LL20 Hatch beams and cover stiffeners of variable cross section (Regulations 15(4), 15(5), 15(6), 15(7) and 16)

(1972)
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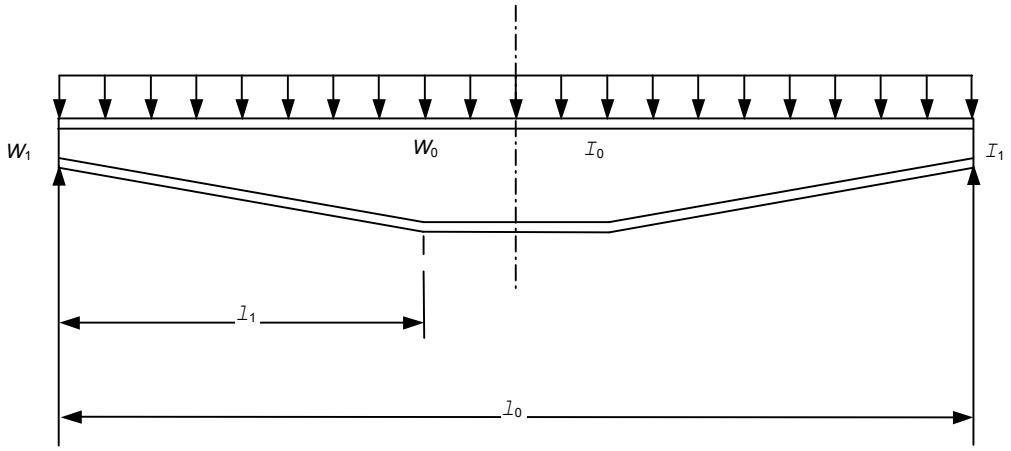
To avoid stresses and deflections exceeding those given in the above Regulations along construction elements of variable cross section, the required section modulus calculated as for constriction elements of constant cross section is to be increased by a factor K expressed by:

$$K = 1 + \frac{3.2\alpha - \gamma - 0.8}{7 + 0.4}$$

where $\alpha = l_1/l_0$, $\gamma = W_1/W_0$

The value of factor K obtained by the formula is not to be less than unity.

l_1, l_0, W_1 and W_0 are indicated on the sketch below:



The moment of inertia is likewise to be increased by the factor C expressed by:

$$C = 1 + 8\alpha^3 \frac{1 - \beta}{0.2 + 3\sqrt{\beta}}$$

where $\alpha = l_1/l_0$, $\beta = I_1/I_0$

The value factor of C obtained by the formula is not to be less than unity.

I_1 and I_0 are indicated on the sketch above.

The use of the above formulae is limited to the determination of the strength of hatch beams and covers in which abrupt changes in the section of the face material do no occur along the length of the beam or cover.

Footnote: This UI is also applicable to Regulations 15(4), 15(5), 15(6), 15(7) and 16 of the 1988 Protocol.

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