



$\sigma = 124 \text{ MPa}$
 $L = 9.75 \text{ m}$
 $P = 13 \text{ kN}$
 $q = 6.6 \text{ kN/m}$
 $q_k = 2.4375 \times 6.6 = 16.0875 \text{ kN}$
 $16.0875 \times 2 + 13 = 45.175 \text{ kN}$
 $R_A = 45.175 \div 2 = 22.5875 \text{ kN}$

$S = \frac{M_{max}}{\sigma}$
 $\frac{L}{4} = 2.4375 \text{ m}$

$S = \frac{51.294}{124} = 0.413662 \text{ m}$
 413 cm^3
 $IPN 260 \quad 41.9 \text{ kg/m} \quad 442 \text{ cm}^3$

$W = 41.9 \times 9.75 = 410.62 \frac{\text{N}}{\text{m}} = 0.41062 \text{ kN}$
 $410.62 \times 9.75 = 4003.545 \text{ N} = 4.003545 \text{ kN}$
 $16.0875 \times 0.5 \times 2 \times 2.4375 + (13 + 4.003545) \times 2 \times 2.4375$
 $+ 16.0875 \times 3 \times 2.4375 = 6 \times 9.75$
 $\Rightarrow 239.7454069 = 6 \times 9.75 \quad b = a = 24.589275 \text{ kN}$
 $24.589275 - 16.0875 = 8.501775$

$M = 24.589275 \times \frac{1}{2} \times 2.4375 + 8.501775 \times 1.5 \times 2.4375$
 $\Rightarrow M = 61.04485$

$S = \frac{61.04485}{124} = 492.297255 \text{ cm}^3$

$492 < 542$
 \therefore 選 IPN 280

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自控 = 甲