

# STRUKTUR KAYU

## **DIMENSI LENTUR & TARIK AKSIAL**

( pertemuan ke 7 )

Ir. BESMAN SURBAKTI. MT

Semester B – 2011/2012

$$T_u = 76982,64 \text{ N (kombinasi 1)}$$

$$M_u = 2463226,25 \text{ Nmm (kombinasi 3)}$$

$$L = 2309,4 \text{ mm}$$

$$K_c = 1,0 \text{ (sendi - sendi)}$$

$$\lambda = 0,6 \quad F_b = 44,88 \text{ MPa}$$

$$\lambda = 0,8 \quad F_t = 54,00 \text{ MPa}$$

$$\phi_t = 0,8$$

$$\phi_b = 0,85$$

$$T' = A_n \times F_t$$

$$M' = S \times F_b \quad \text{ambil } b = 3'' \text{ (76,2mm)}$$

$$\frac{T_u}{\lambda \phi_t T'} + \frac{M_u}{\lambda \phi_b M'} \leq 1,0$$

$$\frac{76482,64}{0,6 \times 0,8 \times 54 \times 76,2 \text{ h}} + \frac{2463226,25}{0,8 \times 0,85 \times \frac{1}{6} \times 76,2 \text{ h}^2 \times 44,88} \leq 1$$

$$\frac{38,7232}{h} + \frac{6355,3405}{h^2} \leq 1$$

ambil  $h = 4''$  (101,6 mm) maka :

$$\frac{38,7232}{101,6} + \frac{6355,3405}{(101,6)^2} \leq 1$$

$$0,3811 + 06157 \leq 1$$

$$0,9968 < 1 \dots\dots\dots (ok)$$

maka dimensi lentur dan tarik aksial =  $3'' \times 4''$  (76,2 mm x 101,6mm)