

From: [Shen Yaming](#)
To: [csr](#)
Subject: CSR-BC: Chapter 5, Section 1: 4.5 Extent of higher strength steel
Date: 02 November 2011 07:51:37
Attachments: [ww.png](#)

Dear sir,

According to the rule,

4.5 Extent of higher strength steel

4.5.1

When a material factor for higher strength steel is used in calculating the required section modulus at bottom or deck according to [4.2] or [4.3], the relevant higher strength steel is to be adopted for all members contributing to the longitudinal strength (see [1]), at least up to a vertical distance, in m, obtained from the following formulae:

- above the baseline (for section modulus at bottom):

$$V_{HB} = \frac{\sigma_{1B} - k\sigma_{1,ALL}}{\sigma_{1B} + \sigma_{1D}} z_D$$

- below a horizontal line located at a distance V_D (see [1.4.2]) above the neutral axis of the hull transverse section (for section modulus at deck):

$$V_{HD} = \frac{\sigma_{1D} - k\sigma_{1,ALL}}{\sigma_{1B} + \sigma_{1D}} (N + V_D)$$

where:

σ_{1B} , σ_{1D} : Normal stresses, in N/mm², at bottom and deck, respectively, calculated according to [2.1]

z_D : Z co-ordinate, in m, of the strength deck defined in [1.3], with respect to the reference co-ordinate system defined in Ch 1, Sec 4, [4]

may I conclude that,

1. for $\sigma_{1,all}=190/k$, so $k \cdot \sigma_{1,all}=190$?
2. for $VD=zD-N$, so $N+VD=zD$?
3. so the two formulas can be simplified.

If these conclusions are not right, a rule clarification is suggested to be offered.

I reviewed CSR-DHOT, the requirement of Vertical extent of higher strength steel is more clear.

Thanks.

Kind regards,
Shen Yaming
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Ship Planning Sec., Research & Development Dept.
Central Technical Division
Nantong COSCO KHI Ship Engineering Co., Ltd.
Tel: +86 (0)513 8516 8338 Fax: +86 (0)513 8350 8399
Address: 117 LinJiang Road, Nantong, Jiangsu, China
P.C.: 226005

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