09-410

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part D Machinery Installations

Rules for the Survey and Construction of Steel Ships
Part D 2009 AMENDMENT NO.1
Guidance for the Survey and Construction of Steel Ships
Part D 2009 AMENDMENT NO.1

Rule No.19 / Notice No.18 15th April 2009
Resolved by Technical Committee on 4th February 2009
Approved by Board of Directors on 24th February 2009

ClassNK
NIPPON KAIJI KYOKAI

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part D Machinery Installations

2009 AMENDMENT NO.1

Rule No.19 15th April 2009

Resolved by Technical Committee on 4th February 2009

Approved by Board of Directors on 24th February 2009

Rule No.19 15th April 2009
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 13 PIPING SYSTEMS

13.4 Scuppers, Sanitary Discharges, etc.

13.4.1 General

Sub-paragraph -3(2) has been amended as follows:

3 Scupper pipes from within enclosed superstructures or enclosed deckhouses on the freeboard deck are to be led directly to inboard bilge wells. Alternatively, they may be led to overboard where they are provided with valves in accordance with the following requirements.

(1) Each separate discharge is to have one automatic non-return valve with a positive means of closing it from a position above the freeboard deck or, alternatively, one automatic non-return valve having no positive closing means and one stop valve controlled from above the freeboard deck. However, where the scuppers lead overboard through the shell plating in way of manned engine room, the fitting to the shell plating of a locally operated positive closing valve, together with a non-return valve inboard, will also be accepted. The means for operating the positive action valve from above the freeboard deck are to be readily accessible and provided with an indicator showing whether the valve is open or closed.

(2) Where, however, the vertical distance from the load line to the inboard end of the scupper pipe exceeds $0.01L_f$, the scupper pipe may have two automatic non-return valves without positive means of closing in lieu of valves prescribed in **(1)** In this case, the inboard valve is to be located above the level of the ~~deepest subdivision draught specified in **4.1.2(3), Part C of the Rules**~~tropical load line and always accessible for inspection under service condition. If it is not practicable to fit inboard valve above the specified waterline then it can be accepted below provided locally controlled stop valve is fitted between two automatic non-return valves.

(3) Where the vertical distance prescribed in **(2)** exceeds $0.02L_f$, a single automatic non-return valve without positive means of closing may be accepted in lieu of valves prescribed in **(1)** and **(2)** subject to the approval of the Society.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 January 2009.

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.

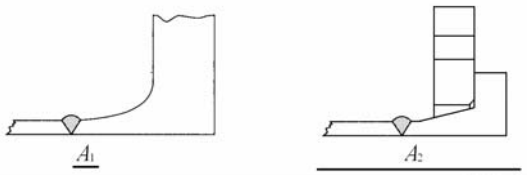
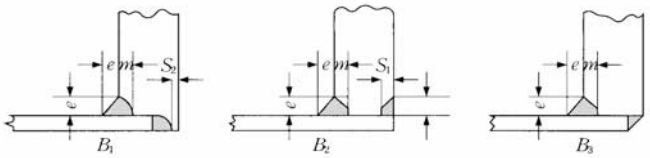
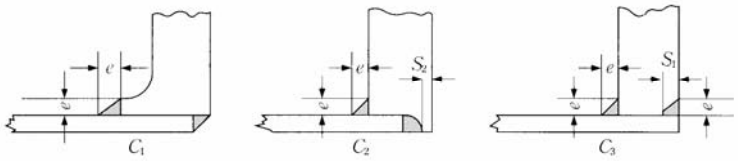
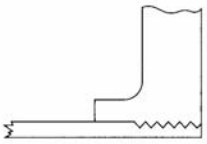
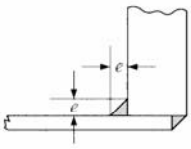
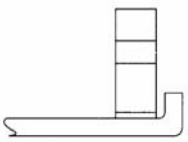
Amendment 1-2

Chapter 12 PIPES, VAVES, PIPE FITTINGS AND AUXIIARIES

12.4 Connection and Forming of Piping Systems

Fig. D12.2 has been amended as follows:

Fig. D12.2 Type of Flange Connection

	Types of Joints and Dimensions
A	
B	
C	
D	
E	
F	

Notes :

1. Standard dimensions of welds are as follows :
   $e = 1.4t$
   $m = t$
   $S_1 = t$
   $S_2 = 0.5t$
   where t is the required thickness of the pipe.
2. For type *D*, the pipe and flange are to be screwed with a tapered thread and the pipe is to be secured to the flange by means of expansion. However, the outside diameter of the screw portion of the pipe over the thread is not to be appreciably less than the outside diameter of the unthreaded pipe.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2009.

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 22 SPECIAL REQUIREMENTS FOR MACHINERY INSTALLED IN SHIPS WITH RESTRICTED AREA OF SERVICE AND SMALL SHIPS

22.2 Modified Requirements

22.2.1 Ships with Class Notation "*Coasting Service*" or Equivalent

Sub-paragraph -4(8) has been amended as follows:

4 For ships with the Class Notation "*Coasting Service*" or equivalent, which are not engaged in international voyages, or whose gross tonnage is less than 500 *tons*, the following requirements may be complied with in addition to the requirements in **-1** to **-3** above.

(1) The requirements specified in **1.3.1-5** are not necessary to apply.
(2) The requirements specified in **1.3.8** is not necessary to apply. (for ships not engaged in international voyages only)
(3) The requirements specified in **1.3.9** are not necessary to apply.
(4) Any other appropriate unit specified in **5.2.4-3** may be replaced with emergency fixing bolts for clutch to enable the ship to have a navigable speed.
(5) Other suitable device specified in **7.2.2-8** above, may be replaced with a propeller pitch-fixing device to enable the ship to have a navigable speed.
(6) The requirements specified in **13.5.10**, **13.6.1-5**, **13.8.5**, **13.9.1-6** and **13.9.1-7** are not necessary to apply.
(7) The requirements specified in **15.1.5** are not necessary to apply.
(8) The requirements specified in **15.2.4-5** and ~~the requirement for steering gears specified in the latter part of **15.2.4-6**~~ above ~~is~~ are not necessary to apply (excluding ~~the case~~ those cases where the provision of auxiliary steering gear is omitted according to the requirements in **15.2.1-2** above).
(9) The requirements for an alternative source of power specified in **15.2.6** above is not necessary to apply.
(10) The requirements in **15.2.7-1** and **-7** above are not necessary to apply.
(11) The requirements for overload for circuits and motors specified in **15.2.7-5** above is not necessary to apply.
(12) A means of communication between the navigating bridge and the steering gear compartment specified in **15.2.9** above may be replaced with an appropriate alternative means.
(13) The requirements in **15.3.1-3** above is not necessary to apply.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 15 April 2009.

2. Notwithstanding the amendments to the Rules, the current requirements apply to ships other than ships for which the date of contract for construction is on and after the effective date.

3. Notwithstanding the provision of preceding **2.**, the amendments to the Rules may apply to ships other than ships for which the date of contract for construction is on and after the effective date upon request by the owner.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part D Machinery Installations

2009 AMENDMENT NO.1

Notice No.18 15th April 2009

Resolved by Technical Committee on 4th February 2009

Notice No.18 15th April 2009
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

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

Part D Machinery Installations

Amendment 1-1

D1 GENERAL

D1.1 General

D1.1.4 Modification of Requirements

Sub-paragraph (1)(b)ii) has been amended as follows:

For machinery installations specified in **1.1.4, Part D of the Rules**, some requirements of **Part D of the Rules** may be modified as follows according to the capacity, size and/or design condition, except those come under the requirements of other Part of the Rules.

(1) Prime movers (including power transmission systems and shafting systems, hereinafter the same) driving generators, auxiliary machinery essential for main propulsion and auxiliary machinery for manoeuvring and the safety:
   (a) Prime movers with an output less than 100 *kW*
      i) Submission of drawings may be omitted.
      ii) Materials which comply with the requirements of any national standard may be accepted for the principal components. In this case, materials (excluding valves and pipe fittings) are to be manufactured by the manufacturer approved by the Society.
      iii) Shop tests in the presence of the Surveyor may be substituted by the manufacturer's tests. In this case, submission or presentation of test records may be required by the Surveyor.
   (b) Prime Movers with an output not less than 100 *kW* but less than 375 *kW*.
      i) Materials of the principal components may be dealt with under the requirements specified in **(a)ii)**.
      ii) Hydrostatic tests and dynamic balancing tests of turboblowers at the manufacturer may be dealt with under the requirements specified in **(a)iii)**.

((2) to (8) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2009.

Amendment 1-2

D13 PIPING SYSTEMS

D13.5.4 Bilge Pumps

Sub-paragraph -2 has been amended as follows:

2 Exclusive bilge piping system of cargo holds by eductor
((1) to (9) are omitted.)
~~(10) Type approval of eductor~~
~~Eductors are to be of type approved by the Society.~~

D14 PIPING SYSTEMS FOR TANKERS

D14.3 Piping Systems for Cargo Oil Pump Rooms, Cofferdams and Tanks adjacent to Cargo Oil Tanks

D14.3.2 Ballast Tanks adjacent to Cargo Oil Tanks

Sub-paragraph -1 has been amended as follows:

1 Ballast piping system of the forward ballast tanks, etc. (**14.3.2-1, Part D of the Rules**)
Ballast piping systems, etc. serving a ballast tank of which the forward end is located afore the collision bulkhead and is adjacent to cargo oil tanks (hereinafter referred to as "forward ballast tank") are to be in accordance with the following requirements in addition to **14.3.2-2** to **14.3.2-4, Part D of the Rules**. However, in case of ballast piping systems specified in the following **(2)** or **(3)** serving a ballast tank of which the forward end is located afore the collision bulkhead but is not adjacent to cargo oil tanks, they are to be in accordance with these requirements considering the tank as a forward ballast tank.

(1) Arrangements are to be made so that the ballast water in the forward ballast tank, except the case specified in the following **(2)** or **(3)**, can be ballasted/deballasted by a pump located afore the forward of the cargo tanks.
(2) In case where ballast pipes of the forward ballast tank are led to ballast pumps by passing through cargo oil tank, except the case that it is prohibited by **14.2.7, Part D of the Rules** or **D14.1.1**, the following requirements are to be complied with.
   (a) Flange joints with a nominal pressure less than 1 *MPa* are not to be used for pipe joints.
   (b) A stop valve is to be provided afore the collision bulkhead in addition to the bulkhead valve specified in **13.2.5-2, Part D of the Rules**.
   (c) Ballast pumps are to be provided in a cargo oil pump room or another subdivision without sources of ignition.

(d) The requirements of **(a)** to **(e)** in the following **(3)** are to be complied with.

(3) In case where ballast pipes of the forward ballast tank are led to another ballast piping system serving a ballast tank which is adjacent to cargo oil tanks, the following requirements are to be complied with.

(a) In applying the requirements specified in **Part H of the Rules**, the forward ballast tank is to be considered as a hazardous area specified in **4.3.1(2)(c), Part H of the Rules**.

(b) The vent pipe openings provided for the forward ballast tank are to be located on open deck 3 *m* away from sources of ignition.

(c) Means are to be provided, on the open deck, to allow measurements of flammable gas concentrations within the forward ballast tank. In this case, means may be a combination of portable detecting instrument and sampling pipe. The sampling pipe may be a sounding pipe specified in the following **(d)** where as deemed appropriate by the Society.

(d) The sounding pipes provided for the forward ballast tank are to be direct from the open deck.

(e) ~~The~~ ~~a~~Access into ~~the~~ forward ballast tanks is to be direct from ~~the~~ open deck. However, indirect access from open decks into the forward ballast tanks through enclosed spaces may be acceptable provided that the following (i) or (ii) is satisfied.

(i) In cases where enclosed spaces are separated from the cargo oil tanks, ~~the~~ access ~~of~~ into ~~the~~ forward ballast tanks ~~which is adjacent to a cargo oil tank may~~ are to be a gas tight bolted manhole located in ~~an~~ such enclosed spaces. In this case, a warning sign is to be provided at the manhole stating that the forward ballast tank may only be opened after it has been proven to be gas free or the electrical equipment which is not electrically safe in the enclosed space is isolated.

(ii) In cases where enclosed spaces have common boundaries with the cargo tanks, such enclosed spaces are to satisfy the relevant requirements of hazardous areas and are, in addition, to be well ventilated.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2009.

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