WELDING PROCESS

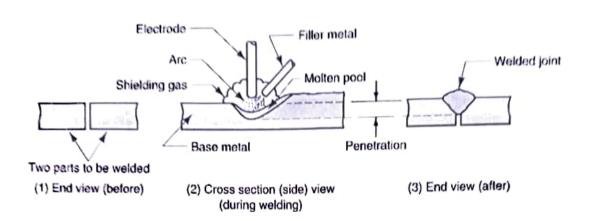
It is defined as the process of joining two similar or dissimilar materials.

with or without the application of heat, with or without the application of pressure, with or without the application of filler motorial.

WELDING CLASSIFICATION WELDING PROCESS FUSION WELDING. HETEROGENOUS. HOMOGENOUS AUTOGENOUS WELDING WELDING WELDING (solid-liquid) (Solid - Solid) (Liquid - Liquid) - Friction Brazing ELECTRIC CHEMICAL - Ultrasonic Soldering. - Diffusion - Eaplosive ARC Thermit RESISTANCE GAS 12,00°C - Dry-H2 L Forge. Loxy-Acetelene. Shielded Submerged Shielded Butt Arc Metal Gras Arc Spot (SMAW) Seam Projection. (PAW) (TIGI) (MIG) Plasma Tungsten Archelding Intert Inert

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Welding



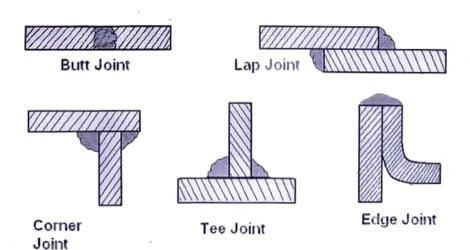
- * A concentrated heat source melt the material in the weld area; the molten area then solidifies to join the pieces together.
- * Sametimes a filler material is added to the malten pool to strengthen the weld.

TYPES OF WELDING TOINTS

[Lab soint [But soint [] Corner Joint

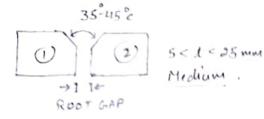
4 Edge Joint 5 T- Joint.

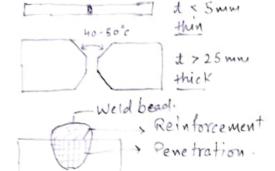
Welding Joints

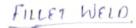


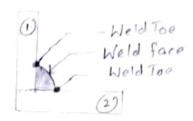
IINOLOGIES USED IN WELDING:

BUTT JOINT

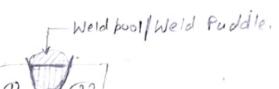












Base Metal! The metal to be joined or cut is termed as the base metal.

Weld Pool: The amount of liquid metal b/w the two workpiece before Joining.

Weld Bead: The amount of material which is added into the workpiece in a single pass.

Weld Pass: A single movement of the welding torch or electrode along the length of the joint, which results in a bead, is a weld bass.

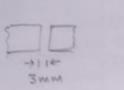
Root Gap: 9+ is the shortest distance b/w the two workbiere before I of ning.

Toe : 3+ is the junction blue workpiece and weld face.

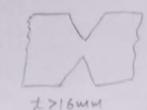
Throat: Shortest distance blu root & weld face. It is the weakest section in a fillet.

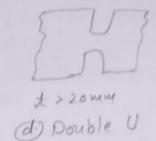
Deposition rate: The rate atwhich the weld metal is deposited per unit time (kg/hr).

tration: It is the depth upto which the weld no so Penetration: It is the depth upto which the weld n the top surface of the Joint.









3 < t < 5 mm

8et <16mm

@ Square & Single V (C) Double V

Edge preparation :

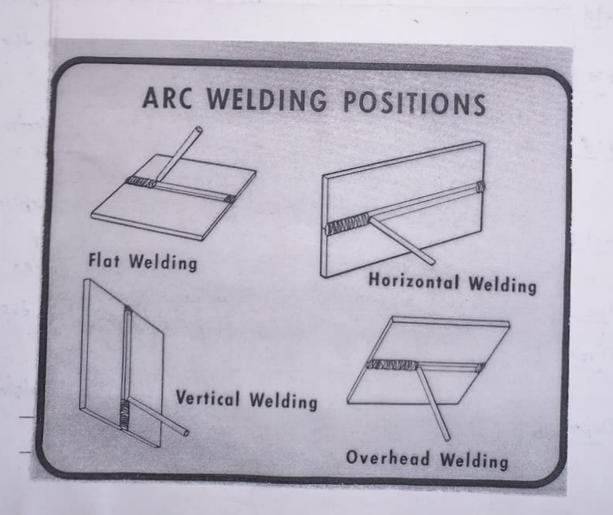
- In order to obtain good welded joint.

- Bages are cut at a certain angle

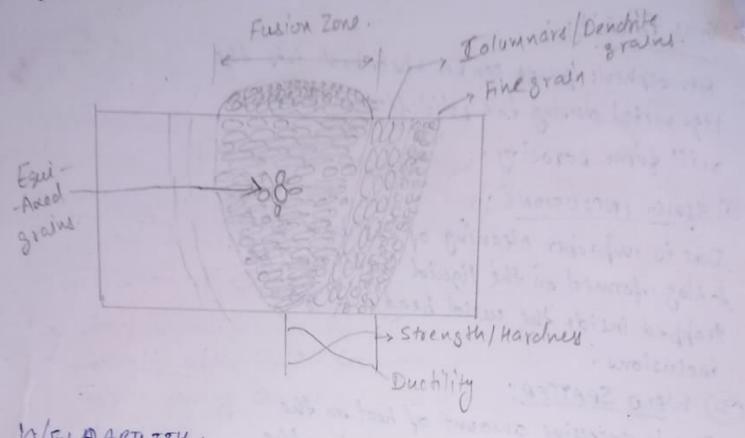
- cleaning of face is done.

Welding Position

(a) Flat (b) Horizontal @ Vertical @Overhead.



(HARACTERISTICS: WELD BEAD



WELDABILITY:

Weldability of a metal is the ease with which two similar or dis-similar metals are joined by fusion with or without the application of brew. and with or without the use of filler metal.

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1 (3mg +3 Mgs 13 11 3 77)

6 川田田 北京神、上上日本

as amount this par

1 1 4 6 4 4 4 5 5

Ocoeff of linear Expansion (1) or V

(3) Oxide formation (1) -> 1 tendency to materia, our of

present in the bas