

Impact test: Charpy or Izod method



Principle

The impact resistance test determines the amount of energy absorbed by a material during fracture. This absorbed energy is a measure of a given material's notch toughness and acts as a tool to study temperature-dependent ductile-brittle transition.

In case of Charpy or Izod, the impact is induced by a pendulum hammer on the sample. The residual energy of the hammer is measured.

Method

The impact test is performed on a standardized sample of 80 x 10 x 4 mm, with or without notch. The sample is placed in a frame and the pendulum is released.

The Charpy test is performed according to ISO 179, whereas the Izod test is performed according to ISO 180.

Applications

The obtained values are used for:

- Quality control
- Determination of the impact resistance of plastics

