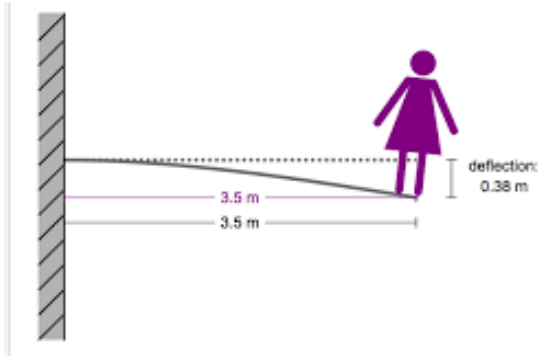
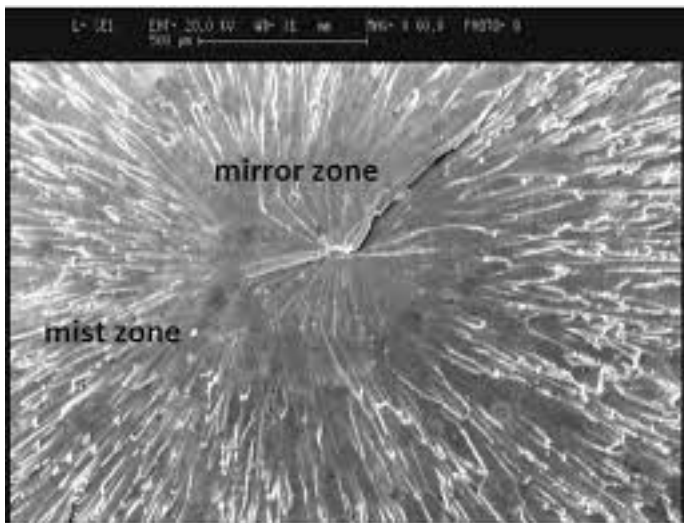


# 00D\_Fracture

## Fracture in Ceramics is an Elastic Deformation Phenomenon

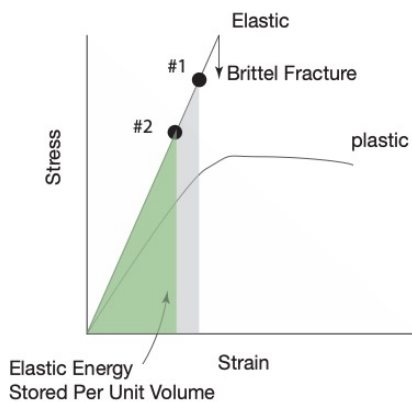
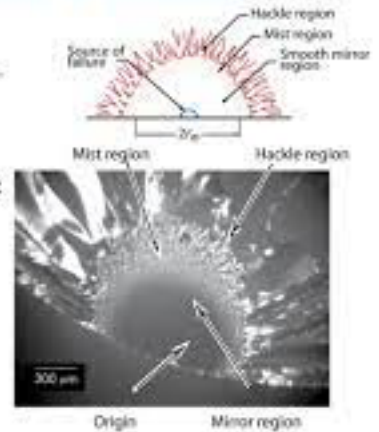


Examples of brittle Fracture in a Polycrystal and in Glass

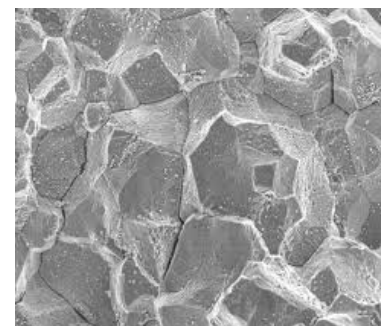


### Brittle Fracture of Ceramics

- Surface of a 6-mm diameter fused silica rod.
- Characteristic fracture behavior in ceramics
  - Origin point
  - Initial region (mirror) is fat and smooth
  - After reaches critical velocity crack branches
    - mist
    - hackle



The stored elastic energy is given by the area of the triangles. Specimen #1 requires a larger elastic energy to fracture than #2.



Top: Fracture in glass  
Bottom: brittle fracture in polycrystals revealing the grains; it is called intergranular fracture.