

$$\text{Cross-checking } \Delta\theta_m = (15 - 9) / \ln(15/9) \\ = 11.7 \text{ K}$$

$$\text{Try } \phi = 18000 \text{ W} \Rightarrow \Delta\theta_m = 12.4 \text{ K}, \theta_{\text{off}} = 28.7^\circ\text{C}$$

$$\text{Cross-checking } \Delta\theta_m = (15 - 9.3) / \ln(15/9.3) \\ = 11.9 \text{ K}$$

$$\text{Try } \phi = 17000 \text{ W} \Rightarrow \Delta\theta_m = 11.7 \text{ K}, \theta_{\text{off}} = 28.4^\circ\text{C}$$

$$\Delta\theta_m = 12.1 \text{ K}$$

$$\phi = 17500 \text{ W} \Rightarrow \Delta\theta_m = 12.0 \text{ K}, \theta_{\text{off}} = 28.6^\circ\text{C}$$

$$\Delta\theta_m = 12.0 \text{ K}$$

$$\text{Required tube length} = 28.6 / 17.5 = 1.63 \text{ m (approx)}$$

$$\text{No of fin sheets} = 1.63 / 0.00635 = 257$$