Composite :- $[0/60/0/30]$

$E_1 = 131$ GPa

$E_2 = 9.8$ GPa $t = 0.125$ mm

$G_{12} = 5.8$ GPa

$\nu_{12} = 0.22$ $\sigma_L^+ = 850$ MPa

$\sigma_L^- = -700$ MPa

$\sigma_T^+ = 40$ MPa

$\sigma_T^- = -160$ MPa

$\tau_{LT} = 75$ MPa

$N_x, N_y, N_{xy} = 10, 3, 0$ kW/m

$M_x, M_y, M_{xy} = 15, 0, 0$ N

→ 1) Calculation of $\varepsilon_x^\circ, \varepsilon_y^\circ, @ \gamma_{xy}^\circ, K_x, K_y, K_{xy}$
        Using the force vector provided

2) Using ε matrix to Calculate the stresses,

3) Final testing Criterion

$\sigma_{11} = 71.0834 \qquad \in (-700, 850)$

$\sigma_{22} = \qquad 4.2942 \qquad \in (-160, 40)$

$\tau_{12} = -6.3180 \qquad ; \qquad |\tau_{12}| < 75$

No Failure Acc. to Max. Stress Criterion,

Tsai-Wu $\longrightarrow$ 0.0806 < 1

$\longrightarrow$ No Failure acc. to Tsai Wu Criterion.