

RULES FOR BUILDING AND CLASSING

BULK CARRIERS FOR SERVICE ON THE GREAT LAKES 2017

NOTICE NO. 1 – JULY 2017

The following Rule Changes were approved by the ABS Rules Committee on 30 May 2017 and become **EFFECTIVE AS OF 1 JULY 2017**.

(See <http://www.eagle.org> for the consolidated version of the Rules for Building and Classing Bulk Carriers for Service on the Great Lakes, 2017, with all Notices and Corrigenda incorporated.)

Notes - The date in the parentheses means the date that the Rule becomes effective for new construction based on the contract date for construction, unless otherwise noted. (See 1-1-4/3.3 of the ABS Rules for Conditions of Classification (Part 1).)

PART 3 HULL CONSTRUCTION AND EQUIPMENT

CHAPTER 2 HULL STRUCTURES AND ARRANGEMENTS

SECTION 3 DECKS

(Add new Subsection 3-2-3/19, as follows:)

19 Hopper Slope (1 July 2017)

19.1 Hopper Slope as a Part of a Tank

Where the hopper slope forms a part of a tank, the plating and strength requirements are as required for tank boundary bulkhead, see 3-2-7/3.

19.3 Hopper Slope not a Part of a Tank

Where hopper slope is not a part of a tank, the inner bottom plating is to meet the minimum thickness requirement for inner bottom plating, see 3-2-4/11. In lieu of meeting the inner bottom plating thickness requirement 3-2-4/11, the hopper slope plating and stiffeners are to meet 3-2-3/19.3.1 and 3-2-3/19.3.2.

19.3.1 Plating

In lieu of meeting the inner bottom plating thickness requirement 3-2-4/11, the net thickness of the hopper slope plating is not to be less than t_1 , t_2 , and t_3 , as obtained from the following equations:

$$t_1 = 0.73s(k_1p/f_1)^{1/2} \text{ mm (in.)}$$

$$t_2 = 0.73s(k_2p/f_2)^{1/2} \text{ mm (in.)}$$

$$t_3 = 6.35 \text{ mm (0.25 in.)}$$

where

$$s = \text{stiffener spacing, in mm (in.)}$$

$$k_1 = 0.342$$

k_2	=	0.500
p	=	nominal pressure due to gravity at the lower edge of each plate, in N/cm ² (kgf/cm ² , lbf/in ²)
	=	$k_3 \rho g h_c [\cos^2 \alpha + (1 - \sin \alpha_o) \sin^2 \alpha]$
k_3	=	adjustment factor to account for the Great Lakes environment
	=	0.870
ρg	=	specific weight of the bulk cargo considered, in N/cm ² -m (kgf/cm ² -m, lbf/in ² -ft). ρg is not to be taken less than 1.471 N/cm ² -m (0.15 kgf/cm ² -m, 0.6503 lbf/in ² -ft)
α	=	slope of wall measured from horizontal plane, in degrees
α_o	=	angle of repose for the bulk cargo considered, normally 30 degrees (Re: "Code of Safe Practice for Solid Bulk Cargoes" published by IMO)
h_c	=	vertical distance from the top cargo surface to the wall point considered in upright condition, in m (ft)
f_1	=	permissible bending stress, in the longitudinal direction, in N/cm ² (kgf/cm ² , lbf/in ²)
	=	$0.60 S_m Y$
f_2	=	permissible bending stress, in the vertical direction, in N/cm ² (kgf/cm ² , lbf/in ²)
	=	$0.85 S_m Y$
S_m	=	strength reduction factor
	=	1 for Ordinary Strength Steel, as specified in 2-1-2/Table 2 of the <i>ABS Rules for Materials and Welding (Part 2)</i>
	=	0.95 for Grade H32, as specified in 2-1-3/Table 2 of the <i>ABS Rules for Materials and Welding (Part 2)</i>
	=	0.908 for Grade H36, as specified in 2-1-3/Table 2 of the <i>ABS Rules for Materials and Welding (Part 2)</i>
	=	0.875 for Grade H40, as specified in 2-1-3/Table 2 of the <i>ABS Rules for Materials and Welding (Part 2)</i>
Y	=	minimum specified yield point of the plating, in N/cm ² (kgf/cm ² , lbf/in ²)

Nominal Design Corrosion Value (NDCV) is to be taken as 2 mm (0.08 in.).

19.3.2 Stiffeners

Each stiffener is to have sufficient section modulus SM to withstand the pressure p as defined in 3-2-3/19.3.1.

PART 3 HULL CONSTRUCTION AND EQUIPMENT
CHAPTER 2 HULL STRUCTURES AND ARRANGEMENTS
SECTION 6 WATERTIGHT BULKHEADS

(Add new Subsection 3-2-6/11, as follows:)

11 Construction of Screen Bulkheads (1 July 2017)

Screen bulkheads are non-watertight bulkheads often used to separate cargoes. Strength requirements for screen bulkhead plating, stiffeners, stringers, and webs are to be obtained from 3-2-6/7 with the corresponding h value reduced by half for thickness and section modulus calculations. However, in no case, is the screen bulkhead plating thickness to be taken less than 0.25 in. (6.35 mm).

In lieu of applying the requirement indicated above, the “U” shaped part, which runs along the deck and side tanks for double hulls or the deck and side shell for single hulls, is to have section modulus SM not less than obtained from 3-2-5/11.1. See 3-2-6/Figure 2 for an example of screen bulkhead section modulus calculation.

(Add new 3-2-6/Figure 2, as follows:)

FIGURE 2
Screen Bulkhead Section Modulus Calculation – Double Hulls (1 July 2017)

