RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part I Polar Class Ships and Ice Class Ships

2008 AMENDMENT NO.1

Rule No.13 27th February 2008
Resolved by Technical Committee on 30th November 2007
Approved by Board of Directors on 25th December 2007

Rule No.13 27th February 2008
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 I POLAR CLASS SHIPS AND ICE CLASS SHIPS

Chapter 5 ICE CLASS SHIPS

5.3 Hull Structures and Equipment

5.3.2 General Requirements for Frames

Sub-paragraph -2 has been amended as follows.

1 The vertical extension of the ice strengthening of the framing is to be at least as given in **Table I5.7** according to the respective ice classes and regions. Where an upper forward ice belt is required in **5.3.1-1**, the ice strengthening part of the framing is to be extended at least to the top of this ice belt. Where the ice strengthening would go beyond a deck or a tank top by no more than 250 *mm*, it can be terminated at that deck or tank top.

2 Within the ice strengthening area all frames are to be effectively attached to all the supporting structures. A longitudinal frame is to be attached to all the supporting web frames and bulkheads by brackets at both ends. When a transverse frame terminates at a stringer or deck, a bracket or similar construction is to be fitted. When a frame is running through the supporting structure, both sides of the web plate of the frame are to be connected to the structure by direct welding, collar plate or lug. When a bracket is installed, it is to have at least the same thickness as the web plate of the frame and the edge is to be appropriately stiffened against buckling.

3 In all region for I*A Super* ice class ships, in the forward and midship regions for I*A* ice class ships and in the forward regions for I*B*, I*C* and I*D* ice class ships, followings are to apply in the ice strengthening area.

(1) Frames which are at a small angle to the shell, are to be supported against tripping by brackets, intercostals, stringers or similar at a distance preferably not exceeding 1,300 *mm*.

(2) The frames are to be attached to the shell by double continuous welds. No scalloping is allowed except when crossing shell plate butts.

(3) The web thickness of the frames is to be at least one half of the thickness of the shell plating and at least 9 *mm*.

(4) Where there is a deck, tank top or bulkhead in lieu of a frame, the plate thickness of this is to be as per the preceding **(3)**, to a depth corresponding to the height of adjacent frames.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 27 February 2008.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part I Polar Class Ships and Ice Class Ships

2008 AMENDMENT NO.1

Notice No.9 27th February 2008
Resolved by Technical Committee on 30th November 2007

Notice No.9 27th February 2008
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 I POLAR CLASS SHIPS AND ICE CLASS SHIPS

I5 ICE CLASS SHIPS

I5.3 Hull Structures and Equipments

Paragraph I5.3.2 has been amended as follows.

I5.3.2 General Requirements for Frames

1 With respect to the provisions of **5.3.2-2, Part I of the Rules**, where longitudinal frames are running through supporting structures such as web frames or transverse bulkheads, brackets are to be fitted on both sides of the supporting structures. (See **Fig. I5.3.2-1**) Where transverse frames are running through supporting structures such as deck or ice stringers within the ice belt, it is recommended that brackets are also fitted on the above side of the supporting structures. (See **Fig. I5.3.2-2**) The standard arm length of a bracket is not to be less than the depth of a frame web.

~~**1**~~**2** With respect to the provisions of **5.3.2-2, Part I of the Rules**, for longitudinal frames, where deemed as unavoidable by the Society, no end brackets may be accepted. In this case, for facilitating transmission of the ice load to main hull structures, the web of such frames is to be attached to web frames by double lugs and web frame stiffeners, welded to the flange of the frame, fitted in way of every frame support, and effective support structures at frame terminations. In the application of the formula specified in **5.3.4-2, Part I of the Rules**, value of *m* is not to be taken larger than 11.

~~**2**~~**3** Where larger spacing is adopted for longitudinals according to the conditional clause in **5.3.4-1, Part I of the Rules**, web thickness of the frames specified in **5.3.2-3(3), Part I of the Rules** need not to exceed one half of the required shell plating thickness as required for frame spacing of 0.45 *m* assuming the yield stress of the plate not more than that used for the frame.

Fig. I5.3.2-1 and Fig. I5.3.2-2 have been added as follows.

Fig. I5.3.2-1　Brackets for Longitudinal Side Frames

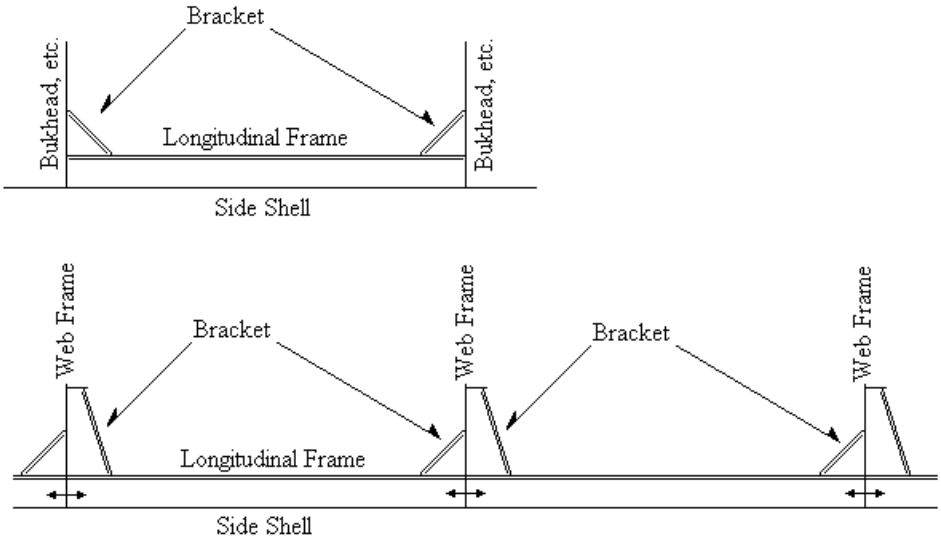
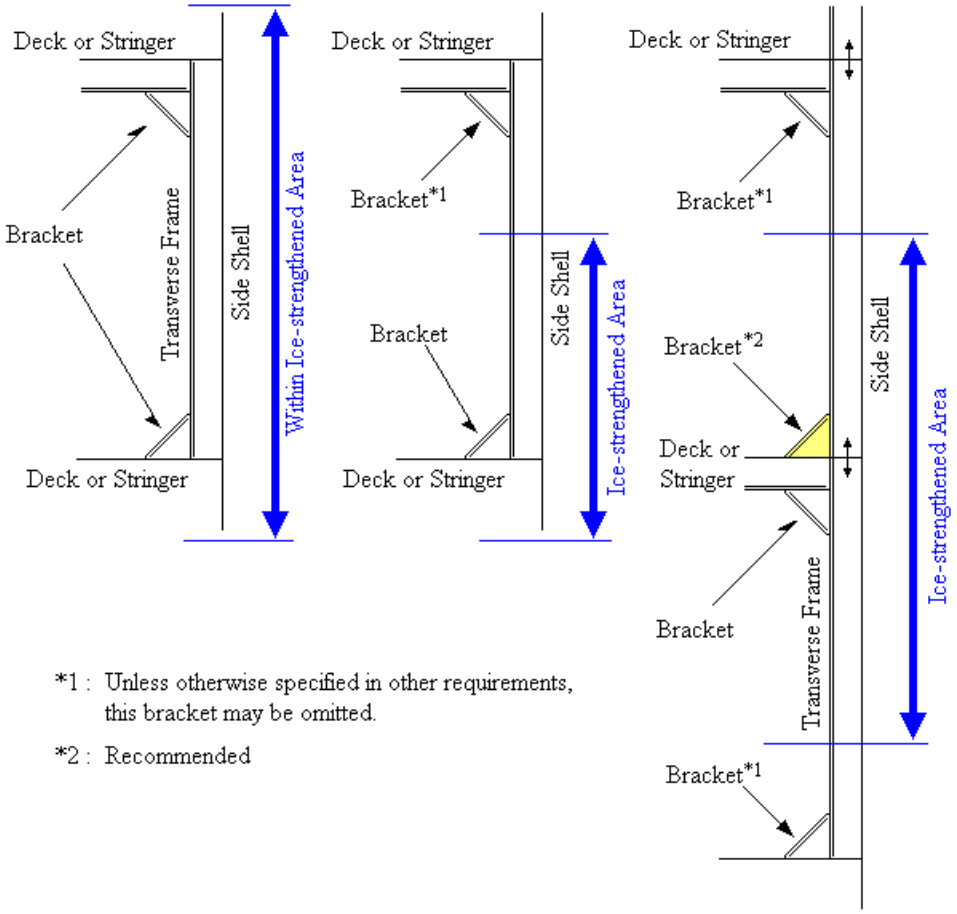


Fig. I5.3.2-2　Brackets for Transverse Side Frames



*1 : Unless otherwise specified in other requirements, this bracket may be omitted.

*2 : Recommended

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 27 February 2008.