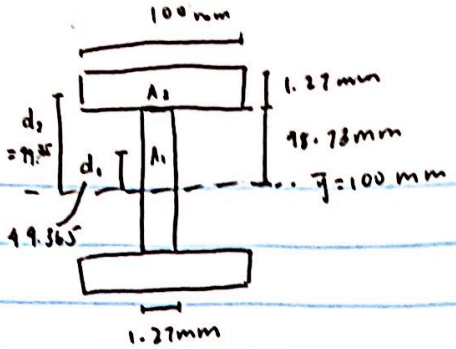
I beam

$\tau = \frac{VQ}{Ib}$



centroid = 100mm

for ~~glue~~ max shear : $Q = A_1 d_1 + A_2 d_2$

$= (1.27 \times 98.73 \times 49.365) + (100 \times 1.27 \times 99.365)$

$= 18809.09\ mm^3$

$\tau = 24MPa$

$V = \frac{\tau I b}{Q} = \frac{4(3.3226 \times 10^6)(1.27)}{18809.09} = \cancel{448.6875}\ N$

897.375

for max ~~shear~~ glue wood/matboard:

$Q = A_1 d_1 + A_2 d_2$

$\tau = 12MPa$

$V = \frac{\tau I b}{Q}$

$Q = 1.27 \times 197.46 \times (100 - 1.27/2) + 1.27 \times 100 \times (200 - 1.27) = 50156.888\ mm^3$

$V = \frac{2MPa \cdot (3.3226 \times 10^6\ mm^4) \cdot 1.27mm}{50156.888\ mm^3} = 168.260\ N$