# Mechanical Drawing I
Code: MAE217

Rivets

Rivets

Rivets are used to fasten permanently two or more plates or pieces of metal.

Joints made with rivets are called riveted joints.

They are commonly used in ,ship-building and for the construction of steel buildings, bridges, boilers, tanks etc.
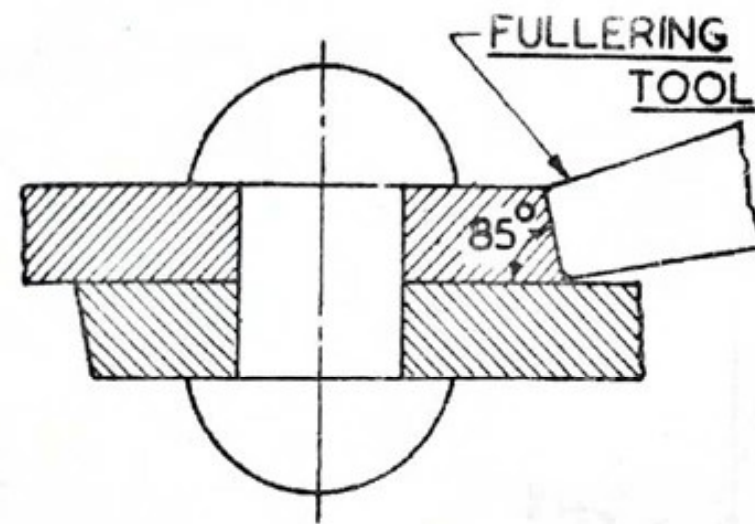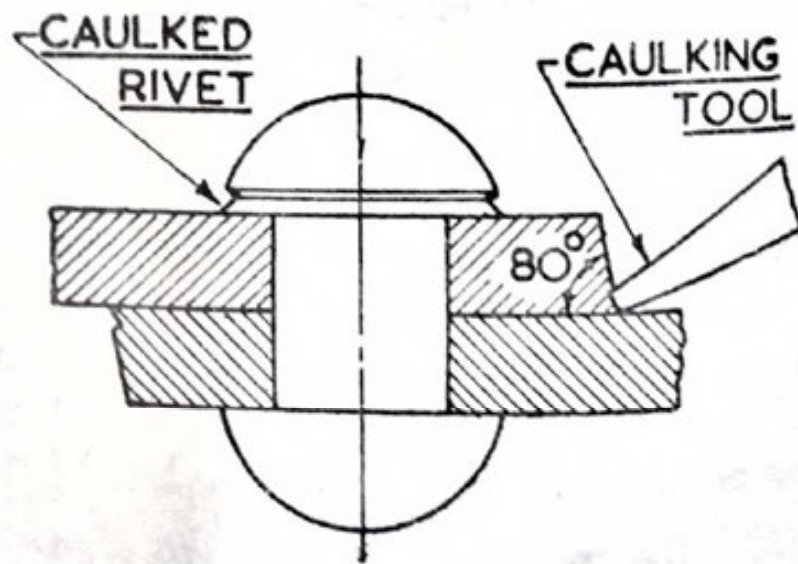
Plates joined together by means of a riveted joint cannot be disconnected without chipping-off rivet-heads from one side of the joint.
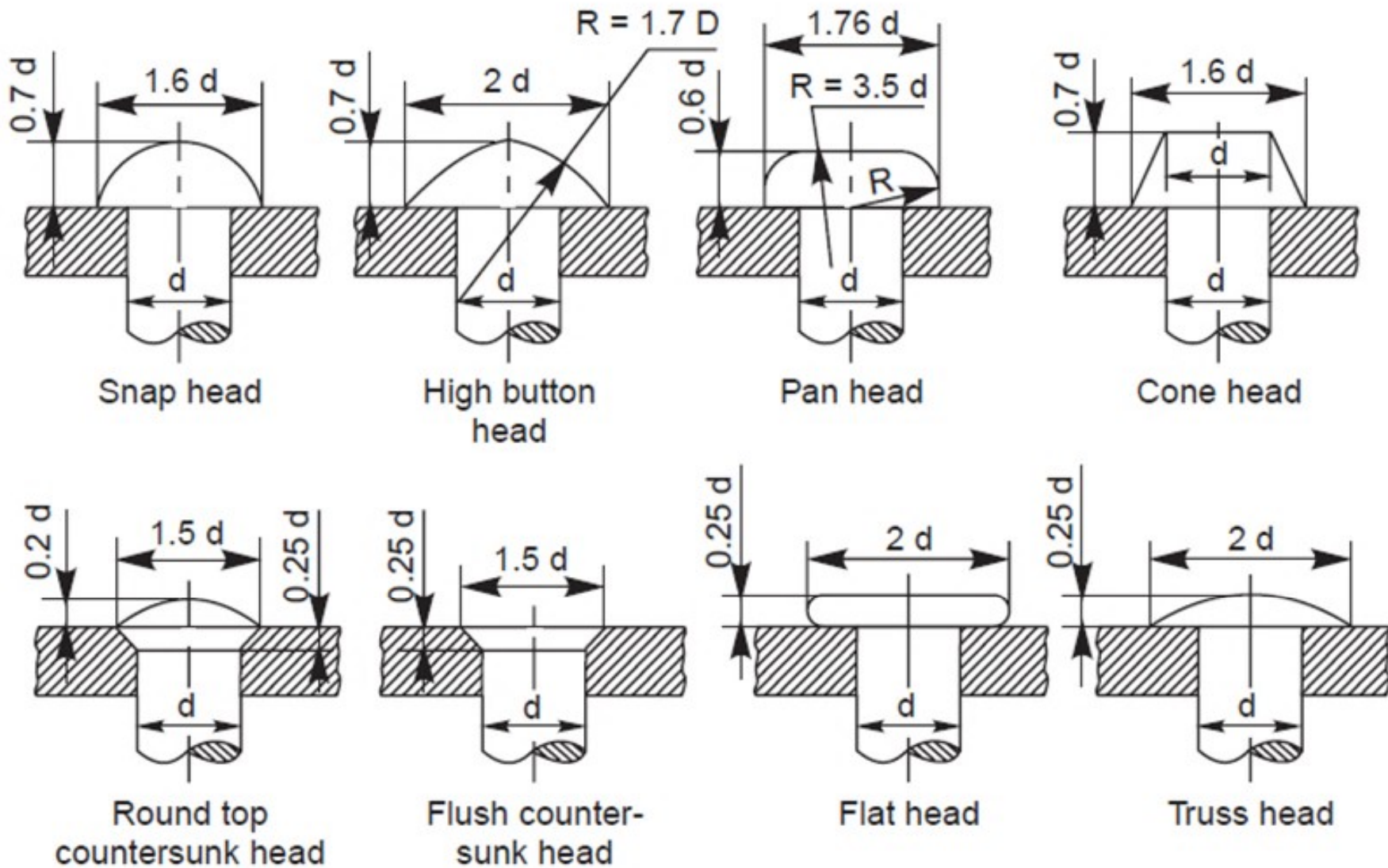
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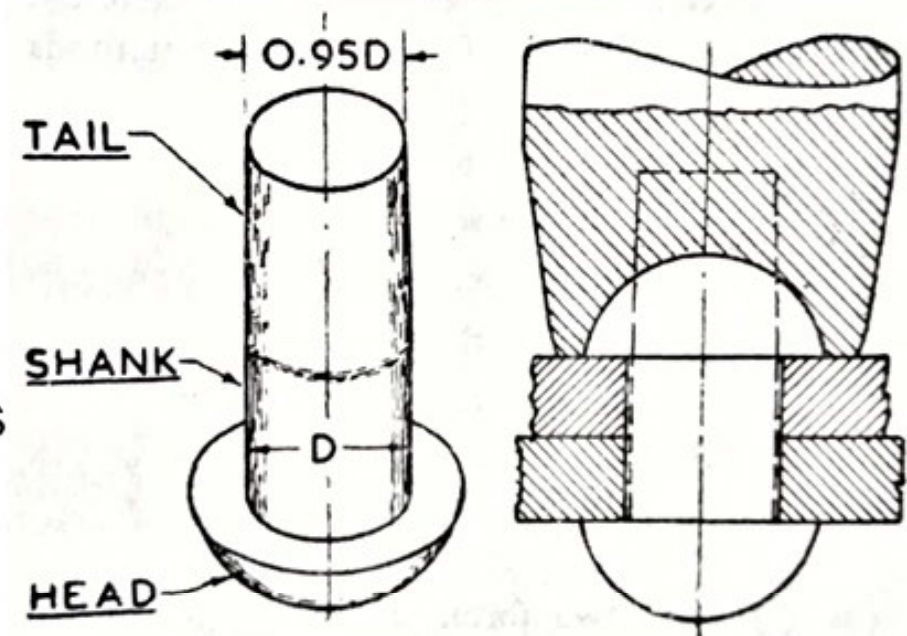
Rivets :

A rivet is specified by the diameter of its shank.

To prevent leakage through the joint, the plated firmly together by caulking fullering processes.

Forms of Rivet-head:

Snap head

High button head

Pan head

Cone head

Round top countersunk head
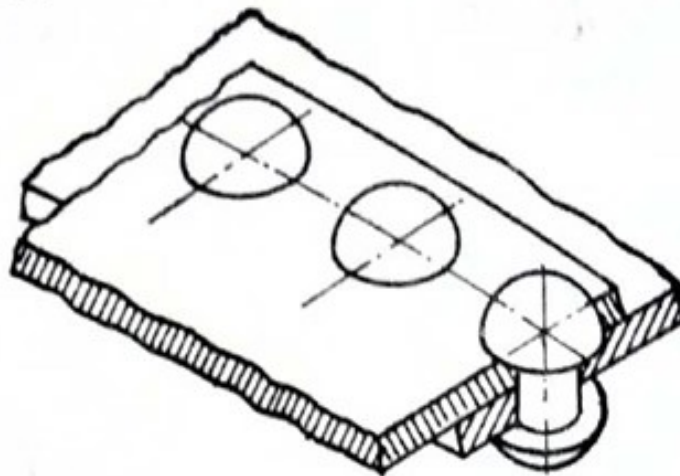
Flush counter-sunk head

Flat head

Truss head

Lap joint:

a- Single Revited Lap joint:
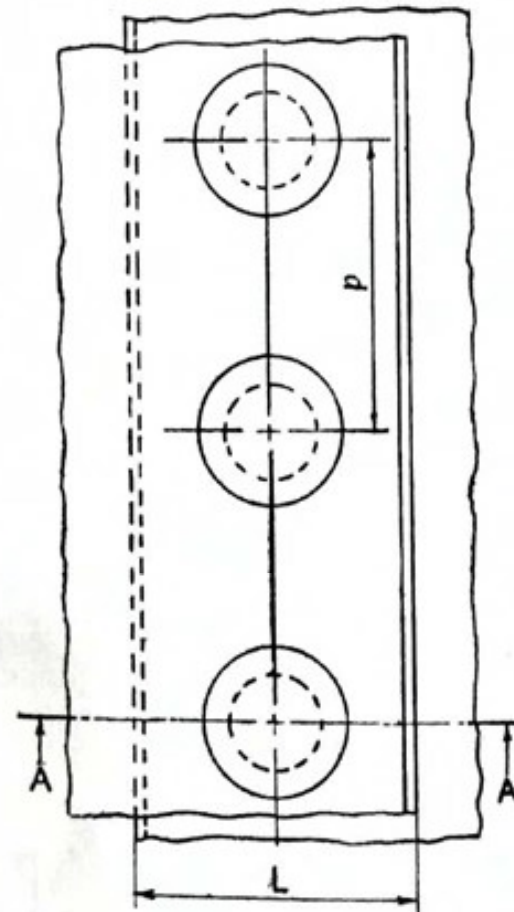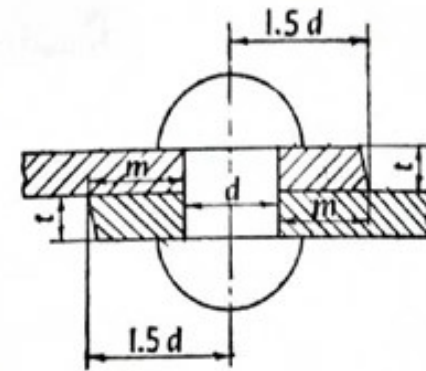
t = plate thickness
$d = 6\sqrt{t}$
p = 3d
m = d

Where:
d: diameter of Rivet
p: pitch (distance between centres
m: margin (distance between an edge
of the plate and the nearest Revit hole)

Single-riveted lap joint

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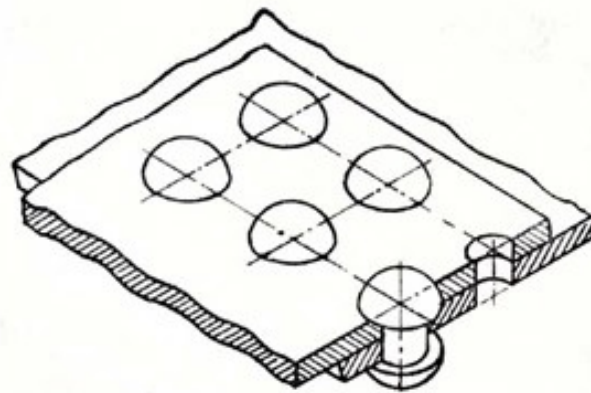
Lap joint:

b- Double-Revited (chain) Lap joint:
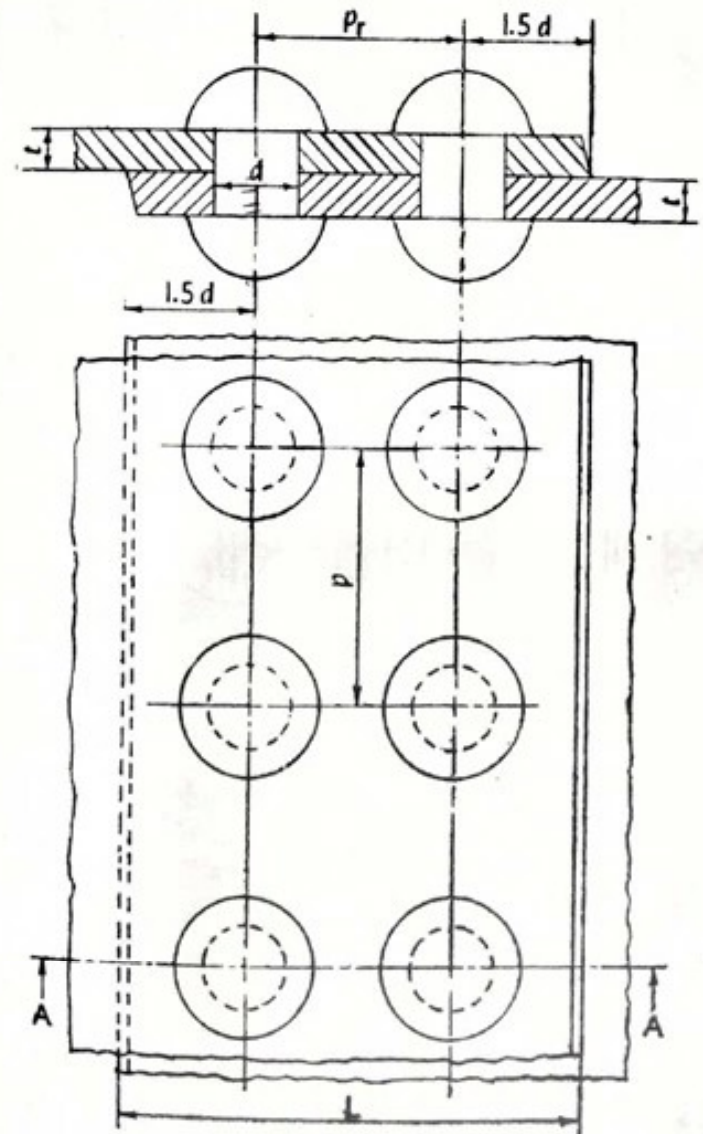
t = plate thickness
$d = 6\sqrt{t}$
p = 3d
m = d
Pr = 0.8p

Where:
d: diameter of Rivet
p: pitch (distance between centres
m: margin (distance between an edge
of the plate and the nearest Revit hole)
Pr: distance between rivets rows

Double-riveted (chain) lap joint

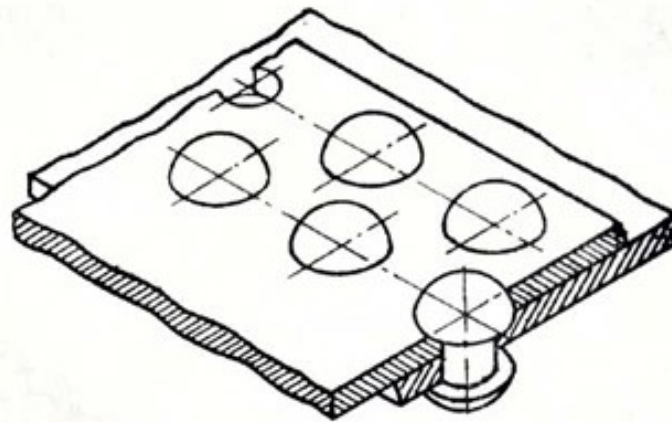# Lap joint:

c- Double-Revited (zigzag) Lap joint:

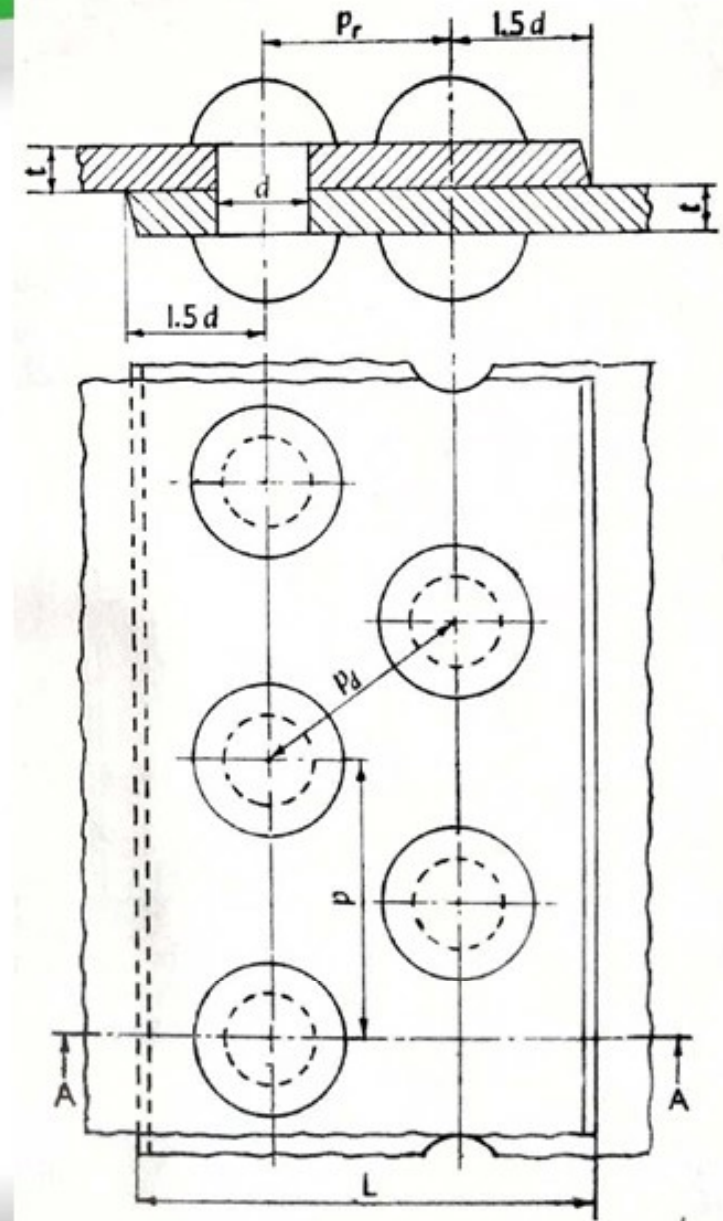t = plate thickness

$d = 6\sqrt{t}$

p = 3d

m = d

Pr = 0.6p

Where:

d: diameter of Rivet

p: pitch (distance between centres)

m: margin (distance between an edge of the plate and the nearest Revit hole)

Pr: distance between rivets rows

Double-riveted (zigzag) lap joint

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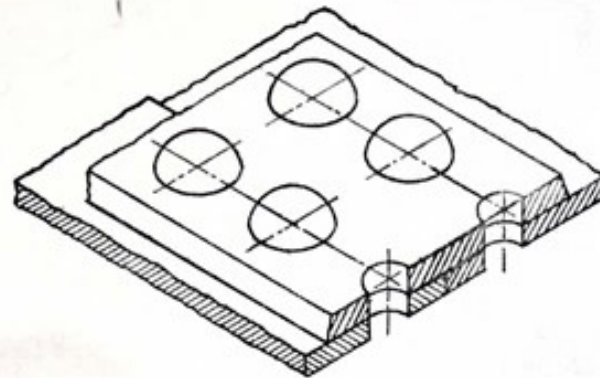
Butt joint:

a- Single-Revited (single strap) Butt joint:

t = plate thickness
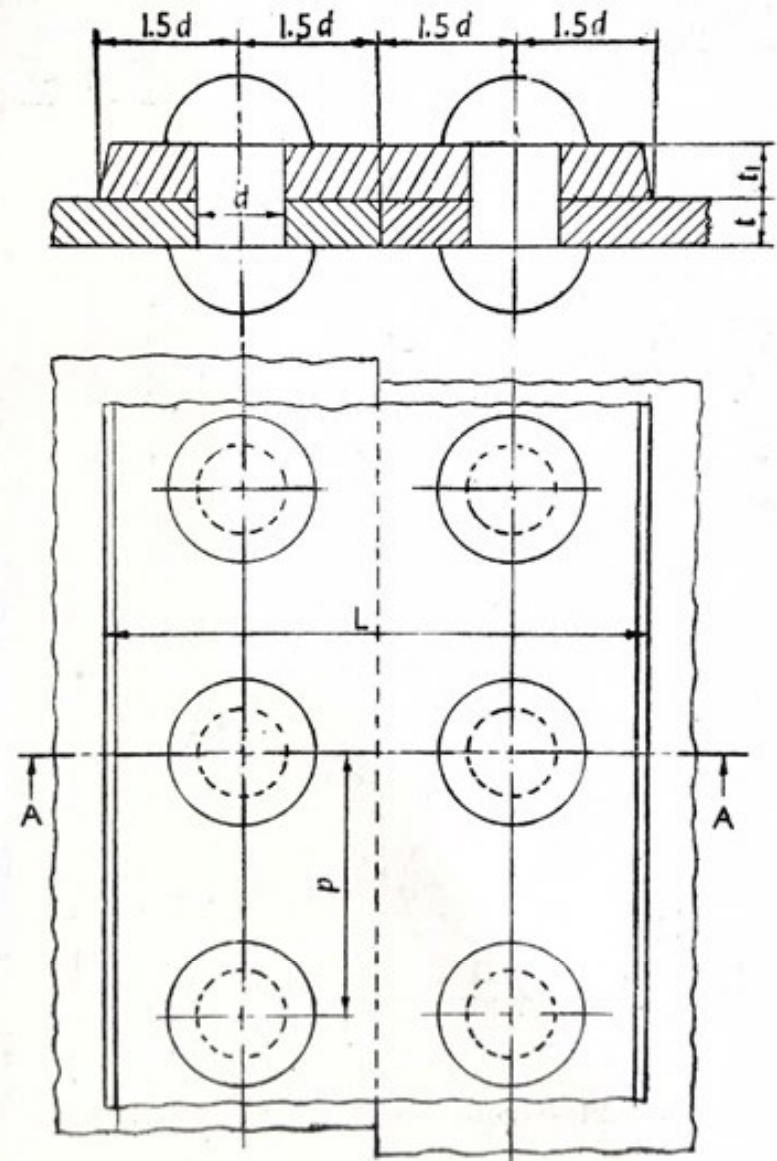t1 = 1.125t (strap thickness)
$d = 6\sqrt{t}$
p = 3d
m = d

Where:
d: diameter of Rivet
p: pitch (distance between centres)
m: margin (distance between an edge of the plate and the nearest Revit hole)

Single-riveted (single strap) butt joint

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Butt joint:

a- Single-Revited (double strap) butt joint:
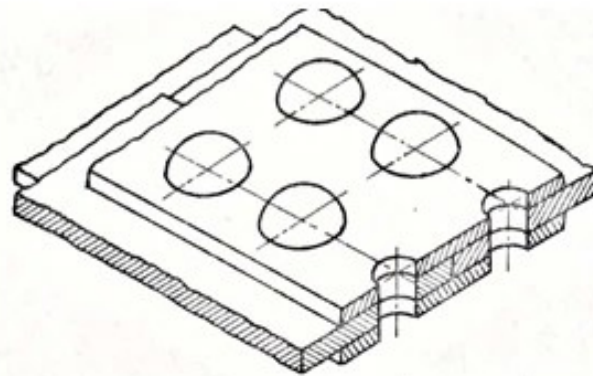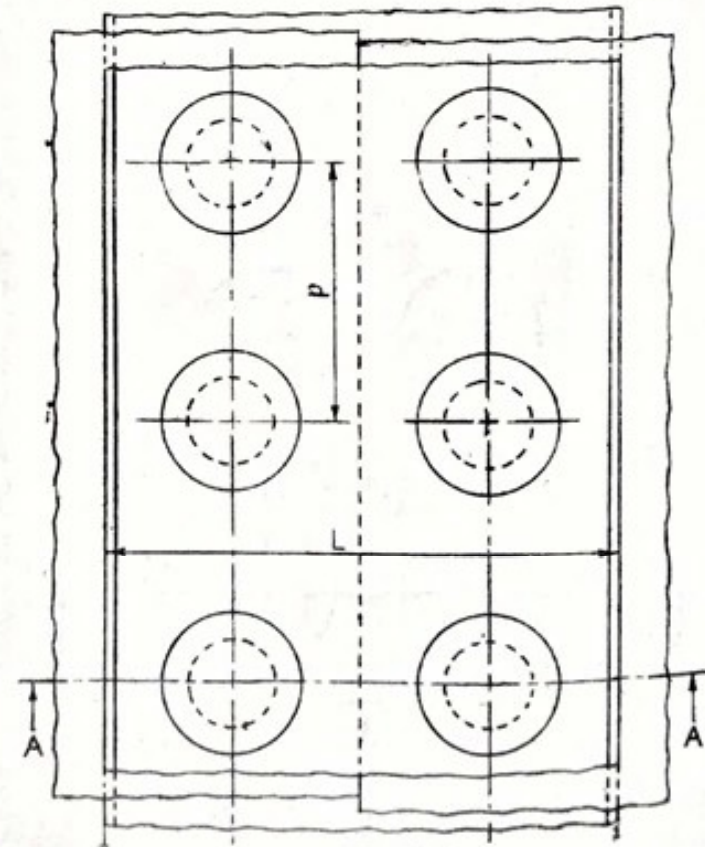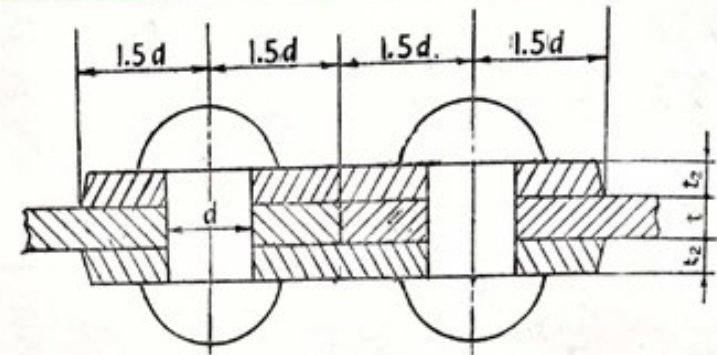
t = plate thickness
t2 = 0.8t (strap thickness)
$d = 6\sqrt{t}$
p = 3d
m = d

Where:
d: diameter of Rivet
p: pitch (distance between centres)
m: margin (distance between an edge of the plate and the nearest Revit hole)

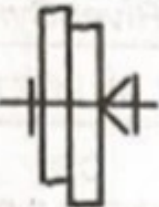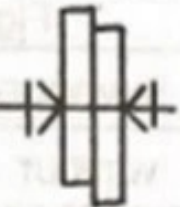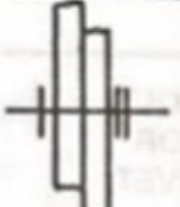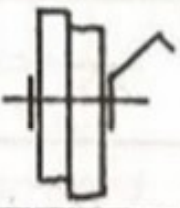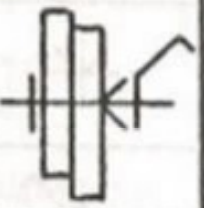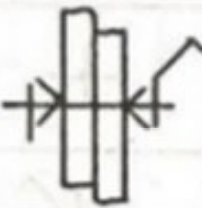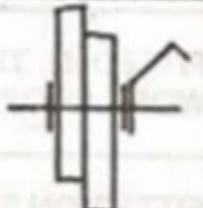Single-riveted (double straps) butt joint

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CONVENTIONAL REPRESENTATION AS PER B.I.S

RIVET

- **Various symbols for rivets according to B.I.S. S.P.:46-1988 are given below**

BOLT OR RIVET	SYMBOL FOR BOLT OR RIVET TO FIT IN HOLE		SYMBOL FOR RIVET TO FIT IN HOLE	SYMBOL FOR BOLT WITH DESIGNATED NUT POSITION
	WITHOUT COUNTER SINKING	COUNTER SUNK ON ONE SIDE ONLY	COUNTER SUNK ON BOTH SIDES	
FITTED IN WORKSHOP				
FITTED ON SITE				
FITTED ON SITE AND HOLE DRILLED ON SITE				

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