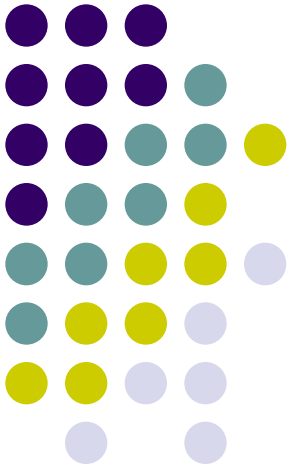
IMPACT TEST

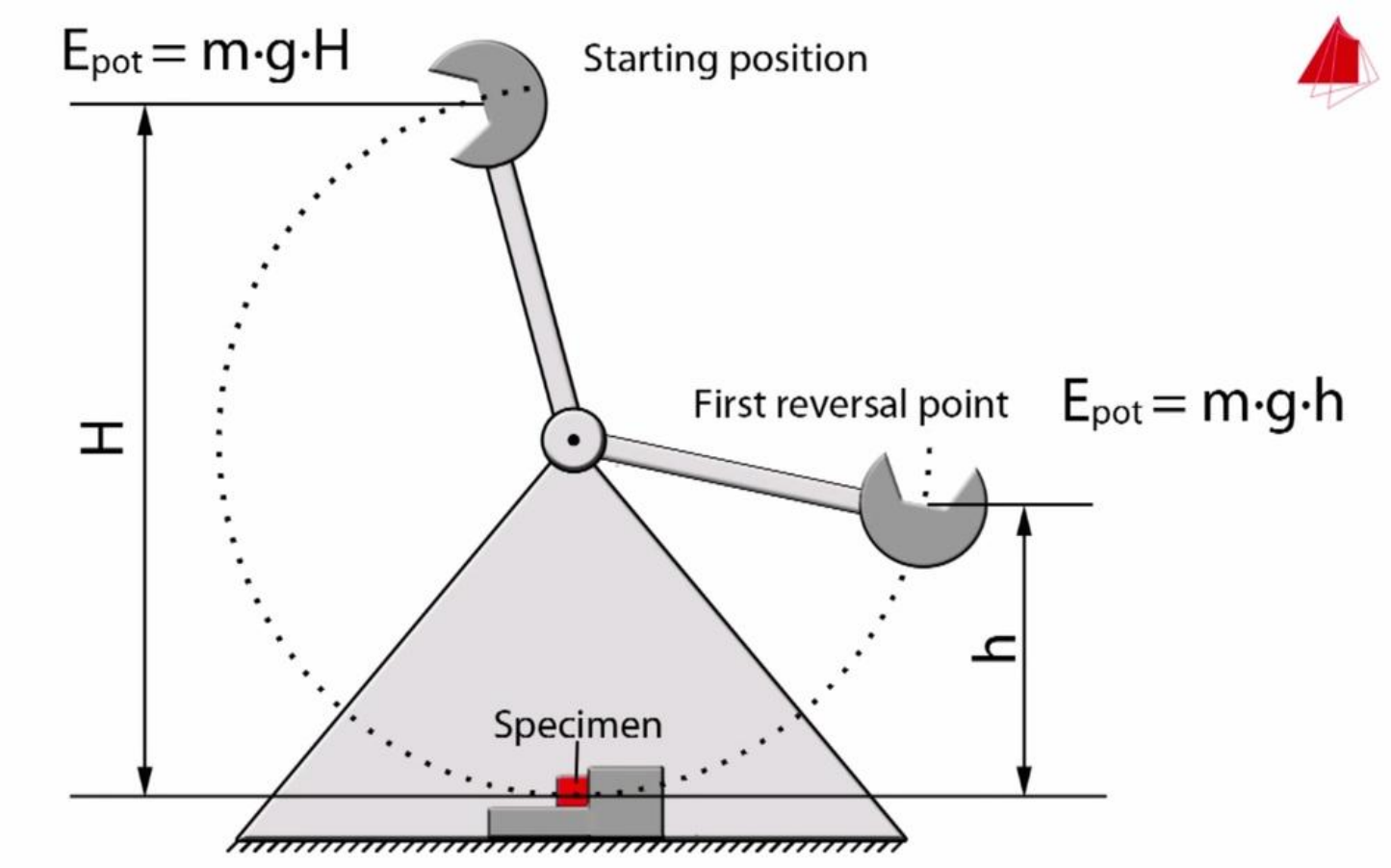


Basic principle

- **The notched test specimen is broken by the impact of a heavy pendulum or hammer, falling at a predetermined velocity through a fixed distance.**
- **The test measures the energy absorbed per unit area by the fractured specimen.**

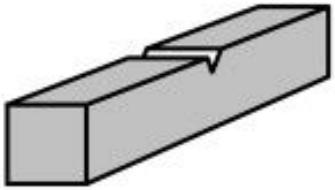
- Standard Ref : ASTM E-23

Schematic Setup

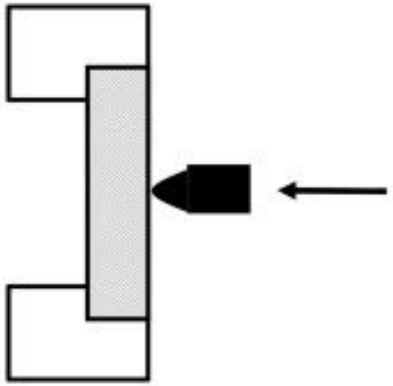


Types of Test

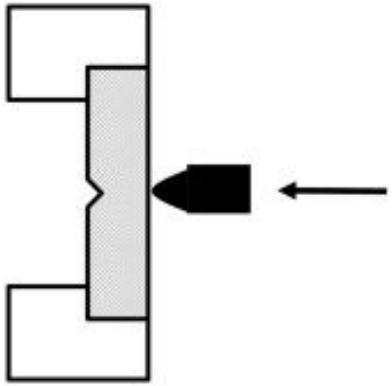
1. Izod test
2. Charpy test



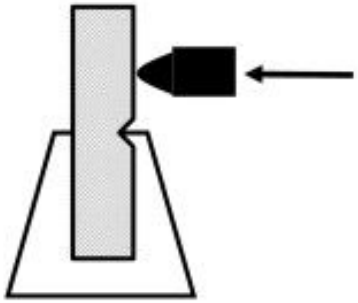
Compression Molded or Machined Test Specimen (Dimensions Vary Depending Upon Particular Test Protocol)



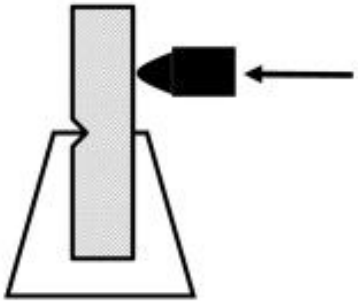
Unnotched Charpy



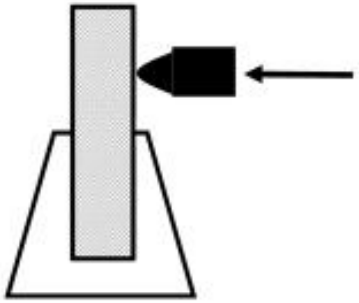
Notched Charpy



Notched Izod



Reverse Notched Izod



Unnotched Izod

Izod test

Specimen : 75mmx10mmx10mm
V-notch angle is 45°and the depth of the notch is 2mm

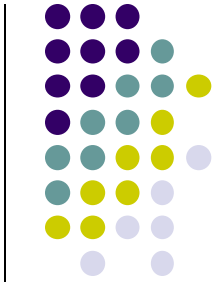
- **Specimen is placed vertically on the anvil with the notch facing the Hammer**

Charpy test

Specimen : 55mmx10mmx10mm
V-notch angle is 45°and the depth of the notch is 2mm

- **Specimen is placed vertically on the anvil as a simply supported beam**

Procedure

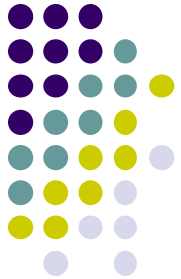


- Prepare the test pieces and measure the actual dimensions
- Ensure that everybody is in safe distance.
- Release the pendulum without sample and read out the dial reading
- Move the pendulum up to its locked position
- Place the sample in position according to test condition (Chapry/Izod)
- Release the pendulum and read the reading
- Calculate the energy absorbed by sample
- Return the pendulum to its locked position.

Result

- Represent your result in Energy per unit area (Joule/mm^2)

Assignment



- What is the necessity of making a notch in impact test specimen?
- Suppose same material is tested in different temperature, what will be its effect in the energy absorption? Justify your answer..