

ME 787 : Deformation Processes

Slot 10 and X1 (Tue, Fri 1400-1530; Wed 1400-1500)

Prof. P. P. Date

Dept of Mechanical Engineering IIT Bombay

Why Deformation Processes ?

- Enhancement of material properties
- You can get the combination of properties you want
- Most metallic products we use have formed components
- Challenges :
 - Economical manufacture – cost cutting
 - Lightweighting : Minimal material input
 - Minimising wastage – Minimise Total Wastage
 - Generating innovative processing routes
 - Enhancing productivity of the forming processes

Contents

- Four major constituents :
 - Theory of plasticity : Basic concepts
 - Forming Processes including analytical and metallurgical aspects
 - Forming tool design
 - Forming Equipments

Approach

- Basics of deformation processes
- Case studies will be discussed based on which the above mentioned constituents of a forming process will be delivered.
- Cases in Hot working and cold working
- Videos for easy visualisation
- Availability of books, videos and literature