

Hints: Assume any value you thin it is necessary to solve any of these equations

Q1: For weld join shown in fig. 1 , $K=8$ mm. find maximam shear stress on this join.

Q2: A helical compression spring has the following characteristics: $L_f=66$ mm, $D_w=3$ mm, D_i 15 mm , $K=200$ N/mm and $N_c=10$ coils. If this spring is pressed untill became solid body, find shear stress on its coils and its pitch.

Q3: A hydrrodynamic bearing having the following characteristics: $L=25$ mm, $D=50$ mm, viscosity= 0.04 pas.sec, $CD=0.08$ mm, $N=6000$ rpm and $w=4000$ newton. Find load number (LN) and stitude angle (ϕ).

Q4: A shft pf 40 mm diameter transmits 1000 N.m torque, firstly using key (rectangular cross section) and secondly using parallel faces spline (four teeth – not slide under load). Both have the same length. Find the shear stress ratio between the two conections type

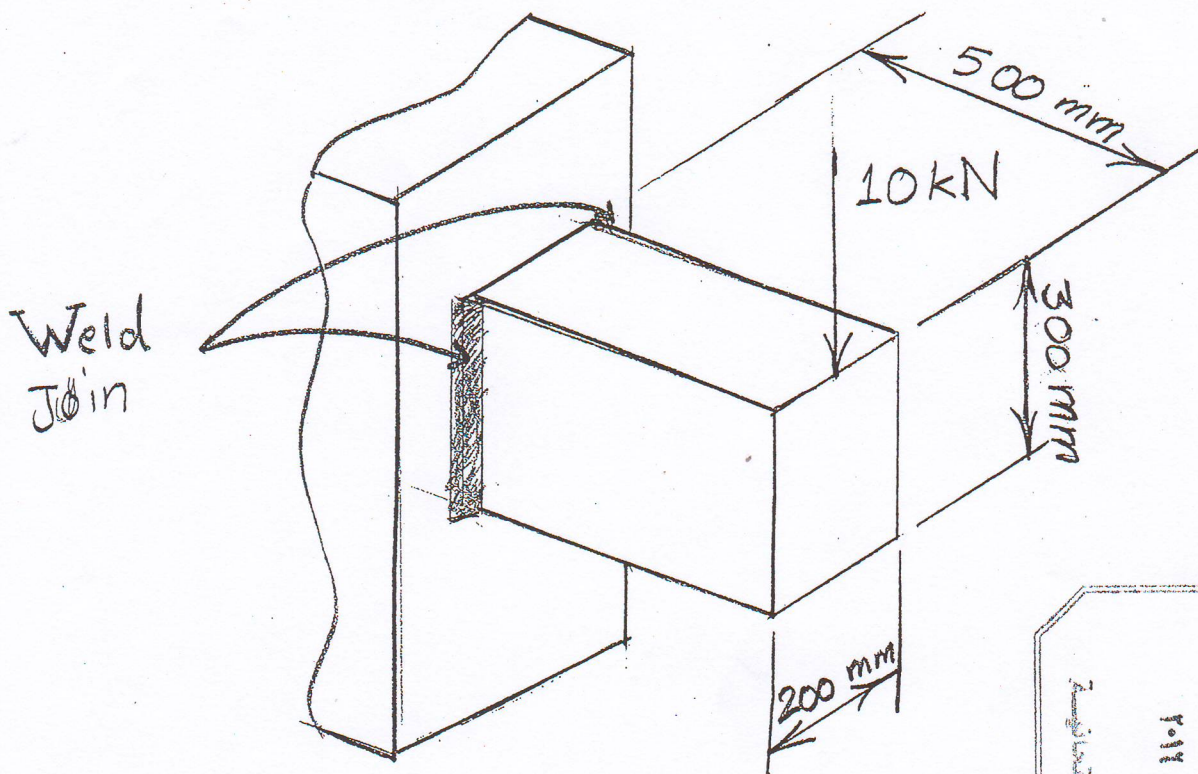


Fig. 1

