

STRUKTUR KAYU

**SAMBUNGAN GIGI**

( pertemuan ke 11 )

Ir. BESMAN SURBAKTI. MT

Semester B – 2011/2012

$$\begin{aligned} \text{Nu} &= 46250,61 \text{ N (kombinasi 1)} \\ h &= 127 \text{ mm} = 5'' \text{ (tinggi - balok)} \\ \alpha &= 60^\circ \end{aligned}$$

$$\begin{aligned} t_m &\leq \frac{1}{3} h = \frac{1}{3} \times 127 = 42,33 \text{ mm} \\ \text{ambil } t_m &= 25 \text{ mm} \end{aligned}$$

$$\begin{aligned} L_m &\geq 1,5 h = 1,5 \times 127 = 190,5 \text{ mm} \\ \text{ambil } L_m &= 200 \text{ mm} \end{aligned}$$

$$\begin{aligned} h_n &= h - t_m = 127 - 25 = 102 \text{ mm} \\ e_m &= \frac{1}{2} (h_n + t_m) = \frac{1}{2} (102 + 25) = 63,5 \text{ mm} \end{aligned}$$

$$\text{Nu} \cos \alpha \leq \frac{L_m b F_v}{1 + 0,25 \frac{L_m}{e_m}} \lambda \Phi_v$$

$$46250,61 \cos 60^\circ \leq \frac{200 \times 76,2 \times 6,6 \times 0,97 \times 0,8}{1 + 0,25 \frac{200}{63,5}} 0,6 \times 0,75 = \frac{35123,93}{1,79}$$

$$23125,305 < 19622,31 \dots\dots\dots(\text{Not OK})$$

ambil  $L_m = 280 \text{ mm}$

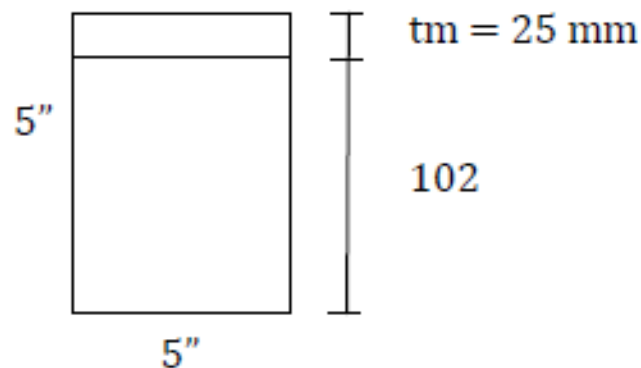
5"

$$46250,61 \cos 60^\circ \leq \frac{280 \times 76,2 \times 6,6 \times 0,97 \times 0,8}{1 + 0,25 \frac{280}{63,5}} 0,6 \times 0,75 = \frac{49173,5}{2,102}$$

23125,305 < 23393,67 .....(OK)

maka  $t_m = 25 \text{ mm}$ ,  $L_m = 280 \text{ mm}$

kontrol batang tarik akibat adanya tarikan



$$T_u \leq \lambda \Phi_t T'$$

$$23125,305 \leq 0,6 \times 0,8 \times (6,0 \times 1,0 \times 0,8 \times 76,2 \times 102)$$

$$23125,305 < 179076 \text{ N} \dots\dots\dots(\text{ok})$$