

Forming

Module -1: Fundamental concepts relevant to metal forming technology

Lecture -4: Mechanical behavior of crystalline materials-2

Quiz

1. What is the need for plane strain compression test?
2. During compression test on a cylinder of initial height of 50 mm, the final height obtained is 25 mm. During the process, the speed of the compressing platens is 100 mm/s. Calculate the initial and final strain rate of deformation of the material.
3. What is ductile to brittle transition?
4. A metal has the strain hardening exponent of 0.3, strength coefficient of 700 MPa. This material, when subjected to uniaxial tensile test, it underwent elongation from initial gage length of 100 mm to 140 mm. Calculate the material's flow stress at final length and also its average flow stress.