

'SAFEHULL-DYNAMIC LOADING APPROACH' FOR VESSELS

DECEMBER 2006

NOTICE NO. 1 – August 2013

The following Changes become **EFFECTIVE AS OF 1 AUGUST 2013**.

(See <http://www.eagle.org> for the consolidated version of the Guide for 'SafeHull-Dynamic Loading Approach' for Vessels, 2006, 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. (See 1-1-4/3.3 of the ABS Rules for Conditions of Classification (Part 1).)

SECTION 15 ACCEPTANCE CRITERIA

3 Yielding

(Revise Paragraph 15/3.7 and Section 15, Table 1, as follows.)

3.7 Allowable Stress for Watertight Boundaries (1 August 2013)

The allowable stresses defined in Section 15, Table 1 are applicable to plating and longitudinal stiffeners on watertight boundaries. With the recommended basic mesh size of one-longitudinal spacing for global FE model, the tertiary bending stress component due to local deformation within one-longitudinal spacing may not be accounted for on watertight boundaries. If such is the case, a reduction of allowable stress needs to be considered for watertight boundaries.

The allowable stress is defined as a percentage of the minimum specified yield stress, f_y , times the strength reduction factor, S_m . Application of this allowable stress to rod and beam elements is based on axial stress while von Mises membrane stresses are checked for plate elements.

TABLE 1
Allowable Stresses for Watertight Boundaries (1 August 2013)

Stress Limit	Ordinary Strength Steel ($S_m = 1.000$)	HT27 ($S_m = 0.980$)	HT32 ($S_m = 0.950$)	HT36 ($S_m = 0.908$)	
$c_\ell \times c_f S_m f_y$	$23534 \times c_\ell c_f$	$25947 \times c_\ell c_f$	$29810 \times c_\ell c_f$	$32056 \times c_\ell c_f$	N/cm ²
	$2400 \times c_\ell c_f$	$2646 \times c_\ell c_f$	$3040 \times c_\ell c_f$	$3269 \times c_\ell c_f$	kgf/cm ²
	$34138 \times c_\ell c_f$	$37637 \times c_\ell c_f$	$43241 \times c_\ell c_f$	$46498 \times c_\ell c_f$	lbf/in ²

Note: c_f is to be taken as 0.95

c_ℓ is to be taken as 0.80

Alternatively, for watertight boundaries under lateral load, the von-Mises stress may be determined using the tertiary plate bending stresses from the applicable Chapter of Part 5C of the *Steel Vessel Rules*. When the tertiary stress is included, c_ℓ can be taken as 1.0.

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