

SHEET (4) WELDING

- 1 Two plates are joined together by means of fillet welds as shown in Fig. 4-1. The leg dimension of the welds is 10 mm and the permissible shear stress at the throat cross-section is 75 N/mm^2 . Determine the length of each weld.
(Ans. 47.15 mm)

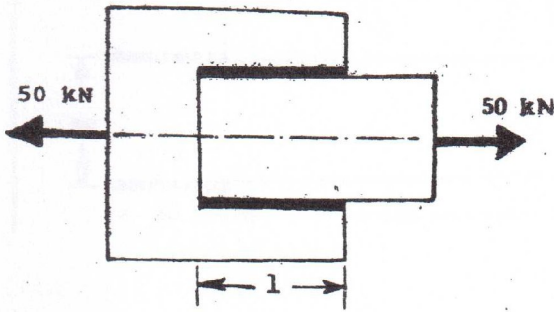


Fig. 4-1

- 2 A bracket, as shown in Fig. 4-2 is welded to a plate. The welds have the same size, and the permissible force per mm of the weld-length is 1 kN. Calculate the lengths l_1 and l_2 .
(Ans. 40 and 80 mm)

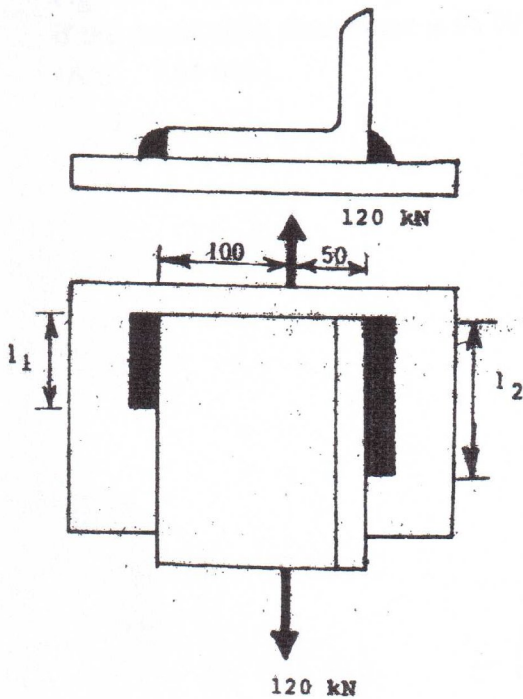


Fig. 4-2

3. A welded connection of steel plates, as shown in Fig. 4-3, is subjected to an eccentric

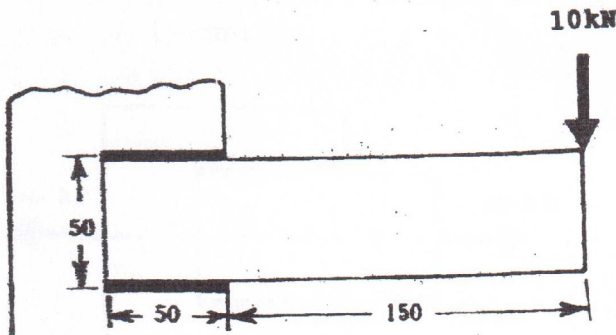


Fig. 4-3

- force of 10 kN. Determine the throat dimension of the weld if the permissible shear stress is limited to 95 N/mm^2 . Assume static conditions.
(Ans. 8.59 mm)

4. A solid circular shaft, 25 mm in diameter, is welded to a support by means of a fillet weld as shown in Fig. 4-4. Determine the leg dimension of the weld if the permissible shear stress is 95 N/mm^2 .
(Ans. 7.64 mm)

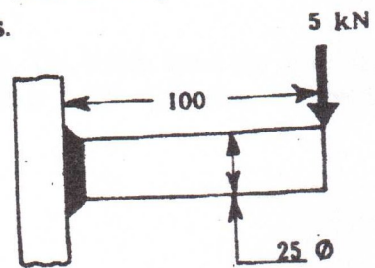


Fig. 4-4