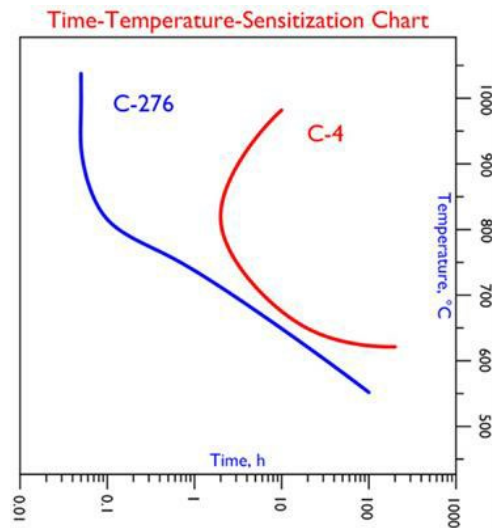


# HASTELLOY<sup>®</sup> C-4 alloy

## Thermal Stability (T-T-S Chart)



The above chart illustrates the large difference between the grain boundary precipitation kinetics of C-4 and C-276 alloys. It indicates that C-4 alloy must be held at the most critical temperature (825°C) for 2 hours before grain boundary precipitation is sufficient to cause preferential grain boundary attack of a significant nature, that is to a depth of 0.05 mm in the ASTM G 28A test solution (50% H<sub>2</sub>SO<sub>4</sub> + 42 g/l Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> at the boiling point). On the other hand, C-276 alloy is prone to significant grain boundary attack in this boiling solution after just 3 minutes at temperatures in the approximate range 925°C to 1050°C. This means that, during welding, heat input is important in the case of C-276 alloy, but of little consequence in the case of C-4 alloy.