The required frame modulus is expressed by

$$\frac{s\,(d-t)\,(f_1+f_2)}{1{,}000}$$

where—

s is the frame spacing in inches

t is the vertical distance in feet measured at amidships from the top of the keel to a point midway between the top of the inner bottom at side and the top of the heel bracket (see Figure 2); where there is no double bottom, t is measured to a point midway between the top of the floor at centre and the top of the floor at side.

f_1 is a coefficient depending on H, which, in ships fitted with double bottoms, is the vertical distance in feet from the middle of the beam bracket of the lowest tier of beams at side to a point midway between the top of the inner bottom at side and the top of the heel bracket (see Figure 2). Where there is no double bottom, H is measured to a point midway between the top of the floor at centre and the top of the floor at side. Where the frame obtains additional strength from the form of the ship, due allowance is made in the value of f_1.

f_2 is a coefficient depending on K, which is the vertical distance in feet from the top of the lowest tier of beams at side to a point 7 feet 6 inches above the freeboard deck at side, or, if there is a superstructure, to a point 12 feet 6 inches above the freeboard deck at side (see Figure 2). The values of f_1 and f_2 are obtained from the following tables:—

H in feet..	0	7	9	11	13	15	17	19	21	23	25
f_1.....	9	11	12·5	15	19	24	29·5	36	43	51	59

K in feet.....	0	5	10	15	20	25	30	35	40
f_2.....	0	0·5	1·0	2·0	3·0	4·5	6·5	9·0	12·0

Intermediate values are obtained by interpolation.

This formula applies where D is between 15 feet and 60 feet, both inclusive, B is between $\frac{L}{10}+5$ and $\frac{L}{10}+20$, both inclusive, $\frac{L}{Ds}$ is between 10 and 13·5, both inclusive; and the horizontal distance from the outside of the frame to the centre of the first row of pillars does not exceed 20 feet.