

Forming

Module -1: Fundamental concepts relevant to metal forming technology

Lecture-5: Material behavior in metal forming

Quiz

1. How does friction affect the forming process?
2. Why is fracture criterion important in metal forming?
3. An annealed copper solid cylinder of 40 mm diameter and 20 mm height is compressed frictionless, plastically to a reduction in height of 70%. What is the work done in this process? Assume suitable data.
4. Prove that the average flow stress for a typical plastic material which obeys power law relation between stress and strain, is : $\bar{Y} = \frac{k\varepsilon^n}{1+n}$
5. What is redundant deformation? What is its effect in forming?