Actual $\tau_c = 0.36\ N/mm^2$

If $\tau_v > (\tau_c + 0.4)$, provide design links

Since $\tau_v < (\tau_c + 0.4)$, provide minimum links

Provide H8 link with Spacing = 300 mm c/c

c) Support D

Design Shear force, $V = 15 - 0.65w = 15 - 0.65 * 20 = 2\ kN$

Design Shear stress $\tau_v = \dfrac{2 \times 10^3}{250 * 456} = 0.0175\ N/mm^2$

$\tau_c = 0.36\ N/mm^2$

$\tau_v << (\tau_c + 0.4)$, provide minimum link as above.

d) Support B

Design Shear force acts at a distance 'd' from the face of the support. ($= 0.2 + 0.456 = 0.65m$)

$\therefore\ V = 48 - 0.65w = 48 - 0.65 * 20 = 35\ kN$

Design Shear stress, $\tau_v = \dfrac{V}{bd} = \dfrac{35 \times 10^3}{250 \times 456} = 0.30\ N/mm^2$

$\tau_c \cong 0.42\ N/mm^2$ But actual $\tau_c = 0.42 * \left(\dfrac{30}{25}\right)^{1/3} = 0.44\ N/mm^2$

Since $\tau_v < (\tau_c + 0.4)$, provide minimum links as before

e) Support C

In Support C, again τ_v will be less than $(\tau_c + 0.4)$, therefore provide minimum links as above