

Q 3.3 Explain the heating rate & cooling rate & how it affects the weld properties?

Ans

Heating rate -

The rate of heating of a work piece depends on how hot the heat source is and how efficiently that heat is transferred to the work.

* The rate of heat increase the temperature reduced tensile strength of the weld joints.

Cooling rate -

Calculating the cooling rate by dividing each temperature data point by its corresponding time data point then average all of your answer to achieve a cooling rate. In other words, the change in the tempⁿ divided by the change in time will give you an average tempⁿ rate change.

* How Heat input affect weld strength

It is observed that the tensile strength decreased with an increase in heat input - irrespective of change in tempⁿ. However, it is further observed that there is a greater heat input increase at tempⁿ - reduced tensile strength at the weld joints.