

## Guideline for use of plastic/aluminum pipes on NL ships as defined in the Merchant Shipping Legislation; Regulation Safety Seagoing Vessels, Art. 3a paragraph 1a, 1b and 1c (ships <500 GT and non-self propelled ships)

Entry into force: 09 November 2017

### 1. Guidelines on the application of plastic pipes, valves and fittings

Attention is drawn to Class Rules concerning non metallic rigid pipes. This Rules has to be complied with taking into account the deviations as per following matrix. For definitions reference is made to IMO Resolution A.753(18).

		Machinery spaces	Dry cargo holds, (no dangerous goods)	Ballast water tanks	Accommodation, service and control spaces and voids	Open decks
<b>Flammable liquids</b>	Fuel oil	-	-	-	-	-
	Other oil	-	-	-	-	+
<b>Sea water</b>	Fire	+ 1, 4	-	+	+ 2, 3	+ 2
	Ballast	+ 4	+	+	NA	NA
	Cooling water	+ 4	-	-	NA	NA
	Non essential	+ 4	+	+	+ 3	+
<b>Bilge*</b>		+ 1, 4	+ 4	+	+ 3	NA
<b>Fresh water</b>	Cooling water	+	NA	+	NA	NA
	Non essential	+	+	+	+ 3	+
<b>Sanitary discharge*</b>		+	-	+	+ 3	NA
<b>Air / Sounding of tanks with:</b>	Fuel oil	-	-	-	-	-
	Other oil	-	-	+	-	+
	non flammable liquids	+	+	+	+ 3	+

\* In view of discharge of fire extinguishing gas, arrangements should be provided to prevent open connection between compartments in case of pipe damage. Non-return valves at suitable locations are acceptable for this purpose. Where plastics pipes are used in bilge systems in machinery spaces, a single failure in any section of the pipe shall not render the whole system inoperable.

+ Accepted. When a footnote is indicated, the conditions of the footnote shall be met.

- Not accepted

NA Not Applicable

1 Fixed gas fire fighting system in the machinery space to be provided + emergency fire pump outside machinery spaces concerned to be provided.

2 Piping to be L3 certified as per IMO Res A.753(18). As an alternative the piping may be insulated to A 30 standard. In addition, all pipes, except those fitted on open decks and within tanks, cofferdams, void spaces, pipe tunnels and ducts should have low flame spread characteristics as determined by the test procedures given in Res A. 653(16). Fire main piping is to be kept completely filled with water at all times when operating the ship

3 In applying plastic pipes the hazard of toxicity has to be taken into account. Piping behind B- or C-class paneling is not to be considered as exposed piping. Exposed plastic piping is not allowed in accommodation, service and control spaces unless the

pipng is finished with a covering compliant with the requirements for smoke and toxicity of the FTP code.

- 4 Associated overboard valves to be provided with remote control from outside space concerned and relevant bulkhead penetrations to be considered. When plastic pipes pass through watertight bulkheads or decks, the watertight integrity of bulkheads or deck is to be maintained. If the bulkhead or deck is also a fire division and destruction by fire of plastic may cause the inflow of liquid from tanks, a metallic shut-off valve operable from above the freeboard deck is to be fitted at the bulkhead or deck.

## 2. Guidelines on the application of aluminum pipes, valves and fittings

		Machinery spaces	Dry cargo holds (no dangerous goods)	Ballast water tanks	Accommodation, service and control spaces	Open decks
<b>Flammable liquids</b>	Fuel oil	-	-	-	-	-
	Other oil	+ 1, 2	-	-	-	+
<b>Sea water</b>	Fire	+ 1	-	-	+ 2	+
	Ballast	+	+	+	NA	NA
	Cooling water	+	-	-	NA	NA
	Non essential	+	+	+	+	+
<b>Bilge*</b>		+ 1	+	+	+	NA
<b>Fresh water</b>	Cooling water	+	NA	+	NA	NA
	Non essential	+	+	+	+	+
<b>Sanitary discharge*</b>		+	-	+	+	NA
<b>Air / Sounding</b>	Fuel oil	+ 2 **	-	-	-	-
	Other oil	+ 2 **	+ 2	+	+	+
	Non flammable	+	+	+	+	+

\* In view of discharge of fire extinguishing gas, arrangements should be provided to prevent open connection between compartments in case of pipe damage. Non-return valves at suitable locations are acceptable for this purpose. Use of aluminum alloy pipes in bilge systems in machinery spaces will be considered, provided that a single failure in any section of the pipe does not render the whole system inoperable.

\*\* Anticipated only to be applicable to vessels build in aluminium

+ Accepted under conditions as mentioned

- Not accepted

NA Not Applicable

1 Fixed gas fire fighting system in the machinery space to be provided

2 To be insulated to A 30 standard