

3.2 Required engine output for ice classes IA Super, IA, IB and IC

The engine output shall not be less than that determined by the formula below and in no case less than 1,000 kW for ice class IA, IB and IC, and no less than 2,800 kW for IA Super.

3.2.1 Definitions

The dimensions of the ship and some other parameters are defined as follows:

L	m	the length of the ship between the perpendiculars
L_{BOW}	m	the length of the bow
L_{PAR}	m	the length of the parallel midship body
B	m	the maximum breadth of the ship
T	m	the actual ice class draughts of the ship according to 3.2.2
A_{wf}	m ²	the area of the waterline of the bow
α	degree	the angle of the waterline at $B/4$
φ_1	degree	the rake of the stem at the centerline
φ_2	degree	the rake of the bow at $B/4$
ψ	degree	the flare angle calculated as $\psi = \tan^{-1} \left(\frac{\tan \phi}{\sin \alpha} \right)$ using local angles α and ϕ at each location. For chapter 3, the flare angle is calculated using $\phi = \varphi_2$
D_P	m	the diameter of the propeller
H_M	m	the thickness of the brash ice in mid channel
H_F	m	the thickness of the brash ice layer displaced by the bow

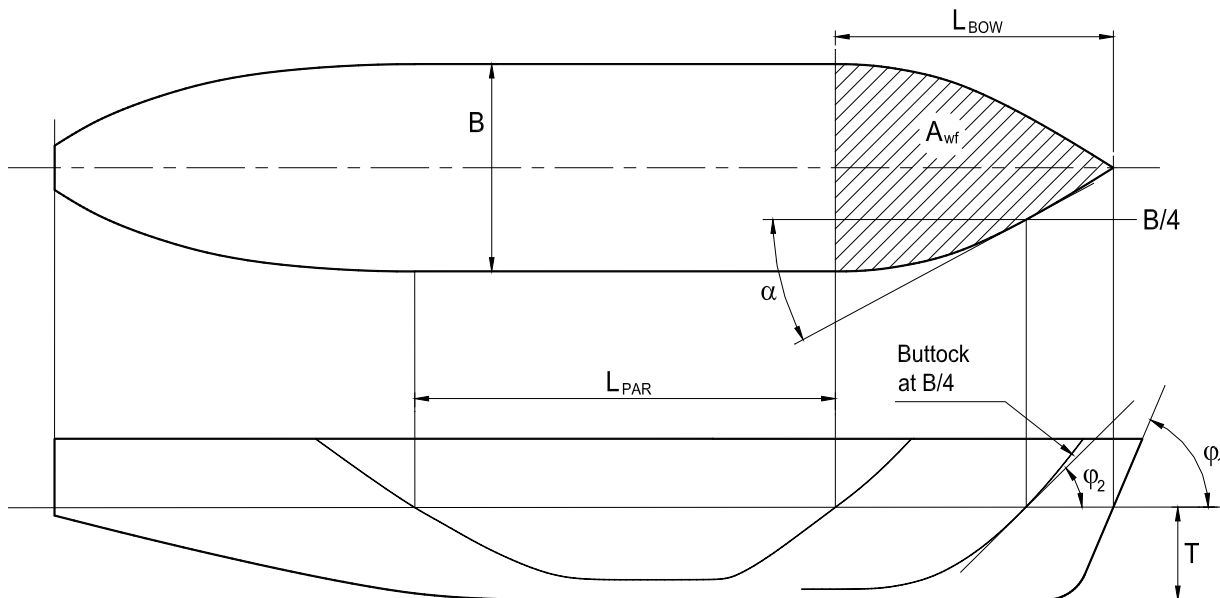


Figure 3-1. Determination of the geometric quantities of the hull. If the ship has a bulbous bow, then $\varphi_1 = 90^\circ$.

3.2.2 New ships

To qualify for ice class IA Super, IA, IB or IC, a ship the keel of which is laid or which is at a similar stage of construction on or after 1 September 2003 shall comply with the following requirements regarding its engine output. The engine output requirement shall be calculated for