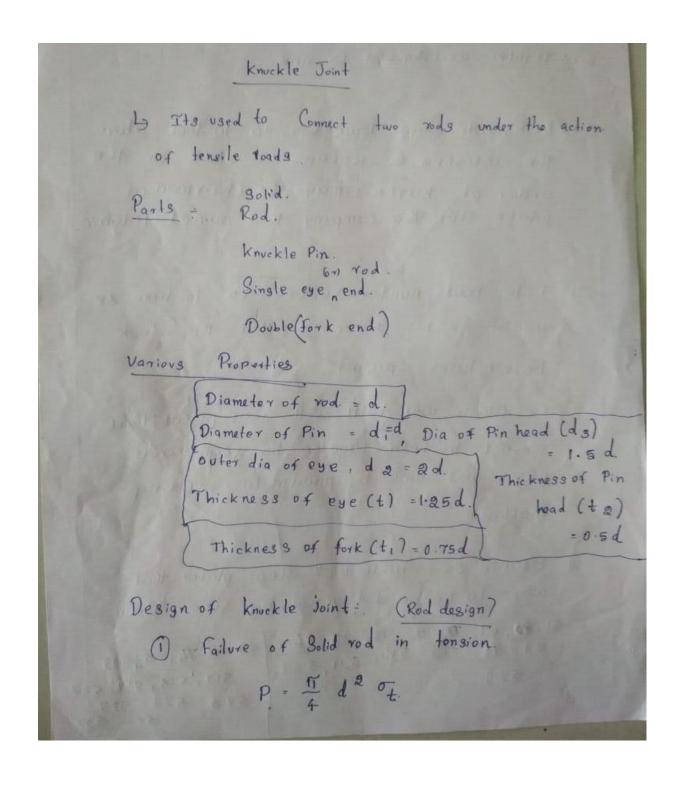


SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution) COIMBATORE-35



DEPARTMENT OF AGRICULTURE ENGINEERING



knuckle pin design

Failure of knuckle Pin by double shear.

Failure of knuckle Pin by bending.

$$\frac{\rho}{2} \left(\frac{t_1}{3} + \frac{t}{4} \right)$$

$$\frac{\pi d_1^3}{32}$$

Single eye (orland end design

Failure of single eye in tension.

Failure of single eye in double shear.

$$P = \chi \frac{(d_2 - d_1)t}{\chi} \times \tau = (d_2 - d_1)t \cdot \tau$$

Failure of single eye in crushing

Fork end design:

Failure of fork end in tension.

P= (da-d.)t, x& ot.

Failure of forkend in double ships

P= (d2-d,) t x R x T.

Failure of fork end in crushing

P=d,t,x&xoe

A Knuckle Joint is transmit a force of 140kg allowable stresses in tension, shear and Compression are, 75 N/mm2, 65 N/mm2, 140 N/mm2 Design a.

Joint - Gm= P= 140 kN - 140 x103 N.

Ot = 75 N/mm2

T = 65 N/mm2

Soln= 7 d = P x 4 x 5 7

d = 48,75 -2 [50 mm]