P_y = yield capacity of the chord

$= 0.235 \times 138.83 \times 100$

$= 3262.5$ KN

M_p = Plastic Moment Capacity of chord.

$= f_y \cdot Z \times 1.3$ (Shape factor = 1.3)

$= 314.457$ KNm

for y joint under brace axial loading,

$C_1 = 0.3$, $C_2 = 0$, $C_3 = 0.8$ - Table 4.3.2

$P_c = -147.115$ KN (Compressive)

$M_c = 7.51$ KNm

$$\therefore A = \sqrt{\left(\frac{1.6 \times 147.98}{3262.5}\right)^2 + \left(\frac{1.6 \times 7.51}{314.46}\right)^2}$$

$= 0.082$

$$\therefore Q_f = 1 + C_1\left(\frac{FS\ P_c}{P_y}\right) - C_2\left(\frac{FS\ M_{ipb}}{M_p}\right) - C_3 A^2$$

$$= 1 + .0.3\left\{\frac{1.6 \times (-147.115)}{3262.5}\right\} - 0.8 \times (0.082)^2$$

$= 1 - 0.022 - 5.38 \times 10^{-3}$

$= \underline{0.973}$