Alexandria Higher Institute of Engineering &Technology *Mechanical Engineering (Me 252)*
Communications & Computer Departments   *Machine Design*
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Sheet (3)

Welded Joints

1) A bracket, shown in Fig.1, is to carry a load of 10 KN. Find the size of the weld if the allowable shear stress is not to exceed 80 MPa.
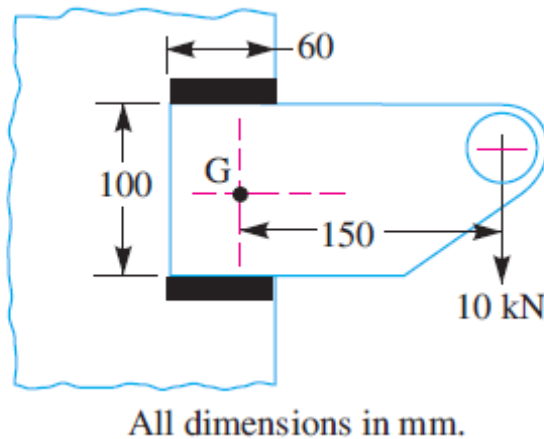

All dimensions in mm.

Fig.1

2) Fig.2 shows a welded joint subjected to an eccentric load of 20 KN. The welding is only on one side. Determine the uniform size of the weld on the entire length of two legs. Take permissible shear stress for the weld material as 80 MPa.
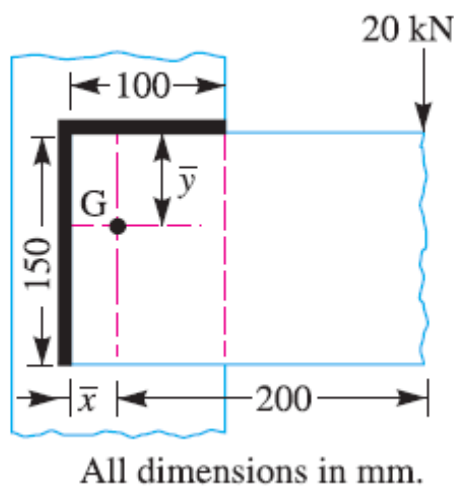

All dimensions in mm.

Fig.2

3) A bracket is welded to the side of a column and carries a vertical load P, as shown in Fig.3. Evaluate P so that the maximum shear stress in the 10 mm fillet welds is 80 MPA.
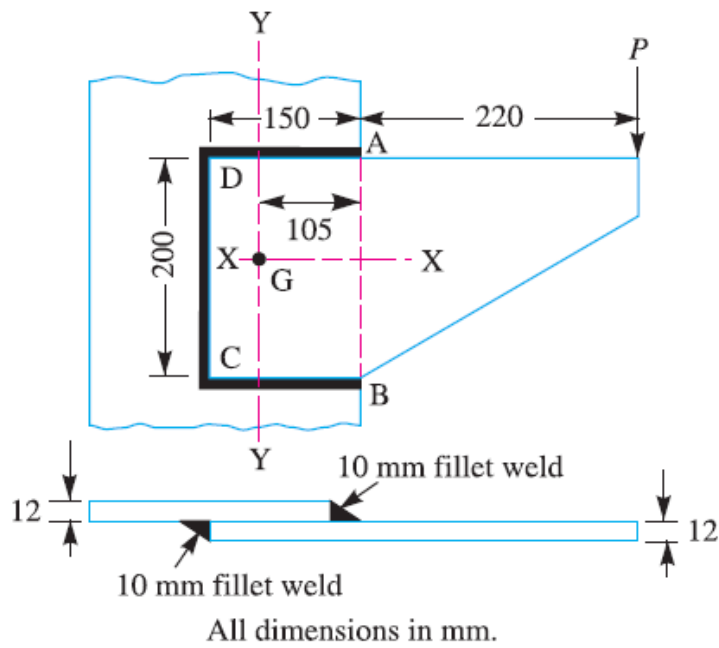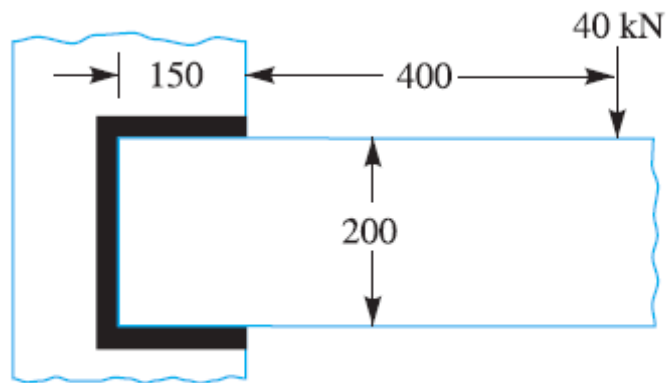

Fig.3

4) A bracket, shown in Fig.4, carries a load of 40 KN. Calculate the size of the weld if the allowable shear stress is not to exceed 80 MPa.

All dimensions in mm.

Fig.4