

Coefficients f_1 - f_4 and g_1 - g_3 are given in Table 3-2.

Table 3-2: Values of coefficients f_1 - f_4 and g_1 - g_3 for the determination of C_1 and C_2

$f_1 = 23 \text{ N/m}^2$	$g_1 = 1530 \text{ N}$
$f_2 = 45.8 \text{ N/m}$	$g_2 = 170 \text{ N/m}$
$f_3 = 14.7 \text{ N/m}$	$g_3 = 400 \text{ N/m}^{1.5}$
$f_4 = 29 \text{ N/m}^2$	

$$C_3 = 845 \text{ kg}/(\text{m}^2\text{s}^2)$$

$$C_4 = 42 \text{ kg}/(\text{m}^2\text{s}^2)$$

$$C_5 = 825 \text{ kg/s}^2$$

$$\psi = \tan^{-1} \left(\frac{\tan \phi_2}{\sin \alpha} \right)$$

If the value of the term $\left(\frac{LT}{B^2}\right)^3$ is less than 5, the value 5 shall be used and if the value of the term is more than 20, the value 20 shall be used.

3.2.3 Existing ships of ice class IB or IC

In order to retain ice class IB or IC a ship, to which ice class regulations 1985 (2.9.1985, No. 2575/85/307, as amended) apply, shall comply with the required minimum engine output as defined in section 3.2.1 of the ice class regulations 1985. For ease of reference, the provisions for ice classes IB and IC of section 3.2.1 of the ice class regulations 1985 are given in Annex II of these regulations.

3.2.4 Existing ships of ice class IA Super or IA

In order to retain ice class IA Super or IA a ship, the keel of which has been laid or which has been at a similar stage of construction before 1 September 2003, shall comply with the requirements in section 3.2.2 above not later than 1 January in the year when twenty years have elapsed since the year the ship was delivered.

If the ship does not comply with the requirements in section 3.2.2 on the date given above, the highest lower ice class for which the engine output is sufficient can be confirmed for the ship.

When, for an existing ship, values for some of the hull form parameters required for the calculation method in section 3.2.2 are difficult to obtain, the following alternative formulae can be used:

$$R_{CH} = C_1 + C_2 + C_3(H_F + H_M)^2(B + 0.658H_F) + C_4LH_F^2 + C_5 \left(\frac{LT}{B^2}\right)^3 \frac{B}{4}, \quad (3.3)$$

where for ice class IA, $C_1=0$ and $C_2=0$.

For ice class IA Super, ship without a bulb, C_1 and C_2 shall be calculated as follows:

$$C_1 = f_1 \frac{BL}{2\frac{T}{B}+1} + 1,84(f_2B + f_3L + f_4BL),$$

$$C_2 = 3.52(g_1 + g_2B) + g_3 \left(1 + 1,2\frac{T}{B}\right) \frac{B^2}{\sqrt{L}}$$