

STRUCTURAL CALCULATIONS FOR EXTN
@ 23 FLOOR CLOSE CROSSING

SUPPORT STEEL ACROSS KITCHEN - SPAN = 2.80m

LOADS

9 th BRICKWORK	5.0 kN/m ² × 2.0 × 2.8m =	28.0 kN
FLOOR	2.0 m × 2.15/m × 2.8m =	6.02
CEILING (SMALL STRONG)	0.5 m × 2.15/m × 2.8m =	1.50
MAIN ROOF	1.75 m × 5.2/m × 2.80m =	7.84
LOWER ROOF	1.75 m × 2.2/m × 2.80m =	6.61
SLAB	46 kN/m ² × $\frac{9.81}{1000}$ × 2.80m =	<u>1.26</u>
		51.23

$$\therefore \text{BM} = \frac{51.23 \times 2.8}{8} = \underline{\underline{17.93 \text{ kNm}}}$$

TRY 2 NO 203 × 102 UB

$$e_{\text{flange}} = \frac{2800}{237} = 11.8 \quad d_{\text{flange}} = 21.82$$

$$\therefore p_{\text{bce}} = \underline{\underline{120 \text{ Nm}^{-2}}}$$

$$f_{\text{bc}} = \frac{17.93 \times 10^6}{2 \times 206 \times 10^8} = \underline{\underline{43.51 \text{ Nm}^{-2}}}$$

MIN BENDING