status
	Su	bmitted reports and documents	Otativa
Report/Document No.	Revision No. & date	Title of report / document	Status
		Maintenance Manual -	
		Operations Manual -	

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:		Surveyor:
5.5.0.3 Quality assuran	ce	Regulations: MSC.81(70) 2/1.1, 1.2
of the International Conventi amended or the International inspected, representatives of inspections of manufacturers appliances and materials u approved prototype life-saving Manufacturers should be requ ensure that life-saving appliant the prototype life-saving appliant	of a particular type are required by chapter III on for the Safety of Life at Sea, 1974, as I Life-Saving Appliance (LSA) Code, to be f the Administration should make random s to ensure that the quality of life-saving sed comply with the specification of the g appliance. wired to institute a quality control procedure to nces are produced to the same standard as iance approved by the Administration and to ion tests carried out in accordance with the	Quality assurance   Standard Used:   Quality assurance Procedure:   Quality assurance Manual:   Description of System:
		Quality assurance System acceptable
		Yes/No
		Comments/Observations

Rigid fast rescue boats	er: umber:		Surveyor: _	n:	
5.5.1.1 Occupant spa	ce		Regulations: LS	SA Code 4.4	I.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.1.9
Test Procedur	е	Acceptance	ce Criteria		Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		<b>General</b> Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length.			Passed Failed
		Length is at least 6.0 m and n	ot over 8.5 m.		Passed Failed
		Seating Space Width – at least 430 mm Depth – at least 100 mm ea from the back Knee Space (Seating on se the back Knee Width – at least 250 m Leg Space (Seating on floo the back Overlapping Seat Vertical S 350 mm Seat Horizontal Overlap – Each seating position show	eats) at least 635 m mm or) – at least 1190 r Separation – at lea 150 mm maximum	nm from mm from st	Width:      mm         Depth:      mm         Knee Space:      mm         Knee Width:      mm         Leg Space:      mm         Vert. Separation:      mm         Overlap:      mm         Position Indication:       PASSED FAILED         Stretcher space:      x        mm
		<ul> <li>Stretcher(s) space: Rescue boats should be ca seated persons and a pers minimum 2130 x 610 mm.</li> <li>Walkway Surfaces The surfaces on which per a non-skid finish.</li> </ul>	on lying on a stretc	cher of	Passed Failed Non-Skid Surface: PassedFailed Comments/Observations

Rigid fast rescue boats	Model: Surveyor:			Time:
5.5.1.2 Fittings, provis	ions and ladders	3, 4.4.7, 5.1, MSC.81(70)1/7.1.9		
Test Procedure	Acceptance Crite	ria		Significant Test Data
Visually inspect the rescue boat.	Fittings and Provisions Suitable handholds or buoyant lifeline bec rescue boat above the waterline and within r except in the vicinity of the rudder and propel		Passed Failed	
and verify clearances as required.	On other than self-righting rescue boats, arranged to break away without damaging the	e rescue boat.	e underside	Passed FailedN/A
	Weathertight stowage for small items of equip	oment.		Passed Failed
	Approved position-indicating light provided at	highest point.		
	Automatically self-bailing or capable of rapidl	y clearing water.		Passed Failed Passed FailedN/A
	Ladders Ladders that can be used at any entrance sho step when in place should not be less than 0. Other Provisions Buoyant material may be installed external to it is adequately protected against damage a exposure when stowed on an open deck on afloat in all sea condition. Colour The boat is of a highly visible colour where it	4 m below the ligh o the hull of the bo nd is capable of a ship at sea and	ht waterline. Dat, provided withstanding d for 30 days	YES NO N/A Lowest stepm below waterline Passed Failed Highly visible colour: Passed Failed Comments/observations:

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:				Surveyor:	Tin		
5.5.1.4 Steering mecha	inism and fue	l tank	Regulations: L	SA Code 4.4.	7.2, 5.1.1.8, MSC.81(7	0)1/7.1.9	
Test Procedure		Acceptance	ce Criteria		Sign	ificant Test Data	a
Visually inspect the rescue boat. Conduct measurements and verify clearances as required		Steering A tiller should be capable of and tiller may form part of outb Rudder permanently attached Rudder and tiller arranged s	board motor) to the rescue bo	at	Passed Passed Passed	Failed Failed Failed	N/A
		operation of the release mech Steered by wheel at helmsman Has emergency steering syst rudder, water jet or outboard n Hands-free, watertight VHF ra <b>Fuel Tank</b>	anism or propelle n's position em providing dire notor		Passed Passed Passed	Failed	N/A
		If fitted with petrol-driven out should be specially protected a			Passed		N/A

Disid fact receive heats Model:			Surveyor:		Time: :		
5.5.1.5 Release mecha	anism	-	<b>Regulations:</b>	LSA Code 4.4.	7, 5.1, MSC.81(70	)1/7.1.9	
Test Procedur	e	Acceptan	ce Criteria			Significant Test Da	ita
Visually inspect the rescue b	oat.	Clear operating instructions			Passed	Failed	
Conduct measurements and verify clearances as required		Release control marked in a surroundings	colour that con	trasts with the	Passed	Failed	
		For on-load release mechanis	ms:				
		Suitably worded danger sign for on load release			Passed	Failed	N/A
		Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery			Passed	Failed	N/A
		On-load release mechanism needs deliberate and continued action by the operator			Passed	Failed	N/A
		Mechanical protection provided beyond that normally required for off load release		Passed	Failed	N/A	
		For a single fall system with su capability is not required; in s capability to release the boat of will be adequate	such an arrange	ement a single	Passed Comments/Obserelease mechani		
		This capability to release the boat may be attached to the boat or to the davit					

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:				Surveyor:	Time:	
5.5.2.1 Flooded stability f	test		Regulations: L	SA Code 4.4.1.	1, MSC.81(70)1/6.8.1:	3
Test Pro	ocedure		Acceptance Crite	eria	Signif	icant Test Data
The rescue boat should be leprovision lockers, water tanks removed, they should be floode resulting from this test. Rescu stowage compartments to acc water containers should have placed in the stowage compartre watertight during the flooding test and density should be substituted installed equipment that can be Weights representing persons (of in the water when the rescue bot than 500 mm above the seat p representing persons who would rescue boat is flooded (water level seat pan) should be placed in the such persons with their centre of above the seat pan. Weights rep be partly submerged in the water (water level between 0 and 500 r additionally have an approxim example water ballast containers to a human body. Note: Several tests may have different areas would create different areas would create different areas would created in the seat pan ball as the seat pan ball as the seat pan ball as the seat pan ball as the seat pan ball as the seat	s and fuel tanks cannot be ad or filled to the final waterline be boats fitted with watertight commodate individual drinking these containers aboard and ments which should be sealed sts. Ballast of equivalent weight ed for the engine and any other damaged by water. of 82.5 kg mass) who would be bat is flooded (water level more pan) may be omitted. Weights d not be in the water when the level less than 500 mm above the normal seating positions of f gravity approximately 300 mm opresenting persons who would ter when the lifeboat is flooded mm above the seat pan) should nate density of 1 kg/dm <sup>3</sup> (for s) to represent a volume similar	should ha with wate would occu in any on assuming	ded as specified, th ve positive stabili or to represent fl ur when the rescue e location below no loss of buoy ner damage.	ity when filled ooding which e boat is holed the waterline	Comments/Observatio	Failed

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:					Surveyor:	Time:	
5.5.2.2 Freeboard test				Regulations: L	SA Code 4.4.	5, MSC.81(70)1/6.8.45	
Test Procedure	Э		Accepta	nce Criteria		Significant Test Data	
loaded with a mass equal to that of all the measured fre			eboard, on the low side, is not less than escue boat's length or 100 mm, whichever Len Pas			Measured Freeboard:mm 1.5% of Boat's Length:mm PassedFailed Comments/Observations	
The freeboard of the boat sho the loading condition with engine and fuel, or eq positioned to represent engine							
5.5.2.3 Righting test (for	or non self-right	ing fast rescu	ue boats) Regulations: MSC.81(70)1/7.1.7				
Test Pr	ocedure		Acceptance Criteria			Significant Test Data	
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. The engine should be running in neutral position and, after stopping automatically or by the helmsman's emergency release switch when inverted, it should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. For rescue boats with inboard engines, the test without engine and fuel is not applicable. (This test is not required if the righting test in 5.5.2.4 has been performed.)			righted by no inverted on t When the r engine or mo restarted, emergency r The design systems sho than 250 ml	escue boat has ptor should be cap provided the release, if fitted, ha of the fuel an puld prevent the of fuel or lubricatir	persons if it is righted, each bable of being helmsman's as been reset. Ind lubricating loss of more	With engine and fuel:       Failed         Passed       Failed         Without engine and fuel:       Failed         Passed       Failed         Method used to right boat:	

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			_ Surveyor:	1:			_
5.5.2.4 Self-Righting to	est (for self-righting fast r	escue boats only)	Regulations: MSC/0	Circ.809, Annex, 4	.1.5, 4.1.8; I	MSC.81(70)1	/6.14
Test Proc	edure	Acceptance	e Criteria		Significant	Test Data	
the normal position weights representing th boat with a full complem The weight used to r assumed to have an av should be secured at have its centre of gravit above the seatpan so as on stability as when th	linal axis to any angle of e rescue boat should be gles of heel up to and released.	<ul> <li>After release, the rescurreturn to the upright assistance of the occup.</li> <li>At the beginning of the should be running in new should be run for 30 minutes has returned to the Water should not enter should not e</li></ul>	e boat should always position without the pants. ese tests, the engine outral position and: to stop automatically the engine should until stopped by the gency release switch; the helmsman's the helmsman's the necessary, the easily restarted and after the rescue boat e upright position. the engine.	10 - 0	) FAILED		FAILED
.2 when the rescue boat is		The design of the systems should prevent 250 ml of fuel or lub	the loss of more than				
In the case of open fast rescu test should only be done in the		propulsion system.					

Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:            Surveyor:            Organization:		
5.5.2.5 Flooded capsizing rescue boats only)		righting fully enclosed fast	Regulations	: MSC.81(70)	1/6.14.3, 6.14.4, 6.	14.5, 7.4.1
Test Procedure		Acceptance	Criteria		S	ignificant Test Data
Perform the following for boats with a closable canopy not applicable to open fast re	. This test is scue boats.	After release, the lifeboat sho provides an above-water escape			Result: PASSED	FAILED
The rescue boat should be p water and fully flooded until boat can contain no addition entrances and openings secured to remain open durir	the rescue al water. All should be				Comments/Obser	vations
Using a suitable means, the should be rotated about a axis to a heel angle of 180 released.	longitudinal					
For the purpose of this test, the distribution of the occupan- disregarded. However, the en- equivalent mass, should be the rescue boat in the norm position.	nts may be quipment, or secured in					

Rigid fast rescue boats	Model:		Surveyor:		Time:
5.5.2.6 Engine inversion boats only)	test (inboard) (for sel	f-righting fast rescue	Regulations: LSA Coo	le 4.6.4.2; MSC	C.81(70) 1/6.14.6 - 6.14.8, 7.4.1
Test Proc	edure	Acceptar	nce Criteria		Significant Test Data
The engine and its fuel tank frame that is arranged to equivalent to the longitudinal A pan should be located un any oil which may leak from quantity of such oil can be m The following procedure shou test:	o rotate about an axis axis of the boat. der the engine to collect in the engine so that the easured.	The engine and engir capable of running in ar and continue to run after to the upright or should capsizing and be easily boat returns to the uprig The design of the fuel should prevent the los more than 250 ml of lub	ne installation should be ny position during capsize or the rescue boat return Id automatically stop of restarted after the rescue	e S Comments/	9
<ul> <li>5 minutes;</li> <li>.2 stop the engine and direction through 360°;</li> <li>.3 restart the engine and 10 minutes;</li> <li>.4 stop the engine counter-clockwise dire</li> <li>.5 restart the engine, r 10 minutes, and then s</li> <li>.6 allow the engine to coordinates</li> </ul>	d run it at full speed for and rotate it in a ction through 360°; un it at full speed for stop the engine;	overheat, fail to operate of oil during any one inv When examined after	the engine should no or leak more than 250 m version. r being dismantled the evidence of overheating	9	

		Manufacturer:		Time:
Rigid	fast rescue boats	Model: Lot/Serial Number:	Survey	or: zation:
5.5.2	.6 Engine inversion t	est (inboard) (continued)	Regulations: LSA Cod	e 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1
		Procedure	Acceptance Criteria	Significant Test Data
	The following procedure should be followed during this test (Continued): .8 slowly rotate the running engine in a clockwise direction		overheat, fail to operate or leak more 250 ml of oil during any one inversio	n. Does the engine stop when turned in either
.9	rotate it 180° further in a one revolution; if the engine is arrang	e 180° position for 10 s, and then a clockwise direction to complete ged to stop automatically when	When examined after being disma the engine should show no evidence overheating or excessive wear.	ce of Passed/ Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the
	inverted, restart it; allow the engine to co 10 minutes; shut the engine down a	ontinue to run at full speed for		tests have been carried out according to the procedure? Passed/ Failed
.12	repeat the procedure i that the engine should direction;	in .7 through .11 above, except be turned in a counter-clockwise		Amount of oil lost from engine during each inversion: .2: ml
	rotate the engine in a	run it at full speed for 5 minutes; clockwise direction through 180° otate it 180° further to complete a n;		.4 : ml .8 : ml .12 : ml .14 : ml
.16	repeat the procedure i counter-clockwise;	run it at full speed for 10 minutes; n .14 above, turning the engine		.16 : ml Total amount of oil lost from engine: ml
	then shut it down; and dismantle the engine for	it at full speed for 10 minutes and or examination.		Evidence of overheating or excessive wear? Passed/ Failed
				Amount of oil lost from engine ml Comments/Observations

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Surveyor: _	n:			
5.5.3.1 Seating strengt	h test		Regulations: L	SA Code 4.4.	1.5, MSC.81(70)1	/6.6.1	
Test Procedure		Acceptanc	e Criteria			Significant Test D	ata
Test Procedure The seating should be loaded of 100 kg in each position al person to sit in the rescue boat falls, each type of seat shou with a mass of 100 kg in an location when dropped into th height of at least 3 m. (This performed in conjunction w Test in 5.5.7.1).	located for a at. launched by ld be loaded y single seat he water from test may be	Acceptance The seating should be able to any permanent deformation or The seating should be capable No damage should be sustaine seat's efficient functioning.	support this loadi damage.	is loading.	Observed damag	ge Failed Failed	

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Surveyor:	Time:	
5.5.3.2 Seating space t	est	-	Regulations:	LSA Code 5.1.	1.3.2, MSC.81(70)1/7.1.3
Test Procedure		Acceptano	ce Criteria		Significant Test Data
The rigid rescue boat should be engine and all its equipment. persons for which the rescue approved, having an average least 82.5 kg, and all wearing immersion suits and any of equipment required, should the person should lie down on similar dimensions to those figure and the others should seated in the rescue boat. The boat should then be manore equipment on board tested to that it can be operated without interference with the occupant 2130 2130 2130 320 Stretcher dimensions	The number of boat is to be re mass of at lifejackets and ther essential ren board; one a stretcher of shown in the d be properly re rigid rescue uvred and all o demonstrate out difficulty or ts.	Equipment can be operated occupants. The rescue boat must be of 5 persons and a person lying Except the helmsmen, person provided the space used correquirements of test form 5.5. No seating is on the gunv chambers on the sides of the	capable of carr down on a streto onforms with th 1.1. vale, transom,	rying at least cher. d on the floor, ne leg space	Equipment operated: YES NO Number of persons carried: Seated on seats Seated on floor Lying on a stretcher Total PassedFailed Lifejacket and immersion suit used during the test: Lifejacket–Inflatable/Inherently Buoyant Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Rigid fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Surveyor:	Time:	
5.5.4.1 Simultaneous r	elease		Regulations: L	SA Code 4.4.	7.6, MSC.81(70)1/6.9.12
Test Procedure		Acceptanc	ce Criteria		Significant Test Data
For rescue boats launched b the rescue boat with its engine be suspended from the releas just clear of the ground or th rescue boat should be loade total mass equals 1.1 times th rescue boat, all its equipm number of persons for whic boat is to be approved. The should be released simultar each fall to which it is conne binding or damage to any part boat or the release mechanist Single fall systems not intende operation are exempt from this	e fitted should e mechanism he water. The d so that the e mass of the hent and the h the rescue rescue boat neously from ected without of the rescue m.	It should be confirmed to simultaneously release from ea without binding or damage to the release mechanism. It should be confirmed to simultaneously release from ea when fully waterborne in the overload condition. There should be no damage connection to the boat.	each fall which it any part of the re hat the rescue ach fall to which it light condition a	is connected escue boat or e boat will is connected nd in a 10%	Light condition PassedFailedN/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:kg PassedFailedN/A (N/A – Single fall, off-load only) type of release system:Comments/Observations

	Manufacturer:			Time:
Rigid fast rescue boats         Model:           Lot/Serial Number:			Surveyor:	:
			Organization	·
5.5.4.2 Towing release tes	st	Regulations: L	SA Code 4.4.	7.6.5; MSC.81(70) 1/6.9.3
	ocedure	Acceptance Criteria	а	Significant Test Data Operating mechanism disconnected and boat
	sm disconnected it should be	There should be no damage a	as a result of	Operating mechanism disconnected and boat
	ue boat is loaded with its full	these tests.		towed at 5 kts:Pass Fail
	d equipment and towed at	The receive heat is released as	tiofo starily by	Operating mechanism connected texts
closed.	veable hook component stays	The rescue boat is released sa the release mechanism.	atisfactorily by	Operating mechanism connected tests.
				Test 1: 25% SWL, lengthwise to the boat at 45° to
	ing mechanism connected, it			the vertical:
	the rescue boat when loaded	Single fall systems not intende		
	ersons and equipment when	operation are exempt from this	test.	Force Applied: N. Forward direction:Pass Fail
above should be demonstrate	can be released. Both of the			Aft direction:Pass Fail
	the safe working load of the			Test 2: 100% SWL, athwartships at 20° to the
	blied to the hook in the			vertical:
	the boat at an angle of 45° t should be conducted in the			Force Applied: N.
aftward as well as the f				Starboard:Pass Fail
				Port:PassFail
	fe working load of the hook			
	he hook in an athwartships			Test 3: 100% SWL, 45° to the longitudinal axis of
should be conducted or	20° to the vertical. This test			the boat in plan view at an angle of 33° to the vertical.
				Vortioui.
	fe working load of the hook			Force Applied: N.
	e hook in a direction halfway			Position 1:PassFail
	of tests 1 and 2 (i.e. 45° to			Position 2:PassFail
	the boat in plain view) at an ertical. This test should be			Position 3:PassFail Position 4:PassFail
conducted in four positi				1 0511011 T1 ass1 all
				Comments/Observations

Rigid fast rescue boats	Model:		te: Time: rveyor: ganization:
5.5.4.3 Load and release te	st		ode 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2
Test Proced		Acceptance Criteria	Significant Test Data
A release mechanism should tested as follows: The rescue boat release and the longest used conne associated with the system and adjusted according to i original equipment manufactu to 100% of its safe working lo Load and release should be r The rescue boat release a should then be disassembled and wear recorded. The re system should then be reasse	be conditioned and retrieval system and ction cable/linkage should be mounted nstructions from the urer and then loaded ad and released. epeated 50 times. nd retrieval system , the parts examined elease and retrieval	During the 50 releases, the rescue boat rel and retrieval system should be rele simultaneously from each fall to which connected without any binding or damage to part of the lifeboat release and retrieval syste The system should be considered as "faile any failure during the conditioning or uninte release occurs when load is applied but system has not yet been operated.	lease       Working Load:N         eased       Force Applied:N         it is       o any         Check the box for each release:         it       2:         it       3:         it       5:         it       6:         it       1:         it       1:

	Manufacturo	*		Date:	Time:
	Model:	···			I III.e
Rigid fast rescue boats	Lot/Serial Nu	mber:		Organiza	 tion:
	Lot Condition			organiza	
5.5.4.4 Cyclic loading test	t		Regulations: L	SA Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.3
Test Procedure	;	Acceptance	Criteria		Significant Test Data
The hook assembly, while	disconnected				Working Load:N
from the operating mechanis	sm, should be	The specimen should remain of	closed during the	e test.	Force Applied:N
tested 10 times with cyclic					
zero load to 1.1 times the	0	The system should be conside			Check the box for each release and/or strike out the
load, at a nominal 10 secon		failure during this test or any u	nintended releas	se or	cam rotation if no applicable:
unless the release mechani		opening occurs.			
specifically designed to op					Cam rotation 0°:
off-load hook with on-load ca					1: 2: 3: 4: 5: 6: 7: 8: 9: 10:
the weight of the boat to clos					
this case the cyclic load shou more than 1% to 1.1 times the					Cam rotation +45°:
	e SVVL.				
For cam-type designs, the te	est should be				1: 2: 3: 4: 5: 6: 7: 8: 9: 10:
carried out at an initial cam					
(fully reset position), and repe					Cam rotation -45°:
either direction, or 45° in or					
restricted by design.					1: 2: 3: 4: 5: 6: 7: 8: 9: 10:
					Passed: Failed:
					Comments/Observations

Rigid fast rescue boats	Model:	Surv	Date:            Surveyor:            Organization:		
5.5.4.5 Actuation force to	est	Regulations: LSA Co	de 4.4.7.6.4; MSC.81(70) 1/6.9.4.4		
Test Proce		Acceptance Criteria	Significant Test Data		
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load.		The actuation force should be no less t 100 N and no more than 300 N, if a cabl used it should be the maximum ler specified by the manufacturer, and secure the same manner it would be secured in	e is Actuation Force: N ngth s in Passed: Failed:		
The demonstration should ve indicators and handles are s correctly positioned in accord and safety instruction from manufacturer.	still functioning and are lance with the operation	rescue boat. The release mechanism is deemed to h passed the testing in 5.5.4.3, 5.5.4.4 5.5.4.5 when the tests have been conduc successfully. The system should considered as "failed" if any failure during test or any unintended release or oper occurs.	and cted be this		

Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyor:	Time:
5.5.4.6 Second release	mechanism tests- actuatio	n force and tensile strength	Regulations:	LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2
Test Pro		Acceptance Crite	eria	Significant Test Data
<ul> <li>A second release mechanism s</li> <li>.1 the actuation force of the be measured loaded wit load. If a cable is used, it length specified by the m the same manner it wou The demonstration shoul indicators and handles a correctly positioned in ac and safety instruction fr manufacturer; and</li> <li>.2 the release mechanism tensile strength testing of the same manner is and the same manner it wou the same manufacturer.</li> </ul>		.1 The actuation force shou than 100 N and no more	ld be no less than 300 N.	Actuation Force: N Tensile strength @ 6xSWL. Force applied: N. Passed: Failed: Comments/Observations

Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyor:	Time:	
5.5.5.1 Liferaft towing			Regulations: L	SA Code 4.4.	6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2
Test Proce	dure		eptance Criteria		Significant Test Data
The rescue boat should be loa to the mass of its equipme persons for which the rescue The maximum towing force of then be determined.	nt and the number of boat is to be approved.	The maximum tow should be record certificate. There should be no or its supporting str	led on the typ o damage to the	pe approval	Smallest Engine Largest Engine Make/model:
This information should be largest size of fully loaded life tow at a speed of at least 2 kn	raft the rescue boat can				Bollard pull: N (Record on type approval
The fitting designated for towin secured to a stationary object a means to measure bollard be operated ahead at full spee 2 minutes and the maximum for				certificate) Observed damage:	
(For rescue boats equipped bollard pull trials may be carr various powers to assess performance.)	ried out with engines of				Propeller: Pitch: Diameter: Passed Failed Comments/Observations

5.5.2         Endurance, speed and fuel consumption         Regulations: LSA Code 4.4.6.8, 5.1.1.6 MSC.81(70)1/7.1.6, 7.4.2.12           Test Procedure         Acceptance Criteria         Significant Test Data           (Note: Run this test after the impact and drop tests in 5.5.7.1.)         The boat should operate satisfactorily throughout the 4-hour operation.         Make/model:         Smallest Engine           The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved.         Fuel Tank Capacity:         L           The engine should be started and the boat manceuver for a period of at least 4 hours to demonstrate satisfactory operation.         The fuel tank should have sufficient capacity to operate at a speed of 8 knots for a period of 4 hours with its full complement of persons for a period which a crew of 3 persons for a period which a crew of 3 persons for a period which a crew of 3 persons for a period of at least 4 has the required capacity. (This determination may be made during the 4-hour period of operation.)         The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with a crew of 3 persons.         Boat speed (RPM):: Boat speed (RPM):: Boat speed (RPM):: Boat speed (RPM):: Boat speed (RPM): Boat speed (RPM): Boa	Rigid fast rescue boats	Manufacturer: Model: Lot/Serial Num		Survey	Date: Time: Surveyor: Organization:		
(Note: Run this test after the impact and drop tests in 5.5.7.1.)       The boat should operate satisfactorily throughout the 4-hour operation.       Smallest Engine       Largest Engine         The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved.       Fuel Tank Capacity:       L         The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation.       The fuel tank should have sufficient capacity to operate at a speed of 8 knots for a period of 4 hours with it full complement of 20 knots with a crew of 3 persons for a period of at least at speed of 8 knots for a period of a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.)       The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with its full complement of 20 knots with a crew of 3 persons for a period of operation.       The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with its full complement of 20 knots with a crew of 3 persons.       Boat speed (RPM):       Boat speed (RPM):         Engine speed (RPM):	5.5.5.2 Endurance, spe	ed and fuel cor	sumption	Regulations: L	SA Code	e 4.4.6.8, 5.1.1.6 MSC.81(70)1/7.1.6, 7.4.2.12	
(Note: Ruin this lest after the impact and drop tests in 5.5.7.1)       4-hour operation.         The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved.       4-hour operation.         The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation.	Test Procedure	9					
Commenta/Observations	<ul> <li>(Note: Run this test after the in tests in 5.5.7.1.)</li> <li>The rescue boat should be weights equal to the mass of and the number of persons rescue boat is to be approved.</li> <li>The engine should be started manoeuvred for a period of a to demonstrate satisfactory of The rescue boat should be run not less than 8 knots with a full of persons and equipment and a crew of 3 persons for a period for a period of a period. (This dete be made during the 4-he operation.)</li> <li>For rescue boats equipped motor, speed and manoeuvrit be carried out with engines of</li> </ul>	mpact and drop e loaded with f its equipment for which the d. d and the boat at least 4 hours peration. In at a speed of ull complement d 20 knots with period which is el consumption el tank has the ermination may our period of with outboard ng trials should various powers	The boat should operate sat 4-hour operation. The fuel tank should have operate at a speed of 8 knot with its full complement of po The fuel tank should have operate at a speed of 20 knot	e sufficient capa ts for a period of 4 ersons and equip	acity to 4 hours ment.	Smallest Engine         Largest Engine           Make/model:	

Rigid fast rescue boats	Model:	r: mber:		Surveyor:	Time:
5.5.5.3 Engine out of w	vater		Regulations: L	SA Code 4.4.	6.3, MSC.81(70)1/6.10.5
Test Procedure		Acceptance	ce Criteria		Significant Test Data
The engine should be operate 5 minutes at idling speed und simulating normal storage. Note: If a water flushing devic to be used for this purpose, fitted during the test	der conditions ce is intended	The engine should not be dam	aged as a result	of this test.	Passed Failed Comments/Observations
fitted during the test.5.5.5.4Compass test		Regulations: L	SA Code 5.1.	2.2.3, MSC.81(70)1/6.10.7	
Test Procedure		Acceptano	ce Criteria		Significant Test Data
It should be determined that performance is satisfactory ar unduly affected by magnetic equipment in the rescue boat	nd that it is not c fittings and	The compass operates satisfa	ctorily.		Compass Make: Compass Model: Passed Failed Comments/Observations

Rigid fast rescue boats	id fast rescue boats       Manufacturer: Time: Time: Time: Surveyor: Organization: Organization:				
5.5.5.5 Helpless Person	Recovery		Regulation	ons: LSA Co	de 4.4.3.4, 5.1.1.7, MSC.81(70)1/6.10.8, 7.1.1
Test Procedure		Acceptance Crit	eria		Significant Test Data
It should be demonstrated by test that it is possible to bring helpless people on board the rescue boat from the sea.				Number of Persons required and any special equipment used:         Passed         Failed         Comments/Observations	
5.5.5.6 Maneuverability	With Paddles	Or Oars	Regulati	ons: LSA Co	de 5.1.2.2.1, MSC.81(70)1/7.1.8
·		Acceptance Criteria		Significant Test Data	
Test Procedure It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.		The rescue boat should be capable paddled and manoeuvred.		tisfactorily	Distance travelled:m         Time Required:s         Calculated speed:m/s = knots         Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant         Immersion suit – Uninsulated/Buoyant Insulated         Passed Failed         Comments/Observations

Rigid fast rescue boats	Model: Surveyor:			Time:			
5.5.6.1 Towing test			Regulations: L	SA Code 4.4.	1.3.2, 4.4.7.7, N	MSC.81(70)1/6.	.11.1
Test Procedu	re	Accepta	ance Criteria			Significant T	est Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.		characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.		Passed Failed			
5.5.6.2 Towing & Painter	Tests—Painter rele	ease test	Regulations: L	SA Code 4.4.	7.7, MSC.81(70)1/6.11.23		
Test Procedu	re	Accepta	ance Criteria			Significant T	
It should be demonstrated release mechanism can relea fully equipped and loaded re being towed at a speed of no in calm water. The painter release mecha tested in several distinct direct hemisphere not obstructed of other constructions in the	Test ProcedureAcceptarIt should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots n calm water.The painter should release damage to the rescue boa of this test.The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.5.4.2 should be		e and there shou		Passed Test Directio	on Passed Passed Passed Passed Passed	Failed Failed Failed Failed

		Manufacturer:			Date:	Time:		
Rig	d fast rescue boats	Model: Lot/Serial Number:			Surveyor: Organization:			
					<b>J</b>			
5.5.		d operation after impact and drop test	Re			C.81(70)1/6.4.1, 6.4.3, 6		
		est Procedure		Acceptance		Ű		st Data
.1		all or falls, the fully equipped rescue boat, build be loaded with weights equal to the		e impact and dro sidered succes	p tests should be	Load in boat:	_kg	
	mass of the number of p	ersons for which the rescue boat is to be				Observed Damage:	YES	NO
	loaded in one of each t remainder of the weight	his loading should be a weight of 100 kg ype of seat installed in the lifeboat. The is should be distributed to represent the escue boat. (These weights need not be	.1		s been sustained fect the rescue functioning;	Increased Damage:	YES	NO
	placed 300 mm above th should be in position. Th should be pulled laterally	e seatpan). Skates or fenders, if required, le rescue boat, in a free hanging position, v to a position so that when released it will I surface at a velocity of 3.5 m/s. The boat	.2	impact and dr increased sig	caused by the op tests has not inificantly as a perational test in	Satisfactory Operation:	YES	NO
	should be released to im	pact against the rigid vertical surface.		5.5.5.2;		Ingress of Water:	YES	NO
.2	should then be suspend from the lowest point of	ith its engine, loaded as described above, led above the water so that the distance the rescue boat to the water is 3 m. The be released so that it falls freely into the	.3	machinery equipment has satisfaction; ar	and other s operated to full nd	Weight of heaviest engi Final Evaluation:	ine test	ed:
	water.		.4	no significar seawater has		Passed F	ailed _	
.3	detect the position and e	op tests, the boat should be examined to extent of damage that may have occurred and an operational test should then be e with 5.5.5.2.		Seawaler has	Jocuneu.	Comments/Observatior	IS	
.4	cleaned, and carefully ex	st, the rescue boat should be unloaded, xamined to detect the position and extent e occurred as a result of the tests.						

Rigid fast rescue boats	Model: Surveyor:			Time:		
5.5.7.2 Overload test			Regulations: M	/ISC.81(70)1/7	.1.4	
Test Procedure		Acceptanc	e Criteria		Test Pro	ocedure
The rescue boat should be properly distributed load of fe weight to represent the equip complement of persons each kg for which it is to be a suspended for five minutes f or hooks. The weights should in proportion to the loading of service condition, but the we represent the persons need for 300 mm above the seat pan. bridle or hooks and fastening be examined after the test conducted.	our times the ment and full weighing 82.5 pproved and rom its bridle be distributed the boat in its ights used to not be placed The boat and device should	The rescue boat and its bridle not show any signs of damage		anism should	Load in boat:	_kg
Testing by filling the boat with not be accepted. This methodoes not give the proper of weight. Machinery may be order to avoid damage, in weights should be added to compensate for the remo- machinery. The rescue boat and its bri (release mechanism) and fas should be examined after the signs of damage.	od of loading distribution of removed in which case the boat to val of such dle or hooks tening device				Passed	Failed

#### 5.6 INFLATED FAST RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

- 5.6.0 General information
  - 5.6.0.1 General data and specifications
  - 5.6.0.2 Submitted drawings, reports and documents
  - 5.6.0.3 Quality assurance
- 5.6.1 Visual inspection
  - 5.6.1.1 Occupant space
  - 5.6.1.2 Fittings, provisions and ladders
  - 5.6.1.3 Engine and starting system
  - 5.6.1.4 Steering mechanism and fuel tank
  - 5.6.1.5 Release mechanism
- 5.6.2 Stability, damage and loading tests
  - 5.6.2.1 Damage test
  - 5.6.2.2 Stability test
  - 5.6.2.3 Loading test
  - 5.6.2.4 Swamp test
  - 5.6.2.5 Righting test (for non self-righting fast rescue boats)
  - 5.6.2.6 Self-righting test (for self-righting fast rescue boats only)
  - 5.6.2.7 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)
  - 5.6.2.8 Engine inversion test (for self-righting fast rescue boats only)
- 5.6.3 Seating strength and space tests
  - 5.6.3.1 Seating strength test
  - 5.6.3.2 Seating space test
- 5.6.4 Release mechanism tests
  - 5.6.4.1 Simultaneous release
  - 5.6.4.2 Towing release test
  - 5.6.4.3 Load and release test
  - 5.6.4.4 Cyclic loading test
  - 5.6.4.5 Actuation force test
  - 5.6.4.6 Second release mechanism test actuation force and tensile strength
- 5.6.5 Operational test
  - 5.6.5.1 Liferaft towing
  - 5.6.5.2 Endurance, speed and fuel compensation
  - 5.6.5.3 Engine out of water
  - 5.6.5.4 Compass test
  - 5.6.5.5 Manoeuvrability with paddles or oars
  - 5.6.5.6 Heavy weather/seas test
- 5.6.6 Towing and painter tests
  - 5.6.6.1 Towing test
  - 5.6.6.2 Painter release test

### 5.6.7 Strength tests 5.6.7.1 Imp

- 5.6.7.1 Impact, drop & operation after impact and drop test
- 5.6.7.2 Ambient overload test
- 5.6.7.3 Cold overload test
- 5.6.7.4 Mooring out test
- 5.6.8 Materials tests
  - 5.6.8.1 Inflation chamber characteristics tests

#### 5.6 INFLATED FAST RESCUE BOATS

#### **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

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Inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:
5.6.0.1 General data and	specifications	Regulations: LSA Code 4.4, 5.1, MSC.81(70) 1/7.2
General Information	n Rescue b	oat dimensions Rescue boat weight
Construction Material: Hull:	Dimensions:	Design Weight:
Canopy:	LOA:	Unloaded Boat:
	Breadth Maximum:	Loose Equipment: Fuel:
Rescue Boat Inherent Buoyancy (Type App.) Material:	Depth to Sill:	Calculated Loaded Weight:
Weight: Occupancy:	Depth to Gunwale:	
Persons (82.5 kg each):		With Persons:
Engine(s) Installed: 1 Type App by: Manufacturer:	Moulded Depth:	Weight As Tested: Fully Equipped:
Туре:	Provision for securing hanging	
Power: Gear ratio (inboard engine):	(if applicable):	Comments/Observations
Additional rigid or inflatable buoy	/ancy:	
Release mechanism(s) (if applic	able) 2	
Manufacturer:		
Type: SWL:		
Propeller:		

Inflated fast rescue boat	Manufacturer: Model: Lot/Serial Number		Date: Time: Surveyor: Organization:	
5.6.0.2 Submitted of	Irawings, reports and do	cuments		
	Su	bmitted drawings and documents		Status
Drawing No.	Revision No. & date	Title o	of drawing	Status
	S	ubmitted reports and documents		Ctatura
Report/Document No.	Revision No. & date	Title of rep	ort / document	Status
		Maintenance Manual -		
		Operations Manual -		

Inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:				
5.6.0.3 Quality assurance	9	Regulations: MS	SC.81(70) 2/1.1, 1.2			
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.		Quality assurance Procedure:     Quality assurance Manual:				
		Quality assurance System acceptable Yes/No				
		Comments/Observations				

Inflated fact receive heats Model:		lel: Surveyo		Time: eyor: nization:		
5.6.1.1 Occupant space		Regulations: LSA	Code 5.	1, MSC.81(70)1/7.2.16		
Test Procedure		Acceptance Criteria		Significant Test Data		
Visually inspect the rescue Conduct measurements and clearances as required.		Unless the rescue boat has adequate sheer, it sho provided with a bow cover extending for not less than its length. Length is at least 6.0 m and not over 8.5 m. <b>Seating Space</b> Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm fr back Knee Space (Seating on seats) at least 635 mm from th Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from th Overlapping Seat Vertical Separation – at least 350 mm	15% of rom the he back he back	Passed       Failed         Passed       Failed         Width:      mm         Depth:      mm         Knee Space:      mm         Knee Width:      mm         Leg Space:      mm         Vert. Separation:      mm         Overlap:      mm         Position Indication:       PASSED FAILED		
		<ul> <li>Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated.</li> <li>Stretcher(s) space: Rescue boats should be capable of carrying at lease seated persons and a person lying on a stretcher of mile 2130 x 610 mm.</li> <li>Walkway Surfaces The surfaces on which persons might walk should have non-skid finish.</li> </ul>	inimum	Stretcher space:xmm Passed Failed Non-Skid Surface: PassedFailed Comments/Observations		

Inflated fast rescue boats	Model: Surveyor:			n:		
5.6.1.2 Fittings, provisions	s and ladders	Regulations: LS	SA Code 5.1.3	B, MSC.81(70)1/7.2.16		
Test Procedure	Acceptance Cr	iteria			Significant Test Dat	a
Visually inspect the rescue boat. Conduct measurements and	Buoyancy compartments fitted with: Non-return valve for manual i	nflation		Passed	Failed	_
verify clearances as required.	Means for deflation			Passed	Failed	_
	Safety relief valve unless waived by Adn	ninistration		Passed	Failed	_N/A
	Suitable patches for securing painters for	re and aft		Passed	Failed	_
	rescue boat above the waterline and w	<b>Fittings and Provisions</b> Suitable handholds or buoyant lifeline becketed around the outside of rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller				_
	On other than self-righting rescue boats arranged to break away without damagin			Passed	Failed	N/A
	Weathertight stowage for small items of	equipment		Passed	Failed	_
	Approved position indicating light provide	Approved position indicating light provided at highest point			Failed	_
	Rubbing strips on bottom and vulnerable places on the outside			Passed	Failed	_
	Transom, if fitted, not inset by more	than 20% of ov	verall length	Passed	Failed	_
	Automatically self-bailing or capable of r	apidly clearing wat	ter	Passed Comments/Obse	Failed ervations	_

Inflated fact recours hasts	Manufacturer: Model: Lot/Serial Number:		Date: Time: Surveyor: Organization:		
5.6.1.2 Fittings, provisions	s and ladders (cont'd)	Regulations: LS	SA Code 4.4.	.3.3, 5.1.3, MSC.81(70)1/7.2.16	
Test Procedure		ance Criteria		Significant Test Data	
Visually inspect the rescue boat. measurements and verify cleara required.	. Conduct ances as Ladders that can be used board and the lowest step w than 0.4 m below the light w	Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline.		Passed Failed Lowest stepm below waterline	
	Colour			Highly visible colour:	
	The boat should be of a h assist detection.	ighly visible colour v	where it will	PassedFailed	
				Comments/Observations	

Inflated fast rescue boats	Model:    Surveyor:			Time:		
5.6.1.3 Engine and starting system Regulations: LSA Code 4.4.6, 5.1, I			A Code 4.4.6, 5.1, N	ISC.81(70)1/7.2	.16	
Test Procedure	Acceptance	e Criteria			Significant Test Data	
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system	Type of starting system - Two independent rechargeable energy sources provided for power starting				
venty clearances as required.	<ul> <li>Required starting aids provided</li> <li>Starting system is not impeded by obstructions</li> </ul>	y engine casing,	thwarts, or other	Passed Passed	Failed Failed	
	<ul> <li>Propeller arranged to be disengaged fr and astern propulsion</li> </ul>	om the engine and	provision for ahead	Passed	Failed	
	<ul> <li>Exhaust arranged to prevent water from</li> <li>System designed with due regard to t</li> </ul>	he safety of perso	ns in the water and	Passed	Failed	
	<ul> <li>to the possibility of damage to the prop</li> <li>Engine casing made of fire-retardant m providing similar protection</li> </ul>			Passed	Failed	
	<ul> <li>Personnel are protected from hot and</li> <li>Shouted order can be heard with eng</li> </ul>		ed necessary for 6	Passed	Failed	
	knot operation			Passed		
	- Watertight casing around bottom and fitting top which provides for gas ventir	ng		Passed	Failed	
	- Means for recharging engine starting provided by solar charger or ship's power of the solar charger or ship's power of the solar charger or ship's power of the solar charger o		earchlight batteries	Passed	Failed	
	- Radio batteries not used to provide po	wer for engine star		Passed	Failed	
	<ul> <li>Recharging for engine batteries provided by ship's power supply does not exceed 50 v</li> </ul>			Passed	Failed	
	- Recharging means for engine batterie	<ul> <li>Recharging means for engine batteries can be disconnected at the rescue</li> </ul>			Failed	
	<ul> <li>boat embarkation station</li> <li>Instructions for starting and operati mounted in a conspicuous place near</li> </ul>			Passed	Failed	
	- Towing arrangement for marshalling life			Passed	Failed	

Inflated fast rescue boats	Model:	lodel: Surveyor:			_ Time:	
5.6.1.4 Steering mechanis	ering mechanism and fuel tank Regulations: LSA Code 4.4.				SC.81(70)1/7.2.16	
Test Procedure		Acceptance Criteria			ignificant Test Da	ta
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Steering	tiller should be capable of controlling the rudder (rudder and tiller may				
	Rudder permanently attached to the rescue	Rudder permanently attached to the rescue boat				
	Rudder and tiller arranged so as not to be darelease mechanism or propeller	Passed	Failed			
	Steered by wheel at helmsman's position	Steered by wheel at helmsman's position				N/A
	Has emergency steering system providing water jet or outboard motor	g direct control	l of rudder,	Passed	Failed	
	Hands-free, watertight VHF radio provided			Passed	Failed	
	Fuel Tank	Fuel Tank				
		If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion				N/A
		C			vations	

Inflated fast rescue boats	Model:	Surveyor:			n:		
5.6.1.5 Release mechani	sm		Regulations: LS	SA Code 4.4.	7,.6.5, MSC.81(70)1/7	<b>.</b> 2.16	
Test Procedure		Acceptan	ce Criteria		Sigr	nificant Test Dat	ta
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.		Clear operating instructions			Passed	Failed	
		Release control marked in a surroundings	colour that contra	ists with the	Passed	Failed	
		For on-load release mechanis	ms:				
Suitably worded danger sign for on load release				Passed	Failed	N/A	
		Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery		Passed	Failed	N/A	
		On-load release mechanism needs deliberate and continued action by the operator		Passed	Failed	N/A	
		Mechanical protection provided beyond that normally required for off load release		Passed	Failed	N/A	
		For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate.		Passed		N/A	

		Date:         Time:           Surveyor:            Organization:	
	Regulations: LS	SA Code 5.1.3	3.5, MSC.81(70)1/7.2.89
Acceptan	ce Criteria		Significant Test Data
In each of the conditions price persons for which the rescue be supported within the rescue ad nt el	rescribed, the full boat is to be appro		1       With engine and fuel:         Passed Failed         Without engine and fuel         Passed Failed         2       With engine and fuel:         Passed Failed         Without engine and fuel:         Passed Failed         3       With engine and fuel:         Passed Failed         3       With engine and fuel:         Passed Failed         Without engine and fuel:         Passed Failed         Without engine and fuel:         Passed Failed         Without engine and fuel:         Passed Failed
ria oriti foan eri id	rial Number:Acceptan out In each of the conditions p vith persons for which the rescue for be supported within the rescu and ent ide ide	rial Number:	rial Number: Organization           Regulations: LSA Code 5.1.           Acceptance Criteria           out           In each of the conditions prescribed, the full number of persons for which the rescue boat is to be approved should be supported within the rescue boat.           and ent           ide

Inflated fact receive basts Model:		nber:		Surveyor:	Time: n:
5.6.2.2 Stability test			Regulations: LS	A Code 4.4.	5, MSC.81(70)1/6.10.8, 7.2.67
Test Procedure		Acceptan	ce Criteria		Test Procedure
The following tests should be c engine and fuel or an equivalent of the engine and fuel tanks: .1 the number of persons inflated rescue boat is t should be crowded to half this complement buoyancy tube, and the In each case the freeboor recorded; and	for which the o be approved one side with seated on the en to one end.	.1 Under these conditions t everywhere positive.	the freeboard sho	uld be	.1    Freeboard crowded to one sidemm      To bow:mm      .2    To stern:mm      PassedFailed
<ul> <li>.2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets.</li> <li>These stability tests may be carried out with the rescue boat floating in still water.</li> </ul>		.2 The rescue boat should b	e stable.		.3       Stability observations during recovery of unconscious person:         Clothing/Suits on helpless person:

				<b>D</b> (	<b>-</b>
					Time:
Inflated fast rescue boats				Organizatio	n:
			organizatio		
5.6.2.3 Loading test	·	-	Regulations: MS	SC.81(70)1/7	.2.45
Test Procedu	re	Acce	ptance Criteria		Significant Test Data
The freeboard of the inflated rescue boat should be taken in the various loading conditions as follows:		In each condition the not less than 300 m	m at the buoyancy	y tubes and	.1 Freeboard at Buoyancy Tubes:mm Freeboard at Transom:mm
.1 rescue boat with all its equip	oment;	not less than 250 m transom.	m from the lowest	. part of the	.2 Freeboard at Buoyancy Tubes:mm
.2 rescue boat with all its equipment, engine and fuel, or an equivalent mass positioned to					Freeboard at Dudyancy Tubesnmm Freeboard at Transom:mm
represent engine and fuel;					.3 Freeboard at Buoyancy Tubes:mm
.3 rescue boat with all its equipment and the					Freeboard at Transom:mm
number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes; and					.4 Freeboard at Buoyancy Tubes:mm Freeboard at Transom:mm
.4 rescue boat with the numbe it is to be approved and all it and fuel or an equivalent ma engine and fuel and the reso re-trimmed as necessary.	s equipment, engine ass to represent				Passed Failed Comments/Observations
5.6.2.4 Swamp test		-	Regulations: MS	SC.81(70)1/7	.2.11
Test Procedure		Acce	ptance Criteria		Significant Test Data
It should be demonstrated the when fully swamped, is capable equipment, the number of per 82.5 kg for which it is to be ap equivalent to its engine and fu should also be demonstrated to does not seriously deform in thi	of supporting its full sons each weighing proved and a mass illy filled fuel tank. It hat the rescue boat	The rescue boat shout the full load and shout			Passed Failed Comments/Observations

Inflated fast rescue boats		Surveyor:			Time: n:	
5.6.2.5 Righting test (for	non self-rig	hting fast rescue boats)	Regulations: M	SC.81(70)1/7	.1.7	
Test Procedure		Acceptan	ce Criteria		Significant	Test Data
Test Procedure It should be demonstrated that and without engine and fit equivalent mass in place of the fuel tank, the rescue boat is being righted by not more than t if it is inverted on the water. The engine should be running position and, after stopping au or by the helmsman's emerger switch when inverted, it should restarted and run for 30 minute rescue boat has returned to position. For rescue boats with inboard et test without engine and fut applicable. (This test is not required if the ri 5.6.2.6 has been performed.)	uel or an engine and capable of wo persons g in neutral utomatically ncy release d be easily es after the the upright engines, the uel is not	The rescue boat should be c more than two persons if it is When the rescue boat has r should be capable of be helmsman's emergency relea The design of the fuel and prevent the loss of more than from the propulsion system.	apable of being rig inverted on the wa righted, each engin ing restarted, pr se, if fitted, has bea d lubricating syste	ter. ne or motor rovided the en reset. ems should	Significant Can the boat be righted by With engine and fuel: Passed Without engine and fuel: Passed Method used to right boat: Comments/Observations	

Inflated fast rescue boats	Manufacturer:         Model:         Lot/Serial Number:		Surveyor: _	Time: on:
5.6.2.6 Self-righting te	st (for self-righting fast re	escue boats only)	Regulations: MSC.8	1(70)1/6.14
Test Proce	edure	Acceptanc	ce Criteria	Significant Test Data
the normal position weights representing th boat with a full complem The weight used to r assumed to have an av should be secured at have its centre of gravity	inal axis to any angle of e rescue boat should be gles of heel up to and released. ducted in the following th its engine is loaded in with properly secured e fully equipped rescue ent of persons on board. epresent each person, rerage mass of 82.5 kg, each seat location and approximately 300 mm to have the same effect e rescue boat is loaded	After release, the rescure return to the upright assistance of the occu At the beginning of the should be running in me .1 unless arranged when inverted, continue to run helmsman's emer and .2 after resetting emergency relea engine should be run for 30 minutes has returned to th Water should not enter	ue boat should always position without the pants. Hese tests, the engine eutral position and: to stop automatically the engine should until stopped by the rgency release switch; the helmsman's se, if necessary, the e easily restarted and s after the rescue boat e upright position.	Angle of       Righting Moment         Heel       Loaded       Light         45°
.2 when the rescue boat is in the light condition.		The design of the systems should prever 250 ml of fuel or lul	it the loss of more than	
In the case of open fast rescu test should only be done in th		propulsion system.		

Inflated fast rescue boats Manufacturer: Model: Lot/Serial Number:			Surveyor: _		Time:	
5.6.2.7 Flooded capsizing test (for self- rescue boats only)		righting fully enclosed fast	Regulations: M	SC.81(70) 1/6	5.14.3, 6.14.4, 6.14.	5, 7.4.1
Test Procedure		Acceptano	ce Criteria		S	ignificant Test Data
Perform the following for fully rigid fast rescue boats. This applicable to open fast rescue The rescue boat should be pla water and fully flooded until t boat can contain no additional entrances and openings s secured to remain open during Using a suitable means, the re- should be rotated about a longit to a heel angle of 180° and ther For the purpose of this test, the distribution of the occupants disregarded. However, the equ equivalent mass, should be sec rescue boat in the normal position.	test is not boats. aced in the the rescue water. All should be the test. escue boat udinal axis n released. e mass and s may be sipment, or cured in the	After release, the lifeboat s provides an above-water esca	hould attain a p		Result: PASSED	FAILED

5.6.2.8 Engine inversion test (for self-righting fast rescue boats only)       Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1         Test Procedure       Acceptance Criteria       Significant Test Data         The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat.       The engine and engine installation should be capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright.       Passed	Inflated fact receive basts Model: _	urer: Number:	Time: n:	
The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat.       The engine and engine installation should be capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright.       Passed Failed         The following procedure should be followed during this test:       The design of the fuel and lubricating systems should prevent the loss of fuel and the loss of more than 250 ml of lubricating oil from the engine and rotate it in a clockwise direction       The design of uring capsize.       The design of lubricating oil from the engine to collect any oil automatically stop.		ighting fast rescue boats only)	Regulations: LSA Code	4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1
that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat.capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright.Comments/ObservationsThe following procedure should be followed during this 				<b>v</b>
<ul> <li>through 360°;</li> <li>3 restart the engine and run it at full speed for 10 minutes;</li> <li>4 stop the engine and rotate it in a counter- clockwise direction through 360°;</li> <li>5 restart the engine, run it at full speed for 10 minutes, and then stop the engine;</li> <li>6 allow the engine to cool;</li> <li>7 restart the engine and run it at full speed for 5 minutes;</li> </ul>	<ul> <li>The engine and its fuel tank should be mouthat is arranged to rotate about an axis elongitudinal axis of the boat.</li> <li>A pan should be located under the engine which may leak from the engine so that the oil can be measured.</li> <li>The following procedure should be followitest: <ul> <li>1 start the engine and run it at f 5 minutes;</li> <li>2 stop the engine and rotate it in a cloch through 360°;</li> <li>3 restart the engine and run it at f 10 minutes;</li> <li>4 stop the engine and rotate it in a courdirection through 360°;</li> <li>5 restart the engine, run it at full speed fand then stop the engine;</li> <li>6 allow the engine to cool;</li> <li>7 restart the engine and run it at full speed fand then stop the engine and run it at full speed fand thengine and run it at fulle speed fand thengine</li></ul></li></ul>	Inted on a frame quivalent to theThe engine and capable of run capsize and cor boat returns to automatically storestarted after the upright.o collect any oil quantity of suchautomatically storestarted after the upright.ved during this ull speed for ter- clockwiseThe design of the should prevent the overheat, fail to 250 ml of oil dur When examined overheating or end	engine installation should be ing in any position during tinue to run after the rescue of the upright or should p on capsizing and be easily e rescue boat returns to the fuel and lubricating systems he loss of fuel and the loss of nl of lubricating oil from the psize. sts, the engine should not operate or leak more than ing any one inversion. after being dismantled the show no evidence of	Passed Failed

		Manufacturer:		Date:	Time:
			Surveyor: _		
		Lot/Serial Number:		Organizatio	n:
5.6.2	.8 Engine inversion test	(continued)	Regulations: LS	A Code 4.6.4	.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1
	Test Proced	lure	Acceptance Criteria		Significant Test Data
	following procedure should	be followed during this	During these tests, the engine		
test	(Continued):		overheat, fail to operate or leak		procedure as prescribed? Passed/Failed
.8	slowly rotate the running	ongino in a clockwico	250 ml of oil during any one inversio	on.	Does the engine stop when turned in either
.0	direction through 180°, ho		When examined after being disr	nantled the	direction? Passed/Failed
	for 10 s, and then rotate		engine should show no evidence of		If it stops, does it easily restart? Passed/Failed
	clockwise direction to com		or excessive wear.	g	Does the engine fulfil the requirements after the
.9	if the engine is arranged				tests have been carried out according to the
	when inverted, restart it;				procedure? Passed/Failed
.10	allow the engine to continue	e to run at full speed for			
	10 minutes;				Amount of oil lost from engine during each
	shut the engine down and	-			inversion:
.12	repeat the procedure in				.2 : ml
	except that the engine s				.4 : ml
40	counter-clockwise direction				.8: ml
.13	restart the engine and ru	in it at full speed for			.12: ml
11	5 minutes; rotate the engine in a clock	kuvice direction through			.14 : ml .16 : ml
.14	180° and stop the engine. I				.10. 111
	complete a full clockwise re				Total amount of oil lost from engine: ml Evidence
15	restart the engine and ru				of overheating or excessive wear?
	10 minutes;				Passed/Failed
.16	repeat the procedure in .	14 above, turning the			
	engine counter-clockwise;	, 3, 4			Amount of oil lost from engine ml
.17	restart the engine, run	it at full speed for			Comments/Observations
	10 minutes and then shut i	,			
.18	dismantle the engine for ex	kamination.			

Inflated fact receive basts Model:		mber:		Surveyor: _		ime:
5.6.3.1 Seating strength	test		Regulations: LS	SA Code 4.4.	1.5, MSC.81(70)1/6.6.	1
Test Procedure		Acceptanc	e Criteria		Sign	ificant Test Data
The seating should be loaded w of 100 kg in each position allo person to sit in the rescue boat. In the case of a rescue boat la falls, each type of seat should with a mass of 100 kg in any location when dropped into the height of at least 3 m. (This to performed in conjunction with th in 5.6.7.1).	aunched by d be loaded T single seat d water from e est may be	The seating should be able to any permanent deformation or The seating should be capable damage should be sustained efficient functioning.	o support this load damage. of supporting this	loading. No	Observed damage Passed Passed Comments/Observat	Failed FailedN/A

Inflated fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:			
5.6.3.2 Seating space tes	st		Regulations: LS	SA Code 5.1.	1.3.2, MSC.81(70)1/7.1.3
Test Procedure		Acceptan	ce Criteria		Significant Test Data
The rigid rescue boat should be its engine and all its equip number of persons for which boat is to be approved, having mass of at least 82.5 kg, and lifejackets and immersion suit other essential equipment requi then board; one person should a stretcher of similar dimension shown in the figure and the oth be properly seated in the rescu- rigid rescue boat should manoeuvred and all equipment tested to demonstrate that operated without difficulty or i with the occupants.	ment. The the rescue an average all wearing s and any red, should lie down on ns to those hers should e boat. The then be t on board it can be nterference	Equipment can be operated occupants. The rescue boat must be 5 persons and a person lying Except the helmsmen, person provided the space used c requirements of test form 5.6. No seating is on the gund chambers on the sides of the	capable of carryin down on a stretche ns may be seated o onforms with the 1.1. wale, transom, on	ng at least er. on the floor, leg space	Equipment operated: YES NO Number of persons carried: Seated on seats Seated on floor Lying on a stretcher Total PassedFailed Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Manufacturer:         Model:         Lot/Serial Number:			Surveyor: _	n:	
5.6.4.1 Simultaneous rel	ease	-	Regulations: LS	A Code 4.4.	7.6, MSC.81(70)1/6.9.12
Test Procedure		Acceptan	ce Criteria		Significant Test Data
For rescue boats launched by the rescue boat with its engine f be suspended from the release just clear of the ground or the rescue boat should be loaded total mass equals 1.1 times the rescue boat, all its equipmen number of persons for which boat is to be approved. The r should be released simultane each fall to which it is connec binding or damage to any part o boat or the release mechanism. (Single fall systems not in on-load operation are exemp test.)	itted should mechanism water. The so that the mass of the nt and the the rescue escue boat ously from ted without f the rescue	It should be confirmed to simultaneously release from e without binding or damage to the release mechanism. It should be confirmed to simultaneously release from ea when fully waterborne in the overload condition.	each fall which it is any part of the res that the rescue ach fall to which it is	boat will	Light condition Passed FailedN/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:kg Passed FailedN/A (N/A – Single fall, off-load only) Comments/Observations

	Manufacturer: Model:		Date: Surveyor:	Time:		
Inflated fast rescue boats		Organizatio		n:		
5.6.4.2 Towing release test		Regulations: L	SA Code 4.4.	7.6.5; MSC.81(70) 1/6.9.3		
Test Proc		Acceptance Criteria				
With the operating mechanism demonstrated when the rescue complement of persons and	e boat is loaded with its full equipment and towed at	these tests.		Operating mechanism disconnected and boat towed at 5 kts:Pass Fail		
speeds of 5 knots that the move closed.	able hook component stays	The rescue boat is released sat the release mechanism.	tisfactorily by	Operating mechanism connected tests. Test 1: 25% SWL, lengthwise to the boat at 45° to		
Furthermore, with the operating should be demonstrated that the		Single fall systems not intended	d for on-load	the vertical:		
with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows:		operation are exempt from this test.		Force Applied: N. Forward direction:Pass Fail Aft direction:Pass Fail		
.1 a force equal to 25% of the hook should be applied to t direction of the boat at an a This test should be conducte the forward direction;	he hook in the lengthwise ngle of 45° to the vertical.			Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: N. Starboard:Pass Fail		
.2 a force equal to the safe should be applied to the direction at an angle of 20 should be conducted on bot	hook in an athwartships ° to the vertical. This test			Port:PassFail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical.		
.3 a force equal to the safe should be applied to the he between the positions of tes longitudinal axis of the boat of 33° to the vertical. This te four positions.	bok in a direction halfway sts 1 and 2 (i.e. 45° to the in plain view) at an angle			Force Applied: N. Position 1:Pass Fail Position 2:Pass Fail Position 3:Pass Fail Position 4:Pass Fail Comments/Observations		

	Manufacturer:		Date:	Time:			
Inflated fact receive bacts				pr:			
Inflated fast rescue boats	Lot/Serial Number		Organiz	ation:			
5.6.4.3 Load and release tes			Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2				
Test Procedur		Acceptance Criteria		Significant Test Data			
A release mechanism should be	e conditioned and	During the 50 releases, the rescue boa					
tested as follows:		and retrieval system should be		Force Applied:N			
The rescue boat release and re	trioval evetom and	simultaneously from each fall to wh connected without any binding or damage		Check the box for each release:			
the longest used connect		part of the lifeboat release and retrieval		Check the box for each release.			
associated with the system should			byotonn.	1: 🔲 2: 🛄 3: 🔲 4: 🛄 5: 🛄 6: 🛄			
adjusted according to instruction		The system should be considered as	"failed" if	7: 🗌 8: 🔲 9: 🗍 10: 🗍 11: 🗍 12: 🗍			
equipment manufacturer and th		any failure during the conditioning or ur		13: 🔲 14: 🛄 15: 🛄 16: 🛄 17: 🛄 18: 🛄			
of its safe working load and rele	eased.	release occurs when load is applied	but the	19: 🗌 20: 🗌 21: 🗌 22: 🗌 23: 🗌 24: 🗌			
		system has not yet been operated.					
Load and release should be rep	beated 50 times.			31: 32: 33: 34: 35: 36: 37: 38: 39: 40: 41: 42:			
The rescue boat release and	d retrieval system			43: 44: 45: 46: 47: 48:			
should then be disassembled, t				49: 50:			
and wear recorded. The rele							
system should then be reassem	nbled.			Passed Failed			
				Comments/Observations			
				Comments/Observations			

Inflated fact recours basts	Manufacturer:		Date:         Time:           Surveyor:            Organization:		
5.6.4.4 Cyclic loading test		Regulations: LS	SA Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.3	
Test Procedure		Acceptance Criteria		Significant Test Data	
The hook assembly, while disco from the operating mechanism, be tested 10 times with cyclic from zero load to 1.1 times t working load, at a nominal 10 s per cycle; unless the release mech has been specifically desig operate as an off-load hook with capability using the weight of the close the hook, in this case th load should be from no more tha 1.1 times the SWL. For cam-type designs, the test sh carried out at an initial cam rotati (fully reset position), and repeate in either direction, or 45° in one o if restricted by design.	, should loading the safe seconds chanism gned to non-load e boat to ne cyclic an 1% to hould be tion of 0° ed at 45°	The specimen should remain closed during the t The system should be considered as "failed" if ar during this test or any unintended release or occurs.	ny failure	Working Load:       N         Force Applied:       N         Check the box for each release and/or strike out the cam rotation if no applicable:         Cam rotation $0^{\circ}$ :         1:       2:         3:       4:         7:       8:         9:       10:         Cam rotation +45°:         1:       2:         3:       4:         7:       8:         9:       10:         Cam rotation -45°:         1:       2:         3:       4:         5:       6:         7:       8:         9:       10:         Cam rotation -45°:         1:       2:         3:       4:         7:       8:         9:       10:         Passed:       Failed:         Passed:       Failed:         Comments/Observations	

Inflated fast rescue boats	Model:			Date:          Surveyor:          Organization:				
5.6.4.5 Actuation force test		Regulations: L	Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4					
Test Proced	ure	Acceptance Criteria		Significant Test Data				
The cable and operating mech reconnected to the hook asser boat release and retrieval sys demonstrated to operate satisf working load. The demonstration should veri indicators and handles are stil correctly positioned in accordar and safety instruction from th manufacturer.	mbly; and the rescue stem should then be actorily under its safe fy that any interlocks, I functioning and are nee with the operation	100 N and no more than 300 N, if a used it should be the maximum specified by the manufacturer, and se the same manner it would be secure rescue boat. The release mechanism is deemed passed the testing in 5.6.4.3, 5.6	to have .4.4 and onducted uring this	Actuation Force: N Passed: Failed: Comments/Observations				

Inflated fast rescue boats	Model:		Surveyor: _	n:
5.6.4.6 Second release me	chanism tests- actuation	force and tensile strength	Regulations:	LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2
Test Proc	edure	Acceptance Crite	ria	Significant Test Data
<ul> <li>A second release mechanism s</li> <li>.1 the actuation force of the release measured loaded with load. If a cable is used, it sl length specified by the man the same manner it would The demonstration should indicators and handles are correctly positioned in acco and safety instruction from manufacturer; and</li> <li>.2 the release mechanism sl tensile strength testing devincreased to at least six time release mechanism.</li> </ul>	should be tested as follows: elease mechanism should 100% of its safe working hould be of the maximum furfacturer, and secured in be secured in a lifeboat. verify that any interlocks, still functioning and are rdance with the operation in the original equipment hould be mounted on a vice. The load should be	.1 The actuation force shou than 100 N and no more t The release mechanism doe	ıld be no less han 300 N.	Actuation Force: N Tensile strength @ 6xSWL. Force applied: N. Passed: Failed: Comments/Observations

Inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:            Surveyor:            Organization:
5.6.5.1 Liferaft towing			Regulations: L	LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2
Test Proced	lure		nce Criteria	Significant Test Data
The rescue boat should be load to the mass of its equipment persons for which the rescue be The maximum towing force of the then be determined. This information should be un largest size of fully loaded liferation tow at a speed of at least 2 km The fitting designated for towing secured to a stationary object	t and the number of boat is to be approved. the rescue boat should sed to determine the aft the rescue boat can ots. g other craft should be t by a tow rope fitted	rescue boat shou type approval cer There should be	towing force of t Id be recorded on t tificate. The no damage to th or its supportin	Smallest Engine       Largest Engine         Make/model:
<ul> <li>with a means to measure bo should be operated ahead at a of at least 2 minutes and recorded.</li> <li>(For rescue boats equipped v bollard pull trials may be carrie various powers to assess performance.)</li> </ul>	llard pull. The engine full speed for a period the maximum force with outboard motors, ed out with engines of			Pitch: Diameter: Passed Failed Comments/Observations

Inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:			
5.6.5.2 Endurance, spee	ed and fuel co	nsumption	Regulatio	ns: LSA	Code MSC.81(70)1/	7.1.6, 7.4.2.12	
Test Procedure		Acceptance Crit			S	Significant Test D	ata
(Note: Run this test after the drop tests in 5.6.7.1.)	impact and	The boat should operate satisfact 4-hour operation.	torily through	nout the	Make/model:	Smallest Engin	e Largest Engine
The rescue boat should be weights equal to the mass of its and the number of persons for rescue boat is to be approved.	s equipment or which the				Fuel Tank Capacity: Propeller: Pitch: Diameter:		
The engine should be started a manoeuvred for a period of at le to demonstrate satisfactory op	east 4 hours				@8 knots: Engine speed (RPM)		
The rescue boat should be run of not less than 8 knots complement of persons and and 20 knots with a crew of 3 a period which is sufficient to a fuel consumption and to estab fuel tank has the required cap determination may be made 4-hour period of operation.)	with a full equipment persons for scertain the lish that the pacity. (This	The fuel tank should have su operate at a speed of 8 knots for with its full complement of perso	a period of 4	hours	Boat speed (kts) Consumption (L/h) Endurance (hrs.) @20 knots: Engine speed (RPM) Boat speed (kts)	):	
For rescue boats equipped wi motor, speed and manoeu should be carried out with various powers to assess the re performance.	vring trials engines of	The fuel tank should have su operate at a speed of 20 knots fo with a crew of 3 persons.			Consumption (L/h) Endurance (hrs.) Comments/Observat		

Inflated fast rescue boats	Model:		Date:         Time:           Surveyor:			
5.6.5.3 Engine out of wat	ter		Regulations: LS	SA Code 4.4.	6.3, MSC.81(70)1/6.10.5	
Test Procedure		Acceptan	ce Criteria		Significant Test Data	
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage.				Passed Failed Comments/Observations		
Note: If a water flushing device to be used for this purpose, it fitted during the test.						
5.6.5.4 Compass test		Regulations: LSA Code 5.1			2.2.3, MSC.81(70)1/6.10.7	
Test Procedure		Acceptance Criteria		Significant Test Data		
It should be determined that th performance is satisfactory and unduly affected by magnetic equipment in the rescue boat.	that it is not	The compass operates satisfa	ictorily.		Compass Make: Compass Model: Passed Failed Comments/Observations	

Inflated fast rescue boats	Model:	rer:	Surveyor:		n:
5.6.5.5 Manoeuvrability v	5.6.5.5 Manoeuvrability with paddles or oars			ons: LSA Co	de 5.1.2.2.1, MSC.81(70)1/7.1.8
Test Procedure		Acceptance Crite			
It should be demonstrated that boat can be propelled and man its oars or paddles in calm water at a speed of at least 0.5 kn distance of at least 25 m. when the number of persons, a lifejackets and immersion suits, is to be approved.	oeuvred by r conditions ots over a laden with II wearing	The rescue boat should be capable of paddled and manoeuvred.	f being sati	isfactorily	Distance travelled:m Time required:s Calculated speed:m/s =knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant Immersion suit – Uninsulated/Buoyant Insulated Passed Failed Comments/Observations

Inflated fast rescue boats	Model:	Manufacturer: Model: Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:		
5.6.5.6 Heavy weather/seas	test		Regulations: LS	A Code 5.1.	3, MSC.81(70)1/7.2.10	
Test Procedure		Acceptan	ce Criteria		Significant Te	st Data
To simulate use in heavy w inflated rescue boat should be f larger powered engine than is be fitted and driven hard in a w 4 or 5 or equivalent rough water 30 minutes. For boats with inboard engines does not need to be greater intended to be used.	itted with a intended to ind of force for at least the power	permanent strain nor have lost more than minimal pressure.		Tube pressure before test:         Pressure relief valves open/clo         Wave height         Wind Speed         Tube pressure after test:         Passed         Failed         Comments/Observations	m _m/s _m/s	
5.6.6.1 Towing test			Regulations: LS	SA Code 4.4.	1.3.2, 4.4.7.7, MSC.81(70)1/6.1	1.1
Test Procedure		Acceptan	ce Criteria		Significant Te	st Data
It should be demonstrated that equipped rescue boat, loade properly distributed mass eq mass of the number of persons is to be approved, can be towed of not less than 5 knots in calm on an even keel using the respainter securing device.	ed with a ual to the for which it at a speed water and	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.		PassedF	<sup>-</sup> ailed	

Inflated fast rescue boats	Inflated fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Surveyor: _	n:		
5.6.6.2 Painter release te	st		Regulations: LS	SA Code 4.4.	7.7, MSC.81(70)	1/6.11.23	
Test Procedure		Acceptano	ce Criteria			Significant T	est Data
It should be demonstrated that release mechanism can release on a fully equipped and loaded i that is being towed at a speed than 5 knots in calm water. The painter release mechanism tested in several distinct direct upper hemisphere not obstruct canopy or other constructions in boat. The directions specified in should be used if possible.	a the painter rescue boat of not less a should be tions of the cted by the a the rescue	The painter should release an to the rescue boat or its equip	d there should be		Passed Test Direction	Passed Passed Passed Passed Passed Passed	Failed Failed Failed Failed Failed Failed

			Survey	or: zation:
5.6.7.1 Impact, drop and op	peration after impa	ct and drop test	Regulation	s: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2 & 7.2.3
Test Procedure	9	Acceptance Criteria		Significant Test Data
.1 For boats launched by fall equipped rescue boat, inc should be loaded with weights of the number of persons fo boat is to be approved. Inclu should be a weight of 100 k each type of seat installed i weights should be distribute normal loading in the res weights need not be placed seatpan.) Skates or fenders, be in position. The rescue hanging position, should be position so that when relea fixed rigid vertical surface a m/s. The boat should be r against the rigid vertical surface	cluding its engine, is equal to the mass or which the rescue uded in this loading g loaded in one of in the lifeboat. The ed to represent the scue boat. (These 300 mm above the , if required, should e boat, in a free pulled laterally to a ased it will strike a at a velocity of 3.5 released to impact	<ul> <li>The impact and drop tests considered successful if:</li> <li>.1 no damage has been sustained affect the efficient function rescue boat and its equipment</li> <li>.2 the damage caused by the drop tests has not increased as a result of the operation 5.6.5.2;</li> <li>.3 machinery and other equipment operated to full satisfaction; and occurred.</li> </ul>	ed that would ning of the nt; impact and significantly onal test in ipment has and	Load in boat:kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:
<ul> <li>.2 The rescue boat complete wi and with a mass equivalent to in the position of its engine a be dropped three times from 3 m on to water. The drops a 45-degree bow-down, level to stern-down attitudes.</li> <li>.3 On completion of these test and its equipment show examined.</li> </ul>	b its engine and fuel and fuel tank should a height of at least should be from the trim, and 45-degree			Final Evaluation: Passed Failed Comments/Observations

Inflated fast rescue boats	s Manufacturer: Model: Lot/Serial Number:			Date:          Time:            Surveyor:          Organization:		
5.6.7.2 Ambient overload	test		Regulations: LS	SA Code 5.1.	3.2.2, MSC.81(70)1/7.2.	12
Test Procedure		Acceptano	ce Criteria		Signific	cant Test Data
· · · · · · · · · · · · · · · · · · ·		The rescue boat and its bridle not show any signs of damage		nism should	Passed Comments/Observation	
	The rescue boat and its bridle should be examined after the test is conducted.					
5.6.7.3 Cold overload test		Regulations: LSA Code 5.1.3.2.3, MSC.81(70)1/7.2.13				
Test Procedure		Acceptance Criteria		Significant Test Data		
With all relief valves operative conditioning at a temperature o inflated rescue boat should be 1.1 times the mass of the full of of persons and equipment for w be approved and suspende minutes from its bridle. The rescue boat and bridle examined after the test is condu	f -30°C, the loaded with complement hich it is to d for five should be	The rescue boat and its bridle or release mechanion of show any signs of damage.		nism should	Passed	

Inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor: _	n:
5.6.7.4 Mooring out test			Regulations: LS	SA Code 5.1.	3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.78
Test Procedure	!	Accepta	ance Criteria		Significant Test Data
The rescue boat should be load equal to the mass of the total nut for which it is to be approved and and moored in a location at sea harbour. The rescue boat shou in that location for 30 days. The be topped up once a day us pump; however, during any 24 rescue boat should retain its should be tested to a pressure. Each inflatable compartment in should be tested to a pressure times the working pressure. Eact valve should be made inoperate air should be used to inflate the boat and the inflation source re should continue for at least 30 m The measurement of pressure leakage can be started whe assumed that compartment ma completed stretching due to pressure and achieved equilibri	mber of persons nd its equipment or in a seawater and its equipment or in a seawater and its equipment or in a seawater and remain afloat be pressure may ing the manual -hour period the ape. the rescue boat e equal to three the pressure relief ive, compressed inflatable rescue moved. The test minutes. The drop due to on it has been aterial has been on the inflation	The rescue boat should would impair its performa The pressure should not determined without comp atmospheric pressure cha seam slippage, cracking boat.	nce. decrease by more bensating for temp anges, and there s	than 5% as berature and should be no	Compartment 1         Initial Pressure:mbar         Final Pressure:mbar         Calculated Decrease:Percent         Compartment 2         Initial Pressure:mbar         Final Pressure:mbar         Calculated Decrease:Percent         Compartment 3         Initial Pressure:mbar         Calculated Decrease:Percent         Compartment 4         Initial Pressure:mbar         Calculated Decrease:Percent         Compartment 4         Initial Pressure:mbar         Calculated Decrease:Percent         Compartment 5         Initial Pressure:mbar         Calculated Decrease:Percent         Percent 5         Initial Pressure:mbar         Calculated Decrease:Percent         Passedmbar         Calculated Decrease:mbar         Calculated Decrease:mbar

Inflated fast rescue boats	Model:	l Number:		Date:          Time:            Surveyor:          Organization:	
5.6.8.1 Inflation chamber	characteris	stics tests	Regulations: I	LSA Code 1.2.2, MSC.81(70)1/7.2.14	
Test Procedure		Acceptance Criter	ia	Significant Test Data	
The inflatable compartment mat to construct the rescue boat tested for the following character .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	should be pristics:	The material characteristics sh with ISO 15372:2000.	ould comply	.1       tensile strengthN         .2       tear strengthN         .3       heat resistance – Blocking	

#### 5.7 RIGID/INFLATED FAST RESCUE BOATS

#### EVALUATION AND TEST REPORT

- 5.7.0 General information
  - 5.7.0.1 General data and specifications
  - 5.7.0.2 Submitted drawings, reports and documents
  - 5.7.0.3 Quality assurance
- 5.7.1 Visual inspection
  - 5.7.1.1 Occupant space
  - 5.7.1.2 Fittings, provisions and ladders
  - 5.7.1.3 Engine and starting system
  - 5.7.1.4 Steering mechanism and fuel tank
  - 5.7.1.5 Release mechanism
- 5.7.2 Stability, damage and loading tests
  - 5.7.2.1 Damage test
  - 5.7.2.2 Stability test
  - 5.7.2.3 Loading test
  - 5.7.2.4 Swamp test
  - 5.7.2.5 Flooded stability test
  - 5.7.2.6 Righting test (for non self-righting fast rescue boats)
  - 5.7.2.7 Self-righting test (for self-righting fast rescue boats only)
  - 5.7.2.8 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)
  - 5.7.2.9 Engine inversion test (for self-righting fast rescue boats only)
- 5.7.3 Seating strength and space tests
  - 5.7.3.1 Seating strength test
  - 5.7.3.2 Seating space test
- 5.7.4 Release mechanism tests
  - 5.7.4.1 Simultaneous release
  - 5.7.4.2 Towing release test
  - 5.7.4.3 Load and release test
  - 5.7.4.4 Cyclic loading test
  - 5.7.4.5 Actuation force test
  - 5.7.4.6 Second release mechanism tests- actuation force and tensile strength
- 5.7.5 Operational tests
  - 5.7.5.1 Liferaft towing
  - 5.7.5.2 Endurance, speed and fuel consumption
  - 5.7.5.3 Engine out of water
  - 5.7.5.4 Compass test
  - 5.7.5.5 Manoeuvrability with paddles or oars
  - 5.7.5.6 Heavy weather/seas test
- 5.7.6 Towing and painter tests
  - 5.7.6.1 Towing tests
  - 5.7.6.2 Painter release test

5.7.7	5.7.7.2 0	ts mpact, drop and operation after impact and drop test Dverload test Aooring out test
5.7.8	Materials tes	sts

5.7.8.1 Inflation chamber characteristics tests

#### 5.7 RIGID/INFLATED FAST RESCUE BOATS

## **EVALUATION AND TEST REPORT**

Manufacturer	
Туре	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:
5.7.0.1 General data and spe	ecifications	Regulations: LSA Code 4.4, 5.1, MSC.81(70)1/7.2.16
General Information	Rescue b	poat Dimensions Rescue boat Weight
General Information         Construction Material:         Hull:         Canopy:         Fire-retardancy documentation:_         Rescue Boat Inherent Buoyancy         (Type App.) Material:         Weight:         Occupancy:         Persons (82.5 kg each):         Type App by:         Manufacturer:         Type:         Power:         Gear ratio (inboard engine):	Dimensions:         LOA:         Breadth Maximum:         Depth to Sill:         Depth to Gunwale:         Moulded Breadth:         Moulded Depth:         Provision for securing hangin (if applicable):	Design Weight:         Unloaded Boat:         Loose Equipment:         Fuel:         Persons:         Calculated Loaded Weight:         Fully Equipped:         With Persons:         Weight as Tested:         Fully Equipped:         Fully Equipped:         Fully Equipped:         Fully Equipped:         Fully Equipped:         Fully Equipped:         Fully Equipped:
Additional rigid or inflatable buoyand Release mechanism(s) (if applicable 1 Manufacturer:	e) 2	

Rigid/inflated fast reso	cue boats	Manufacturer: Model: Lot/Serial Nun		Date:         Time:           Surveyor:            Organization:		
5.7.0.2 Submittee	d drawings, i	reports and doo	uments			
Submitted drawings and documents					Status	
Drawing No.	Revision I	No. & date	Titl	e of drawing		Status
			Submitted reports and documents			Chattan
Report/Document No.	Revisio	on No. & date	Title of r	report / document		Status
			Maintenance Manual -			
			Operations Manual -			

Rigid/inflated fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Date: Surveyor: Organization:		
5.7.0.3 Quality assurance		Regulations: MSC	5.81(70) 2/1.1, 1.2		
Except where all appliances of a part of the International Convention for amended or the International Life-S inspected, representatives of the A inspections of manufacturers to er appliances and materials used co approved prototype life-saving applia Manufacturers should be required to ensure that life-saving appliances ar the prototype life-saving appliance a keep records of any production test Administration's instructions.	Quality assurance   Standard Used:   Quality assurance Procedure:   Quality assurance Manual:   Description of System:				
		Quality assurance Yes/No Comments/Observ	System acceptable ations		

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	S	ate: Time: urveyor: rganization:
5.7.1.1 Occupant space		Regulations: LSA Co	de 4.4.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.2.16
Test Procedure	Acceptanc	e Criteria	Significant Test Data
Visually inspect the rescue boat. Co measurements and verify clearanc required.			
	Length is at least 6.0 m and n	ot over 8.5 m.	Passed Failed
	<ul> <li>Seating Space</li> <li>Width – at least 430 mm</li> <li>Depth – at least 100 mm each the back</li> <li>Knee Space (Seating on seat back</li> <li>Knee Width – at least 250 mm</li> <li>Leg Space (Seating on floor)</li> <li>back</li> <li>Overlapping Seat Vertical Sep Seat Horizontal Overlap – 150</li> <li>Each seating position should</li> <li>Stretcher(s) space:</li> <li>Rescue boats should be capa seated persons and a pers minimum 2130 x 610 mm.</li> <li>Walkway Surfaces</li> <li>The surfaces on which person non-skid finish.</li> </ul>	ts) at least 635 mm from n – at least 1190 mm from paration – at least 350 m 0 mm maximum be clearly indicated. able of carrying at least on lying on a stretched	the       Knee Space:mm         Knee Width:mm       Leg Space:mm         Leg Space:mm       Overlap:mm         Overlap:mm       Position Indication: PASSED FAILED         Im       Stretcher space:xmm         five       Failed         five       Non-Skid Surface: PassedFailed         Comments/Observations       Failed

Rigid/inflated fast rescue boats	Mode	l:	Surveyo			Time: or: zation:		
5.7.1.2 Fittings, provisions and	d ladd	ers	Regulations: LSA	Code 5.1.	3, MSC.81(70)1/7.2	2.16		
Test Procedure		Acceptano	ce Criteria		9	Significant Test Dat	а	
Visually inspect the rescue boat.		Buoyancy compartments fitt Non-return valve for manual in			Passed	Failed		
Conduct measurements and victure of the clearances as required.	verify	Means for deflation			Passed	Failed		
		Safety relief valve unless waiv	ed by Administration		Passed	Failed	N/A	
		Suitable patches for securing	painters fore and aft		Passed	Failed		
		Fittings and Provisions	t lifeling healested or					
		Suitable handholds or buoyan outside of rescue boat above of a person in the water, exce and propeller	the waterline and with	hin reach	Passed	Failed		
		On other than self-righting resunderside arranged to break rescue boat			Passed	Failed		
		Weathertight stowage for small items of equipment			Passed	Failed	<u>N/A</u>	
		Approved position indicating li	ght provided at highe	est point				
		Provided with effective means of bailing or be automatically self-bailing			Passed	Failed		
		Ŭ Ŭ			Passed	Failed		
					Comments/Obser	rvations		

Rigid/inflated fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			r: Time: r: ation:			
5.7.1.2 Fittings, provisions and	d ladders (cont'd)	Regulations: LSA	Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16			
Test Procedure	Acceptance Criteria		Significant Test Data			
Visually inspect the rescue boat. Conduct measurements and victure of the clearances as required.	verify Ladders that can be used at any entr board and the lowest step when in place		Passed Failed Lowest stepm below waterline			
	<ul> <li>board and the lowest step when in place than 0.4 m below the light waterline.</li> <li>Other Provisions</li> <li>Buoyant material may be installed exter boat, provided it is adequately protect and is capable of withstanding exposure open deck on a ship at sea and for 30 c condition.</li> <li>Colour</li> <li>The boat should be of a highly visible assist detection.</li> </ul>	nal to the hull of the ed against damage when stowed on an lays afloat in all sea	YES NO N/A Passed Failed Highly visible colour: PassedFailed Comments/Observations			

Rigid/inflated fast rescue boats	Model: Surveyor:			Time:		
5.7.1.3 Engine and starting	system	ystem Regulations: LSA Code 4.4.6, 5.1, N				
Test Procedure	Acceptance Criteria				Significant Test Data	
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energ systems		or power starting	Manual Po YES NO	wer	
	<ul> <li>Required starting aids provided.</li> <li>Starting system is not impeded by eng obstructions</li> </ul>	gine casing, thwarts, o	or other	Passed Passed	Failed Failed	
	<ul> <li>Propeller arranged to be disengaged ta ahead and astern propulsion</li> </ul>	from the engine and p	provision for	Passed	Failed	
	<ul> <li>Exhaust arranged to prevent water fro operation.</li> </ul>	Exhaust arranged to prevent water from entering engine in normal				
	<ul> <li>System designed with due regard to the to the possibility of damage to the pro</li> <li>Engine casing made of fire-retardant in</li> </ul>	pulsion system from f	floating debris	Passed	Failed	
	<ul><li>arrangements providing similar protect</li><li>Personnel are protected from hot and</li></ul>	tion.		Passed	Failed	
	- Shouted order can be heard with engi		necessary for 6	Passed	Failed	
	<ul><li>knot operation</li><li>Watertight casing around bottom and</li></ul>	sides of starter batter	ries with a tightly	Passed	Failed	
	fitting top which provides for gas venti - Means for recharging engine starting,	ng.		Passed	Failed	
	provided by solar charger or ship's po	wer supply.		Passed	Failed	
		<ul> <li>Radio batteries not used to provide power for engine starting.</li> <li>Recharging for engine batteries provided by ship's power supply does not</li> </ul>				
	exceed 50 v	Passed	Failed Failed			
	- Recharging means for engine batterie boat embarkation station			Passed	Failed	
	<ul> <li>Instructions for starting and operating mounted in a conspicuous place near</li> <li>Towing arrangement for marshalling li</li> </ul>	the engine starting c		Passed	Failed	

Rigid/inflated fast rescue boats	Mode	el:	rial Number: Organiza		e: Time: reyor: anization:			
5.7.1.4 Steering mechanism a	Regulations: LSA C	ode 4.4.7	2, 5.1.1.8, , MSC.81(7	70)1/7.2.16				
Test Procedure		Acceptar	nce Criteria		Significant Test Data			
Visually inspect the rescue boat. Conduct measurements and clearances as required.	verify	Steering A tiller should be capable of and tiller may form part of ou Rudder permanently attached Rudder and tiller arranged operation of the release mec Steered by wheel at helmsma Has emergency steering sys rudder, water jet or outboard Hands-free, watertight VHF r Fuel Tank If fitted with petrol-driven ou should be specially protected	f controlling the rudde tboard motor) d to the rescue boat so as not to be dam hanism or propeller an's position stem providing direct of motor adio provided	control of el tank(s)	Passed Passed Passed Passed Passed Passed Passed Passed	FailedN/A FailedN/A FailedN/A Failed Failed		
					Comments/Observat			

Rigid/inflated fast rescue boats	Mode	l: Surveyour Surveyour Organiz		Surveyor	Dime:			
5.7.1.5 Release mechanism		-	Regulations: LSA	Code 4.4.	7.6.5, MSC.81(70)1/7.2.16			
Test Procedure		Acceptance Criteria			Sigr	nificant Test Data	a	
Visually inspect the rescue boat. Conduct measurements and	verify	Clear operating instructions			Passed			
clearances as required.		Release control marked in a surroundings	Release control marked in a colour that contrasts with the surroundings			Failed		
		For on-load release mechanis	ms:					
		Suitably worded danger sign for on load release			Passed	Failed	N/A	
		mechanism is completely an	Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery			Failed	N/A	
		On-load release mechanism nation by the operator	eeds deliberate and o	continued	Passed	Failed	N/A	
		Mechanical protection provided beyond that normally required for off load release			Passed	Failed	N/A	
		For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate.			Passed		N/A	

Rigid/inflated fast rescue boats	Mode	facturer:	Date: Time: Surveyor: Organization:	
5.7.2.1 Damage test (Does not tube)	apply	if waterline is below lower side of inflated	Regulat	ions: LSA Code 5.1.3.5, MSC.81(70)1/7.2.89, 7.3.2
Test Procedure		Acceptance Criteria		Significant Test Data
The following tests should be carrie with the inflated rescue boat loaded the number of persons (of 82.5 kg mas which it is to be approved both with without engine and fuel or an equiv mass in the position of the engine an tank: with forward buoyancy compar- deflated; .1 with the entire buoyancy or side of the rescue boat def and .2 with the entire buoyancy or side and the bow compar- deflated.	d with ss) for n and valent d fuel tment n one lated; n one			1       With engine and fuel:         Passed       Failed         Without engine and fuel         Passed       Failed         2       With engine and fuel:         Passed       Failed         Without engine and fuel       Passed         Without engine and fuel       Passed         3       With engine and fuel:         Passed       Failed         Without engine and fuel       Passed

Rigid/inflated fast rescue boats	Model:	Surv			Date:            Surveyor:            Organization:		
5.7.2.2 Stability test			Regulations: LSA	Code 4.	4.5, MSC.81(70)1/6.10.8, 7.2.67		
Test Procedure		Acceptanc	ce Criteria		Significant Test Data		
The following tests should be carried engine and fuel or an equivalent place of the engine and fuel tanks: .1 the number of persons for wh	mass in						
inflated rescue boat is to be a should be crowded to one side this complement seated of buoyancy tube, and then to one each case the freeboard sho recorded; and	pproved with half on the e end. In	.1 Under these conditions everywhere positive.	s the freeboard sho	ould be	1 Freeboard crowded to one sidemm To bow:mm To stern:mm PassedFailed		
<ul> <li>.2 the stability of the rescue boa boarding should be ascertained persons in the rescue demonstrating that they can assist from the water a third pers is required to feign unconscio The third person should have h towards the side of the rescue that he cannot assist the rescu persons should wear a lifejackets.</li> <li>These stability tests may be carried the rescue boat floating in still water.</li> </ul>	d by two boat readily son who busness. his back boat so uers. All pproved out with	.2 The rescue boat should b	e stable.		<ul> <li>2 Stability observations during recovery of unconscious person:</li> <li>Clothing/Suits on helpless person:</li> <li>Method of recovery:</li> <li>Number of persons required and any special equipment used:</li> <li>Passed Failed</li> <li>Comments/Observations</li> </ul>		

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyo	r: Time: ation:	
5.7.2.3 Loading test		Regulations: MSC.81(70)1/7.2.45				
Test Procedure		Ac	ceptance Criteria		Significant Test Data	
The freeboard of the inflated rescue boat should be taken in the various loading conditions as follows:		should be not	ion the minimum f less than 300 mm	n at the	.1 Freeboard at Buoyancy Tubes:mm Freeboard at Transom:mm	
.1 rescue boat with all its equipment	.,		and not less than part of the transom.	250 mm	.2 Freeboard at Buoyancy Tubes:mm	
.2 rescue boat with all its equipment an equivalent mass positioned t	nom the lowest			Freeboard at Transom:mm		
and fuel;				.3 Freeboard at Buoyancy Tubes:mm		
.3 rescue boat with all its equipment and the number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes;					Freeboard at Transom:mm .4 Freeboard at Buoyancy Tubes:mm Freeboard at Transom:mm	
and .4 rescue boat with the number of p to be approved and all its equipm or an equivalent mass to represen the rescue boat being re-trimmed	nent, engine and fuel t engine and fuel and				Passed Failed Comments/Observations	
5.7.2.4 Swamp test			Regulations: MS	C.81(70)1/	7.2.11	
Test Procedure		Acceptar	nce Criteria		Significant Test Data	
It should be demonstrated that the boat, when fully swamped, is capa supporting its full equipment, the nur persons each weighing 82.5 kg for v is to be approved and a mass equiva- its engine and fully filled fuel tank. It also be demonstrated that the rescu does not seriously deform in this con	able of load and sh nber of which it alent to should ue boat	e boat should be c nould not seriously	apable of supporting y deform.	the full	Passed Failed Comments/Observations	

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Surveyor:				
5.7.2.5 Flooded stability test below lower side of in	Required only when waterline i flated tube)	is Regulations: LS	A Code 4.4.1.1, MSC.	81(70)1/6.8.13			
Test Proce	edure	Acceptanc	e Criteria	Significant Test Data			
The rescue boat should be loaded lockers, water tanks and fuel tanks of be flooded or filled to the final wa Rescue boats fitted with watertig accommodate individual drinking of these containers aboard and placed which should be sealed watertight d of equivalent weight and density shou and any other installed equipment the Weights representing persons (of 82 water when the rescue boat is flo 500 mm above the seat pan) may be persons who would not be in the of flooded (water level more than 500 m be placed in the normal seating posi- centre of gravity approximately 300 m representing persons who would be when the lifeboat is flooded (water above the seat pan) should additiona of 1 kg/dm <sup>3</sup> (for example water ball volume similar to a human body.	with its equipment. If provision cannot be removed, they should terline resulting from this test. ht stowage compartments to water containers should have d in the stowage compartments uring the flooding tests. Ballast uld be substituted for the engine at can be damaged by water. .5 kg mass) who would be in the boded (water level more than e omitted. Weights representing water when the rescue boat is mm above the seat pan) should tions of such persons with their mabove the seat pan. Weights partly submerged in the water level between 0 and 500 mm Ily have an approximate density	When loaded as speci should have positive sta water to represent flood when the rescue boat location below the water of buoyancy material ar	fied, the rescue boat ability when filled with ing which would occur is holed in any one rline assuming no loss				
Note: Several tests may have to be areas would create different flooding							

Rigid/inflated fast rescue boats		el: Surveyor:			r: Time: ation:		
5.7.2.6 Righting test (for non-	self-rig	ghting fast rescue boats) Regulations: MSC.81(70)1/7.2			.1.7		
Test Procedure		Acceptan	ce Criteria		Significant Test Data		
It should be demonstrated that bot and without engine and fuel of equivalent mass in place of the engir fuel tank, the rescue boat is capa being righted by not more than two per if it is inverted on the water.	or an ne and ble of	The rescue boat should be ca more than two persons if it is i When the rescue boat has r should be capable of bei helmsman's emergency releas	nverted on the water. ighted, each engine ing restarted, provi	or motor ided the	Can the boat be righted by 2 persons? With engine and fuel:		
The engine should be running in r position and, after stopping automa or by the helmsman's emergency re switch when inverted, it should be restarted and run for 30 minutes aft rescue boat has returned to the u position. For rescue boats with inboard engine test without engine and fuel is applicable. (This test is not required if the rightin in 5.7.2.7 has been performed.)	atically elease easily ter the upright es, the s not	The design of the fuel and prevent the loss of more than from the propulsion system.	I lubricating system	s should	Passed       Failed         Without engine and fuel:       Passed         Passed       Failed         Method used to right boat:		

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Surveyor	Date:          Surveyor:          Organization:				
5.7.2.7 Self-righting test (for self	-righting fast resc	ue boats only)	Regulations: MS	C.81(70)1/6	.14				
Test Procedure		Acc	eptance Criteria			S	ignificant T	est Data	
A suitable means should be provier rescue boat about a longitudinal axi heel and then release it. The rescue incrementally rotated to angles of including 180° and should be release These tests should be conducted conditions of load: .1 when the rescue boat with its end the normal position with properly representing the fully equipped full complement of persons on the used to represent each person, an average mass of 82.5 kg, sho each seat location and have its approximately 300 mm above the have the same effect on stable rescue boat is loaded with the re for which it is to be approved; and .2 when the rescue boat is in the lint he case of open fast rescue boat	is to any angle of he boat should be heel up to and ed. in the following engine is loaded in y secured weights rescue boat with a board. The weight assumed to have ould be secured at s centre of gravity e seatpan so as to bility as when the number of persons and ght condition. s, the self-righting	After release, the return to the u assistance of the At the beginning should be running .1 unless arran- inverted, the until stopp emergency r .2 after resettin release, if ne easily restart the rescue b position. Water should not The design of the should prevent th	e rescue boat shou upright position wi occupants. I of these tests, the in neutral position a ged to stop automati engine should conti- bed by the he release switch; and ag the helmsman's e ecessary, the engine ted and run for 30 min- oat has returned to the	thout the me engine and: cally when nue to run elmsman's emergency should be nutes after the upright g systems 250 ml of	Angle of Heel 45 <sup>0</sup> 135 <sup>0</sup> 180 <sup>0</sup> Result: P Comments	Loade	Righting d FAILED	Moment Light	FAILED
test should only be done in the light of	condition.								

Rigid/inflated fast rescue boats	Mode	Model:		Date:            Surveyor:            Organization:		
5.7.2.8 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)				Regu	ulations: MSC.81(70) 1/6.14.3, 6.14.4, 6.14.5, 7.4.1	
Test Procedure		Acceptance Criteria			Significant Test Data	
Perform the following for fully end rigid fast rescue boats. This test i applicable to open fast rescue boats.	is not	After release, the lifeboat should attain a posi provides an above-water escape for the occupants		n that	Result: PASSED FAILED	
The rescue boat should be placed i water and fully flooded until the rescue can contain no additional water entrances and openings should be se to remain open during the test.	e boat r. All				Comments/Observations	
Using a suitable means, the rescue should be rotated about a longitudina to a heel angle of 180° and then relea	al axis					
For the purpose of this test, the mas distribution of the occupants ma disregarded. However, the equipme equivalent mass, should be secured rescue boat in the normal ope position.	ny be ent, or in the					

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number: _		Surveyor	Time: : tion:	
5.7.2.9 Engine inversion test (for	self-righting fast res			SA Code	4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1
Test Procedure			ance Criteria		Significant Test Data
The engine and its fuel tank should be that is arranged to rotate about an a longitudinal axis of the boat. A pan should be located under the en which may leak from the engine so tha oil can be measured.	xis equivalent to the gine to collect any oil	The engine and eng capable of running capsize and continu- boat returns to automatically stop of restarted after the r upright.	in any positio ue to run after th the upright or n capsizing and	n during e rescue should be easily	PassedFailed
<ul> <li>The following procedure should be test:</li> <li>.1 start the engine and run it at full</li> <li>.2 stop the engine and rotate it in through 360°;</li> <li>.3 restart the engine and run 10 minutes;</li> <li>.4 stop the engine and rotate it in direction through 360°;</li> <li>.5 restart the engine, run it at full s and then stop the engine;</li> <li>.6 allow the engine to cool;</li> <li>.7 restart the engine and run 5 minutes;</li> </ul>	speed for 5 minutes; a clockwise direction it at full speed for a counter- clockwise speed for 10 minutes,	The design of the fur should prevent the I more than 250 ml of engine during capsi During these tests overheat, fail to op 250 ml of oil during When examined af engine should s overheating or exce	oss of fuel and the of lubricating oil ze. , the engine sh erate or leak m any one inversio ter being disman how no evide	ne loss of from the nould not ore than n. ntled the	

Rigid/inflated fast rescue boats	Model:	er:	Surveyor	Time: : tion:
5.7.2.9 Engine inversion test (co	ontinued)	Regulations: LSA	Code 4.6.4	4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1
Test Procedure		Acceptance Criteria		Significant Test Data
The following procedure should be for test (Continued):	bllowed during this	During these tests, the engine sho overheat, fail to operate or leak more tha of oil during any one inversion.		Are all the tests carried out according to the procedure as prescribed? Passed/Failed
<ul> <li>.8 slowly rotate the running enginderection through 180°, hold at for 10 s, and then rotate it clockwise direction to complet</li> <li>.9 if the engine is arranged to swhen inverted, restart it;</li> <li>.10 allow the engine to continue to</li> </ul>	t the 180° position 180° further in a e one revolution; stop automatically	When examined after being disman engine should show no evidence of ove or excessive wear.		Does the engine stop when turned in either direction? Passed/Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the tests have been carried out according to the procedure?
for 10 minutes; .11 shut the engine down and allo .12 repeat the procedure in .7 th except that the engine shoul counter-clockwise direction;	rough .11 above,			Passed/Failed Amount of oil lost from engine during each inversion: .2 : ml
<ul> <li>.13 restart the engine and run it 5 minutes;</li> <li>.14 rotate the engine in a clo through 180° and stop the eng further to complete a full clock</li> <li>.15 restart the engine and run it</li> </ul>	ockwise direction ine. Rotate it 180° wise revolution;			.4 : ml .8 : ml .12 : ml .14 : ml .16 : ml
10 minutes; .16 repeat the procedure in .14 a engine counter-clockwise; .17 restart the engine, run it a	above, turning the at full speed for			Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/ Failed
10 minutes and then shut it do .18 dismantle the engine for exam	,			Amount of oil lost from engine ml Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		_ Surveyor:			
5.7.3.1 Seating strength test		Regulations: LSA	Code 4.4.	1.5, MSC.81(70)1/6.6.	1	
Test Procedure	Acceptan	ce Criteria		Sign	ificant Test Dat	a
The seating should be loaded with a of 100 kg in each position allocated person to sit in the rescue boat.	3		without	Observed damage		
In the case of a rescue boat launch falls, each type of seat should be le with a mass of 100 kg in any single location when dropped into the wate height of at least 3 m. (This test m	oaded No damage should be sustain e seat efficient functioning. er from			Passed	Failed	
height of at least 3 m. (This test m performed in conjunction with the Dro in 5.7.7.1.)				Passed		N/A

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:	Time:
5.7.3.2 Seating space test		Regulations: LSA Code 5.1.1.3.2,	MSC.81(70)1/7.1.3
Test Procedure	Accept	ance Criteria	Significant Test Data
The rigid rescue boat should be fitted its engine and all its equipment. number of persons for which the re- boat is to be approved, having an ave- mass of at least 82.5 kg, and all we lifejackets and immersion suits and other essential equipment required, s then board; one person should lie dow a stretcher of similar dimensions to shown in the figure and the others s be properly seated in the rescue boat rigid rescue boat should then manoeuvred and all equipment on the tested to demonstrate that it ca operated without difficulty or interfer with the occupants.	The occupants. escue erage earing d any should wn on those should t. The n be board n be those should t. The the rescue boat must be cap and a person lying down on a Except the helmsmen, perso provided the space used requirements of test form 5.7.1 No seating is on the gunwale, the sides of the boat.	ons may be seated on the floor, conforms with the leg space	Equipment operated: YES NO Number of persons carried: Seated on seats Seated on floor Lying on a stretcher Total PassedFailed Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Rigid/inflated fast rescue boats       Manufacturer:         Model:       Lot/Serial Number:			Date: Time: Surveyor: Organization:
5.7.4.1 Simultaneous release	·	Regulations: LSA C	ode 4.4.7.6, MSC.81(70)1/6.9.12
Test Procedure	Acceptance (	Criteria	Significant Test Data
For rescue boats launched by fall or the rescue boat with its engine fitted s be suspended from the release mecha just clear of the ground or the water rescue boat should be loaded so that total mass equals 1.1 times the mass rescue boat, all its equipment and number of persons for which the re boat is to be approved. The rescue should be released simultaneously each fall to which it is connected w binding or damage to any part of the re boat or the release mechanism. (Single fall systems not intended on-load operation are exempt from test.)	should simultaneously release from connected without binding or r. The at the of the d the escue boat from vithout escue d for	each fall which it is damage to any part o e mechanism. t the rescue boat wil each fall to which it is rne in the light conditior	FailedN/A (N/A – Single fall, off-load only)

	Manufacturer:		Date <sup>.</sup>	Time:
	Model		Survevor	· Thite
Rigid/inflated fast rescue boats	Lot/Serial Number:		Organiza	ation:
				·····
5.7.4.2 Towing release test	•	Regulations: LSA	Code 4.4.	7.6.5; MSC.81(70) 1/6.9.3
Test Procedure		Acceptance Criteria		Significant Test Data Operating mechanism disconnected and boat
With the operating mechanism disco		There should be no damage as a	a result of	Operating mechanism disconnected and boat
demonstrated when the rescue boat		these tests.		towed at 5 kts:Pass Fail
complement of persons and equip				
speeds of 5 knots that the moveable h	look component stays	The rescue boat is released satisfa	actorily by	Operating mechanism connected tests.
closed.		the release mechanism.		Test 1: 25% SWL, lengthwise to the boat at 45° to
Furthermore, with the operating mec	hanism connected it			the vertical:
should be demonstrated that the resc		Single fall systems not intended for	or on-load	
with its full complement of persons a		operation are exempt from this test		Force Applied: N.
towed at speeds of 5 knots can be r				Force Applied: N. Forward direction:Pass Fail
above should be demonstrated as fol	llows:			Aft direction:Pass Fail
<ul> <li>.1 a force equal to 25% of the safe hook should be applied to the hood direction of the boat at an angle of This test should be conducted in as the forward direction;</li> <li>.2 a force equal to the safe workin should be applied to the hook direction at an angle of 20° to the should be conducted on both side</li> <li>.3 a force equal to the safe workin should be applied to the hook in between the positions of tests 1 a longitudinal axis of the boat in plat of 33° to the vertical. This test should be conducted.</li> </ul>	ok in the lengthwise of 45° to the vertical. the aftward as well and load of the hook in an athwartships be vertical. This test es; and and load of the hook a direction halfway and 2 (i.e. 45° to the an view) at an angle			Test 2: 100% SWL, athwartships at 20° to the vertical:         Force Applied:N.         Starboard:PassFail         Port:PassFail         Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical.         Force Applied:N.         Position 1:PassFail         Position 2:PassFail         Position 4:PassFail
				Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer:		Date:          Time:            Surveyor:          Organization:	
5.7.4.3 Load and release test		· · ·	ode 4.	4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2
Test Procedure		Acceptance Criteria		Significant Test Data
A release mechanism should be con- tested as follows: The rescue boat release and retrieva- the longest used connection associated with the system should and adjusted according to instruction original equipment manufacturer and to 100% of its safe working load and Load and release should be repeated The rescue boat release and retri- should then be disassembled, the para and wear recorded. The release system should then be reassembled.	al system and cable/linkage be mounted ons from the d then loaded released. d 50 times. ieval system irts examined and retrieval	During the 50 releases, the rescue boat read and retrieval system should be release simultaneously from each fall to which connected without any binding or damage t part of the lifeboat release and retrieval sys The system should be considered as "fail any failure during the conditioning or uninter release occurs when load is applied bu system has not yet been operated.	eased it is o any tem. led" if ended	Working Load:      N         Force Applied:      N         Check the box for each release:       1:       2:       3:       4:       5:       6:          7:       8:       9:       10:       11:       12:          13:       14:       15:       16:       17:       18:          19:       20:       21:       22:       23:       24:          25:       26:       27:       28:       29:       30:          31:       32:       33:       34:       35:       36:          37:       38:       39:       40:       41:       42:          43:       44:       45:       46:       47:       48:          Passed

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Surve	Time: eyor: nization:
5.7.4.4 Cyclic loading test			<b>Regulations: LSA</b>	Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.3
Test Procedure		Acceptance			Significant Test Data
The hook assembly, while disconn from the operating mechanism, shou tested 10 times with cyclic loading zero load to 1.1 times the safe we load, at a nominal 10 seconds per unless the release mechanism has specifically designed to operate a off-load hook with on-load capability the weight of the boat to close the ho this case the cyclic load should be fro more than 1% to 1.1 times the SWL. For cam-type designs, the test shou carried out at an initial cam rotation (fully reset position), and repeated at either direction, or 45° in one direct restricted by design.	uld be from orking cycle; been as an using pok, in pok, in pok, in om no uld be of 0° 45° in	The specimen should remain c The system should be consider during this test or any uninte occurs.	losed during the tes	failure	Working Load:      N         Force Applied:      N         Check the box for each release and/or strike out the cam rotation if no applicable:         Cam rotation 0°:       1:       2:       3:       4:       5:       6:          7:       8:       9:       10:        6:          Cam rotation +45°:       1:       2:       3:       4:       5:       6:          7:       8:       9:       10:        6:           Cam rotation +45°:       1:       2:       3:       4:       5:       6:          7:       8:       9:       10:        6:          7:       8:       9:       10:         Passed:       Failed:          Passed:       Failed:         Comments/Observations        Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:	
5.7.4.5 Actuation force test		Regulations: LSA	Code 4	4.4.7.6.4; MSC.81(70) 1/6.9.4.4
Test Procedure		Acceptance Criteria		Significant Test Data
Test Procedure The cable and operating mechanism reconnected to the hook assembly; boat release and retrieval system demonstrated to operate satisfactori working load. The demonstration should verify tha indicators and handles are still fund correctly positioned in accordance w and safety instruction from the original manufacturer.	and the rescue should then be ly under its safe t any interlocks, ctioning and are ith the operation	The actuation force should be no less 100 N and no more than 300 N, if a ca used it should be the maximum specified by the manufacturer, and secu the same manner it would be secured rescue boat. The release mechanism is deemed to passed the testing in 5.7.4.3, 5.7.4.	able is length ures in in the have 4 and ducted d be ng this	Actuation Force: N Passed: Failed: Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date:        Time:          Surveyor:        Organization:		
5.7.4.6 Second release mechan	ism tests- actuation	force and tensile strength	Regulatio	ns: LSA Code 4.4.7.6.4, MS	C.81(70)1/6.9.5.1, 6.9.5.2	
Test Procedure		Acceptance Crite			cant Test Data	
A second release mechanism should .1 the actuation force of the release be measured loaded with 100% load. If a cable is used, it should length specified by the manufactu the same manner it would be se The demonstration should verify indicators and handles are still f correctly positioned in accordanc and safety instruction from the manufacturer; and	e mechanism should of its safe working be of the maximum urer, and secured in ecured in a lifeboat. that any interlocks, functioning and are e with the operation	1. The actuation force should 100 N and no more than 300 N The release mechanism does	Ν.	Actuation Force: Tensile strength @ 6xSN Force applied: Passed: Faile Comments/Observations	WL. N. d:	
.2 the release mechanism should tensile strength testing device. T increased to at least six times the release mechanism.	The load should be					

Rigid/inflated fast rescue boats	Manufacturer:			Date:          Surveyor:          Organization:	
5.7.5.1 Liferaft towing			Regulations: LSA	Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2	
Test Procedure		Accepta	ance Criteria	Significant Test Data	
Test Procedure The rescue boat should be loaded w to the mass of its equipment and the r for which the rescue boat is to b maximum towing force of the rescue be determined. This information should be used largest size of fully loaded liferaft the tow at a speed of at least 2 knots. The fitting designated for towing oth secured to a stationary object by a to a means to measure bollard pull. The operated ahead at full speed for a p minutes and the maximum force reco (For rescue boats equipped with bollard pull trials may be carried ou various powers to assess the performance.)	with weights equal number of persons e approved. The boat should then to determine the e rescue boat can er craft should be ow rope fitted with e engine should be eriod of at least 2 orded. outboard motors, it with engines of	The maximum rescue boat shou type approval cer There should be	towing force of the Id be recorded on the	Smallest Engine I argest Engine	

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:            Surveyor:            Organization:		
5.7.5.2 Endurance, speed and	fuel consumption	Regulati	ions: LSA Code 5.1.1.6,MSC.81(70)1/7.1.5, 1/7.1.6		
Test Procedure	Acceptance Criteria		Significant Test Data		
(Note: Run this test after the impact drop tests in 5.7.7.1.)	and The boat should operate satisfactorily throu 4-hour operation.	ughout the	Smallest Engine         Largest Engine           Make/model:		
The rescue boat should be loaded weights equal to the mass of its equipm and the number of persons for which rescue boat is to be approved. The engine should be started and the I manoeuvred for a period of at leas hours to demonstrate satisfact operation. The rescue boat should be run at a sp of not less than 8 knots with a complement of persons and equipm and 20 knots with a crew of 3 persons a period which is sufficient to ascertain fuel consumption and to establish that fuel tank has the required capacity. ( determination may be made during the hour period of operation.)	The fuel tank should have sufficient ca operate at a speed of 8 knots for a period of with its full complement of persons and equ the the This e 4- The fuel tank should have sufficient ca operate at a speed of 20 knots for a period of the fuel tank should have sufficient ca	f 4 hours ipment. pacity to	Fuel Tank Capacity:      L         Propeller:		
motor, speed and manoeuvring t should be carried out with engines various powers to assess the res boat's performance.	s of		Endurance (hrs.)		

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:			
5.7.5.3 Engine out of water		Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5				
Test Procedure	Acceptanc	ce Criteria		Significant Test Data		
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.		aged as a result of this test. Passed Failed				
5.7.5.4 Compass test		Regulations: LSA	Code 5.1	.2.2.3, MSC.81(70)1/6.10.7		
Test Procedure	Acceptanc	Acceptance Criteria		Significant Test Data		
It should be determined that the com performance is satisfactory and that not unduly affected by magnetic fit and equipment in the rescue boat.	nat it is fittings			Compass Make: Compass Model: Passed Failed Comments/Observations		

Rigid/inflated fast rescue boats	Mode	Manufacturer: Model: Lot/Serial Number:		Surveyor	Time: : tion:
5.7.5.5 Manoeuvrability with	paddle	es or oars	Regulation	ns: LSA Co	ode 5.1.2.2.1, MSC.81(70)1/7.1.8
Test Procedure		Acceptance Criteria		Significant Test Data	
It should be demonstrated that the re- boat can be propelled and manoeuvre- its oars or paddles in calm w conditions at a speed of at least 0.5 k over a distance of at least 25 m. w laden with the number of persons wearing lifejackets and immersion s for which it is to be approved.	ed by water knots when s, all	The rescue boat should be capable of paddled and manoeuvred.	f being satisf	actorily	Distance travelled:m Time Required:s Calculated speed:m/s =knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant Immersion suit – Uninsulated/Buoyant Insulated Passed Failed Comments/Observations

Bigid/inflated fact receive basts   Model:		nufacturer: del:			Date: Time: Surveyor:	
		erial Number:			Organization:	
5.7.5.6 Heavy weather/seas tes	st		Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.10			
Test Procedure		Acceptance Criteria			Significant Test Data	
To simulate use in heavy weather	the The r	rescue boat should no		exing or		
inflated rescue boat should be fitted a larger powered engine than is inter	nded	anent strain nor have lost	more than minimal p	ressure.	Pressure relief valves open	/closed?
to be fitted and driven hard in a wir force 4 or 5 or equivalent rough wate at least 30 minutes.					Wave height	m
					Wind Speed	m/s
For boats with inboard engines the po					<b>T</b> 1	
does not need to be greater than intended to be used.	that				Tube pressure after test:	nbar
					Passed Faile	ed
					Comments/Observations	
5.7.6.1 Towing test			Regulations: LSA	A Code 4.4	4.1.3.2, 4.4.7.7, MSC.81(70)1/	6.11.1
Test Procedure		Acceptanc	e Criteria		Significant	Test Data
It should be demonstrated that the equipped rescue boat, loaded with properly distributed mass equal to	th a charao	escue boat should not cteristics.	exhibit unsafe or u	unstable	Passed	Failed
mass of the number of persons for w it is to be approved, can be towed	hich There at a equipr	There should be no damage to the rescue be equipment as a result of this test.		at or its	Comments/Observations	
speed of not less than 5 knots in a water and on an even keel using						
rescue boat's painter securing device						

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:		Date:          Time:            Surveyor:          Organization:			
5.7.6.2 Painter release test		Regulations: LS/	A Code 4.4	I.7.7, MSC.81(70	))1/6.11.23	
Test Procedure	Accepta	nce Criteria			Significant Test Data	
It should be demonstrated that the parelease mechanism can release painter on a fully equipped and loar rescue boat that is being towed at a sign of not less than 5 knots in calm water. The painter release mechanism shout tested in several distinct directions of upper hemisphere not obstructed by canopy or other constructions in rescue boat. The directions specified test 5.7.4.2 should be used if possible	ainter the aded peed r. IId be of the y the i the ed in	nd there should be no		Passed	Failed n Passed Failed Passed Failed Passed Failed Passed Failed Passed Failed	

Rigid/inflated fast rescue boats	A boats Model: 8			Date:            Surveyor:            Organization:
5.7.7.1 Impact, drop and operation	on after impact a	nd drop test	Regulati	tions: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2
Test Procedure		Acceptance Criteria		Significant Test Data
<ul> <li>.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface.</li> <li>.2 The rescue boat complete with all its</li> </ul>		<ul> <li>The impact and drop tests considered successful if:</li> <li>.1 no damage has been sus would affect the efficient of the rescue boat equipment;</li> <li>.2 the damage caused by and drop tests has not significantly as a resu operational test in 5.7.5.2</li> <li>.3 machinery and other equ operated to full satisfaction</li> </ul>	should b stained that functioning and its the impact increased ult of the ; ipment has on; and	be Load in boat:kg Observed Damage: t Increased Damage: YES NO S Satisfactory Operation: YES NO Ingress of Water: YES NO
		occurred.		As Weight of heaviest engine tested:
<ul> <li>equipment and with a mass elengine and fuel in the position and fuel tank should be dropp from a height of at least 3 n The drops should be from t bow-down, level trim, an stern-down attitudes.</li> <li>On completion of these tests th and its equipment should examined.</li> </ul>	quivalent to its n of its engine ed three times n on to water. the 45-degree ad 45-degree ne rescue boat			Passed Failed Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:			Date: Time: Surveyor: Organization:		
5.7.7.2 Overload test			Regulations: MS	C.81(70)1/	7.1.4	
Test Procedure		Accepta	nce Criteria		Significant Test Data	
The rescue boat should be loaded with a properly distributed load of four times the weight to represent the equipment and full complement of persons each weighing 82.5 kg for which it is to be approved and suspended for 5 minutes from its bridle or hooks. The weights should be distributed in proportion to the loading of the boat in its service condition, but the weights used to represent the persons need not be placed 300 mm above the seat pan. The boat and bridle or hooks and fastening device should be examined after the test has been conducted.		The rescue boat and its b should not show any sign		hanism	Load in boat:kg Comments/Observations	
Testing by filling the boat with water should not be accepted. This method of loading does not give the proper distribution of weight. Machinery may be removed in order to avoid damage, in which case weights should be added to the boat to compensate for the removal of such machinery. The rescue boat and its bridle or hooks (release mechanism) and fastening device should be examined after the test for any signs of damage.					Passed Failed	

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor	Time: : tion:	
5.7.7.3 Mooring out test (Doe side of inflated tube)	es not apply if waterline is below lower	Regulations: LSA Cod	e 5.1.3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.78	
Test Procedure	Acceptance	Criteria	Significant Test Data	
The rescue boat should be loaded wirequal to the mass of the total new persons for which it is to be approved equipment and moored in a location in a seawater harbour. The rescue boar remain afloat in that location for 30 of pressure may be topped up once a find the manual pump; however, during an period the rescue boat should retain it Each inflatable compartment in the reshould be tested to a pressure equation in the working pressure. Each relief valve should be made into compressed air should be used to i inflatable rescue boat and the inflation removed. The test should continue for 30 minutes. The measurement of pressure dron leakage can be started when it hassumed that compartment material completed stretching due to the pressure and achieved equilibrium.	th a mass umber of ed and its at sea or bat should days. The day using by 24-hour its shape. scue boat al to three pressure operative, inflate the on source or at least p due to has been has been	sustain any damage that crease by more than 5% ensating for temperature anges, and there should	Compartment 1         Initial Pressure:       mbar         Final Pressure:       mbar         Calculated Decrease:       Percent         Compartment 2       Initial Pressure:         Initial Pressure:       mbar         Final Pressure:       mbar         Calculated Decrease:       Percent         Compartment 3       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 3       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 4       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Compartment 5       Initial Pressure:         Initial Pressure:       mbar         Calculated Decrease:       Percent         Passed       Failed	
			Comments/Observations	

Rigid/inflated fast rescue boats	Manufacturer: Model: Lot/Serial Number:	Surveyor:
5.7.8.1 Inflation chamber ch	aracteristics tests	Regulations: LSA Code 1.2.2, MSC.81(70)1/7.2.14
Test Procedure	Acceptance Criter	ria Significant Test Data
The inflatable compartment mat used to construct the rescue boat s be tested for the following character .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	hould with ISO 15372:2000.	nould comply       .1 tensile strengthN         .2 tear strengthN         .3 heat resistance – Blocking         .4 cold resistance – Cracking         .5 heat ageing% retained strength N/50 mm width         .6 weathering% retained strength N/50 mm width         .7 flex cracking – Cracking or deterioration         .8 abrasionmg/rev.;         Base fabric not visible         .9 coating adhesionN/50 mm width         .10 oil resistance – Tackiness or other deterioration         .11 elongation at break%         .12 piercing strength         .13 ozone resistance -Visible cracking         .14 gas permeabilitybubbles/min or I/m²/hr of         .15 seam strength% retained strength         .16 ultraviolet light resistance% retained strength         .17 N/50 mm width         .16 ultraviolet light resistance% retained strength         .17 SATISFACTORY       UNSATISFACTORY         Comments/Observations