

Comparison of Welding, Brazing, and Soldering

| WELDING | | BRAZING | SOLDERING |
|---------|---|---|--|
| 1 | Welding joints are strongest joints used to bear the load. Strength of the welded portion of joint is usually more than the strength of base metal. | Brazing are weaker than welding joints but stronger than soldering joints. This can be used to bear the load up to some extent. | Soldering joints are weakest joints out of three. Not meant to bear the load. Use to make electrical contacts generally. |
| 2 | Temperature required is 3800 degree Centigrade in Welding joints. | Temperature may go to 600 degree Centigrade in Brazing joints. | Temperature requirement is up to 450 degree Centigrade in Soldering joints. |
| 3 | Work piece to be joined need to be heated till their melting point. | Work pieces are heated but below their melting point. | Heating of the work pieces is not required |
| 4 | Mechanical properties of base metal may change at the joint due to heating and cooling. | May change in mechanical properties of joint but it is almost negligible. | No change in mechanical properties after joining. |
| 5 | Heat cost is involved and high skill level is required. | Cost involved and sill required are in between others two. | Cost involved and skill requirements are very low. |
| 6 | Heat treatment is generally required to eliminate undesirable effects of welding. | No heat treatment is required after brazing. | No heat treatment is required. |
| 7 | No preheating of workpiece is required before welding as it is carried out at high temperature. | Preheating is desirable to make strong joint as brazing is carried out at relatively low temperature. | Preheating of workpieces before soldering is good for making good quality joint. |