Effect of Prior-Heat Treatments on the Creep Behavior of an Industrial Drawn Copper

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Authors: Z. Boumerzoug, Gareh Salim, Abdellatif Beribeche.

Abstract

The effect of prior-heat treatments at 500℃, 600℃ and 700℃ on the creep behavior of an industrial drawn copper has been studied under constant stresses (98, 108 and 118 MPa) and temperatures (290℃ and 340℃). The results revealed that the creep behavior and the creep life of the material depend strongly on these prior-heat treatments. The apparent activation energy Qc for different creep tests of a drawn copper wire was calculated. The fracture mechanism of the material is characterized using optical microscopy.

Keywords : Copper, Creep, Drawn Wire, Heat Treatment.

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