RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part D Machinery Installations

Rules for the Survey and Construction of Steel Ships
Part D 2010 AMENDMENT NO.1

Rule No.24 15th April 2010
Resolved by Technical Committee on 5th February 2010
Approved by Board of Directors on 23rd February 2010

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Rule No.24 15th April 2010
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part D MACHINERY INSTALLATIONS

Amendment 1-1

Chapter 2 DIESEL ENGINES

2.4 Safety Devices

2.4.5 Crankcase Oil Mist Detection Arrangements

Sub-paragraph -2 has been amended as follows.

2 The crankcase oil mist detection arrangements required in **-1** above are to be of an approved type and in accordance with the following requirements:

(1) Oil mist detection arrangements are to provide an alarm indication in the event of a foreseeable functional failure in the equipment and installation arrangements.

(2) Oil mist detection arrangements are to provide an indication that any lenses fitted in the equipment and used in determination of the oil mist level have been partially obscured to a degree that will affect the reliability of the information and alarm indication.

(3) Oil mist detection arrangements are to be capable of being tested on the test bed and board under engine standstill and engine running at normal operating conditions.

(4) Each engine is to be provided with independent oil mist detection and monitoring and a dedicated alarm. Oil mist detection and alarm information is to be ~~capable of being read~~ able to be confirmed from a safe location away from the engine. ~~However~~ In addition, in the case of ships which apply the **Rules for Automatic and Remote Control Systems**, the ~~density~~ concentration of crankcase oil mist is also to be capable of being ~~monitored~~ read by a monitoring panel.

~~(5) Each engine is to be provided with independent oil mist detection and monitoring and a dedicated alarm.~~

(~~6~~5) The layout of the arrangements, pipes and cables, pipe dimensions, the location of engine crankcase sample points, sample extraction rate and the way of maintenance and test are to be in accordance with the engine designer's and oil mist manufacturer's instructions.

(~~7~~6) Where sequential oil mist detection arrangements are provided the sampling frequency and sampling time is to be as short as reasonably practicable.

(~~8~~7) A copy of the maintenance and test manual is to be provided on board ship.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2010.

Amendment 1-2

Chapter 12 PIPES, VALVES, PIPE FITTINGS AND AUXILIARIES

12.2 Thickness of Pipes

12.2.2 Minimum Thickness of Pipes

Table D12.6(1) has been amended as follows.

Table D12.6(1) Minimum Thickness of Steel Pipes

Services of pipes	Location of pipes		Minimum thickness of the encircled alphabets correspond to those in **Table D12.6.(2)**
Bilge pipes	Passing through tanks except for cargo oil tanks		Ⓔ
	Passing through cargo oil tanks		16*mm*
	Not passing through tanks		Ⓗ
Ballast pipes	Passing through tanks except for cargo oil tanks (Note 2)		Ⓔ
	Passing through cargo oil tanks	For outboard discharge	16*mm*
		For the ballast tanks forward of the collision bulkhead	16*mm*
		For other cases	Ⓔ,but Ⓓ when $D \geqq 100A$
	Not passing through tanks		Ⓗ
Scupper pipes Sanitary pipes (Note 1)	Penetrating shell plating except for cargo oil tanks and cargo holds and automatic non-return valves being required		Ⓖ
	Penetrating shell plating except for cargo oil tanks and cargo holds and automatic non-return valves being omitted		Ⓓ
	Led form exposed deck and passing through cargo oil tanks		Ⓐ, but 16*mm* when $D \geqq 150A$
	Passing through ballast tanks	Not protected	Ⓐ (Note 5)
		protected	Ⓒ (Note 5)
	Passing through ballast tanks		Ⓖ
	Not passing through tanks		Ⓖ
Air pipes, Overflow pipes, Sounding pipes	passing through tanks except for cargo oil tanks		Ⓔ
	passing through cargo oil tanks		Ⓑ
	For air pipes and sounding pipes for fuel oil tanks passing through the cargo holds of the bulk carrier defined in **1.3.1(13), Part B**		Ⓓ
	For tanks forming a part of ship's structure		Ⓖ
	Exposed portions of air pipes which terminate above freeboard deck and superstructure deck (Note 1)	(Note 3)	Ⓔ
		(Note 4)	Ⓖ
Fuel oil pipes	Passing through tanks except for fuel oil tanks		Ⓔ
Sea water pipes	Passing through tanks		Ⓔ

	Not passing through tanks	Ⓗ
Fresh water pipes	Passing through tanks	Ⓔ
Cargo oil pipes	Passing through ballast tanks	Ⓕ, but Ⓓ when $D \geqq 100A$
	Passing through cargo oil tanks	Ⓔ, but Ⓕ when $D \geqq 250A$
	Not passing through tanks	Ⓕ
Pipes for CO_2, fire extinguishing	From bottles to distribution station	Ⓘ
	From distribution station to nozzles	Ⓙ
Pipes other than the above		Ⓚ

Notes: 1 This is not applied for scupper pipes and sanitary pipes for ships not engaged in international voyages and ships of less than 24m in length.

2 Ⓗ is applied when a safe (dangerous) ballast pipe passes through a safe (dangerous) ballast tank.
A dangerous ballast pipe means a pipe for suction and discharge of the ballast in a dangerous ballast tank (a ballast tanks adjacent to a cargo oil tank or a ballast tank connected to a cargo oil tank through an open-ended pipe).
A safe ballast pipe means a pipe for suction and discharge of the ballast in a safe ballast tank (a ballast tank other than a dangerous ballast tank).

3 For air pipes in the position I or II defined in **20.1.2, Part C** leading to spaces below the freeboard deck, enclosed super structure or enclosed deck house.

4 For air pipes other than described in Note 3.

5 The thickness of the pipe need not exceed the thickness of the shell plating in way of the pipe penetration.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2010.

2. Notwithstanding the amendments to the Rules the current requirements may apply to ships for which the date of contract for construction is before the effective date.

Amendment 1-3

Chapter 12 PIPES, VALVES, PIPE FITTINGS AND AUXILIARIES

12.1 General

12.1.6 Use of Special Materials

Sub-paragraph -2 has been deleted.

~~**2** Installation, design and construction of flexible hoses such as rubber hoses and vinyl pipes, etc. are to comply with the following requirements:~~

~~(1) Installation requirements~~

~~(a) Flexible hoses are not to be subjected to torsional deflection (twisting) under normal operating conditions.~~

~~(b) Flexible hoses are to be installed in clearly visible and readily accessible locations.~~

~~(c) The number of flexible hoses is to be kept to a minimum.~~

~~(d) Flexible hoses are to be limited to the necessary minimum length.~~

~~(e) Any hose contact that could cause rubbing and abrasion is to be avoided.~~

~~(f) The installation of flexible hoses is to take into account the allowable minimum bend radius.~~

~~(g) In cases where flexible hoses are intended to be used for flammable oil pipes which are in close proximity to heated surfaces, the risk of ignition due to a failure of the hose assembly and the subsequent release of any fluids is to be mitigated by the use of screens or other similar protection.~~

~~(h) Flexible hoses are to be installed in accordance with the manufacturer's instruction.~~

~~(2) Design requirements~~

~~(a) The design of flexible hoses is to take into account ambient conditions, compatibility with fluids under working pressure and temperature conditions.~~

~~(b) Hose clamps and other similar types of end fittings are not to be used for flexible hoses in pipes for steam, flammable oil, starting air and for sea water where failure may result in flooding. For other pipes, the use of hose clamps may be accepted where the working pressure is less than 0.5*MPa* and provided there are double clamps at each end connection.~~

~~(c) The design of flexible hoses, where pressure pulses and/or high levels of vibration are expected to occur during use, is to take into account the maximum expected impulse peak pressure as well as any other forces due to vibration.~~

~~(3) Construction requirements~~

~~Non-metallic flexible hoses are to conform to the following requirements:~~

~~(a) Non-metallic flexible hoses are to incorporate woven integral wire braid or other suitable material reinforcement where used for pipes specified in **12.4.3-2(1)** through **(6)**. Where specially approved by the Society, the reinforcement may be exempted.~~

~~(b) In cases where non-metallic flexible hoses are to be used for fuel oil supply lines to burners, they are to have external wire braid protection.~~

~~(c) Non-metallic flexible hoses used for flammable oil and sea water pipes, where failure may result in flooding, are to be of a fire resistant type.~~

12.3 Construction of Valves and Pipe Fittings

12.3.4 Flexible Hose Assemblies

Sub-paragraph -3 has been amended as follows.

3 Installation, design and construction of flexible hose assemblies are to comply with ~~**12.1.6-2**~~ follows.

(1) Installation requirements

(a) Flexible hoses are not to be subjected to torsional deflection (twisting) under normal operating conditions.

(b) Flexible hoses are to be installed in clearly visible and readily accessible locations.

(c) The number of flexible hoses is to be kept to a minimum.

(d) Flexible hoses are to be limited to the necessary minimum length.

(e) Any hose contact that could cause rubbing and abrasion is to be avoided.

(f) The installation of flexible hoses is to take into account the allowable minimum bend radius.

(g) In cases where flexible hoses are intended to be used for flammable oil pipes which are in close proximity to heated surfaces, the risk of ignition due to a failure of the hose assembly and the subsequent release of any fluids is to be mitigated by the use of screens or other similar protection.

(h) Flexible hoses are to be installed in accordance with the manufacturer's instruction.

(2) Design requirements

(a) The design of flexible hoses is to take into account ambient conditions, compatibility with fluids under working pressure and temperature conditions.

(b) Hose clamps and other similar types of end fittings are not to be used for flexible hoses in pipes for steam, flammable oil, starting air and for sea water where failure may result in flooding. For other pipes, the use of hose clamps may be accepted where the working pressure is less than 0.5*MPa* and provided there are double clamps at each end connection.

(c) The design of flexible hoses, where pressure pulses and/or high levels of vibration are expected to occur during use, is to take into account the maximum expected impulse peak pressure as well as any other forces due to vibration.

(3) Construction requirements

Non-metallic flexible hoses are to conform to the following requirements:

(a) Non-metallic flexible hoses are to incorporate woven integral wire braid or other suitable material reinforcement where used for pipes specified in **12.4.3-2(1)** through **(6)**. Where specially approved by the Society, the reinforcement may be exempted.

(b) In cases where non-metallic flexible hoses are to be used for fuel oil supply lines to burners, they are to have external wire braid protection.

(c) Non-metallic flexible hoses used for flammable oil and sea water pipes, where failure may result in flooding, are to be of a fire resistant type.

12.4 Connection and Forming of Piping Systems

12.4.2 Direct Connection of Pipe Lengths

Sub-paragraph -1 has been amended as follows.

1 Direct connection of pipe lengths belonging to Group I or II is to be of a butt welded type. However, for steel pipes having a nominal diameter of not more than ~~50*A*~~ 80*A*, slip-on sleeve welded joints may be used.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2010.

Amendment 1-4

Chapter 13 PIPING SYSTEMS

13.4 Scuppers, Sanitary Discharges, etc.

13.4.1 General

Sub-paragraph -8 has been added as follows.

8 In cases where fixed pressure water-spraying systems are fitted in closed vehicle and Ro-Ro spaces and special category spaces, drainage systems are to comply with **20.5.1-4** and **20.5.1-5, Part R of the Rules** in addition to those requirements specified in **-1** to **-7** above.

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 January 2011.

2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.
(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1% of the estimated mass of all structural material, whichever is the less.