

**Pipe system locations in accordance with the fire endurance matrix according to IMO A. 753 (18) regulations**

PIPING SYSTEM	Machinery spaces of category A.	Other machinery spaces and Pump rooms	Cargo pump rooms	Ro-ro cargo holds	Other dry cargo holds	Cargo tanks	Fuel oil tanks	Ballast water tanks	Cofferdams, void spaces, pipe tunnel & ducts	Accommodation, service and control spaces	Open decks
	<div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: white; border: 1px solid black; margin-right: 5px;"></div> GRE not applicable  <div style="width: 20px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px; margin-left: 10px;"></div> GRE from FPI allowed  <div style="width: 20px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px; margin-left: 10px;"></div> GRE not allowed         </div>										
<b>Cargo (flammable cargoes f.p. &lt; 60°C)</b>											
Cargo lines								9			
Crude oil washing lines								9			
Vent lines								9			
<b>Inert gas</b>											
Water seal effluent lines			1				1	1	1		
Scrubber effluent lines	1	1						1	1		
Main lines											
Distribution lines											
<b>Flammable liquids (f.p. &gt; 60°C)</b>											
Cargo lines						3		9			
Fuel oil						3					
Lubricating											
Hydraulic oil											
<b>Seawater</b>											
Bilge main and branches											
Fire main and water spray											
Foam system											
Sprinkler system											
Ballast											
Cooling water, essential services											
Tank cleaning services fixed machines										3	2
Non essential systems											
<b>Fresh water</b>											
Cooling water, essential services											
Condensate return											
Non essential systems											
<b>Sanitary/Drains/Scuppers</b>											
Deck drains (internal)	4	4		4							
Sanitary drains (internal)											
Scuppers and dischargers (overboard)	1 7	1 7	1 7	1 7	1 7					1 7	
<b>Sounding/Air</b>											
Water tanks/dry spaces							9				
Oil tanks (f.p. > 60°C)						9		9			
<b>Miscellaneous</b>											
Control air	5	5	5	5	5					5	5
Service air (non essential)											
Brine											
Auxiliary low pressure steam (7 bar)			8	8	8					8	8

**NOTES:**

- Where non-metallic piping is used, remotely controlled valves to be proved at ship's side (valve is to be controlled from outside space)
- Remote closing vales to be provided at the cargo tanks
- When cargo tanks contain flammable liquids with f.p. > 60°C   may replace   or
- For drains serving only the space concerned   may replace
- When controlling functions are not required by statutory requirements or guidelines   may replace
- For pipe between machinery space and deck water seal   may replace
- Scuppers serving open decks in positions 1 and 2, as defined in regulation 13 of the International Convention on Load Lines 1966, should be   throughout unless fitted at the upper end with the means of closing capable of being operated from a position above the freeboard deck in order to prevent down flooding
- For essential services such as fuel oil tank heating and ship's whistle   is to replace
- For tankers where compliance with paragraph 3(f) of regulations 13F of Annex 1 of MARPOL 73/78 is required   is to replace