

# Why you may need Impact Testing

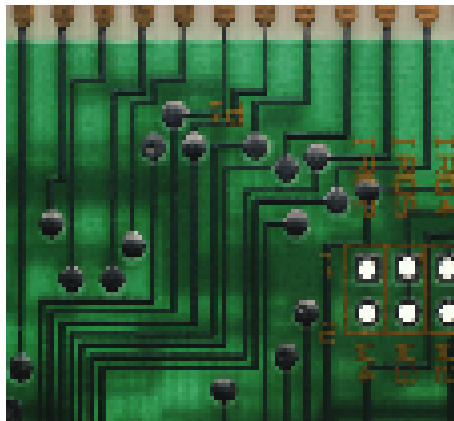
- ❑ Does your material or product get dropped, kicked, knocked...impacted in any manner?
- ❑ Do you only do tensile, compression, or flexural testing at set speeds?
- ❑ Do you know how your product behaves in cold temperatures vs. room temperature?
- ❑ Does pass/fail Izod, Charpy, or Gardner tests leave you with unanswered technical questions?
- ❑ Do you know exactly when and how your product fails versus just the final failure point?
- ❑ **Do you know how your product stands up to knocks, drops, kicks, and other damage caused by impact?**
- ❑ **Wouldn't you like to "see" how your product withstands real life conditions?**

# Titanic



- One Impact Test could have saved 1,341 people
- Tensile Test was done for Strength
- Charpy test later proved that steel was brittle

# Applications



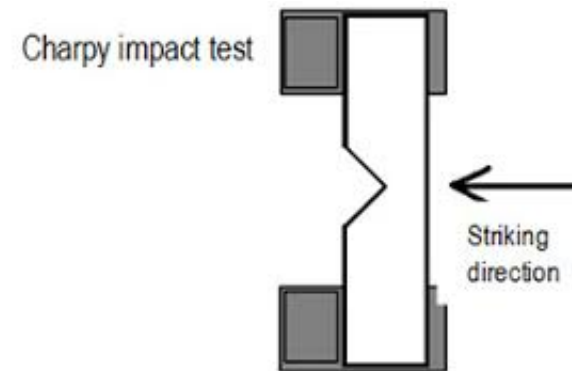
- .ASTM test methods**
- .ISO test methods**
- .Automotive**
- .Charpy, Izod**
- .Pressure Vessels**
- .Pipes**
- .Lenses**
- .Packaging materials**
- .Air Bags, Seat belts**
- .Sporting goods**



# Types of Impact Tests

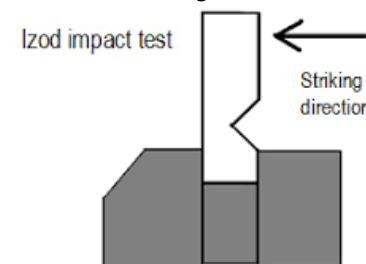
## ❖ Charpy Tests

- Specimen is like a simply supported beam during test
- Specimen is mounted horizontally
- Common standards
  - ASTM E23
  - ISO 148
  - EN 10045-2
  - JIS Z 2242
  - AS 1544



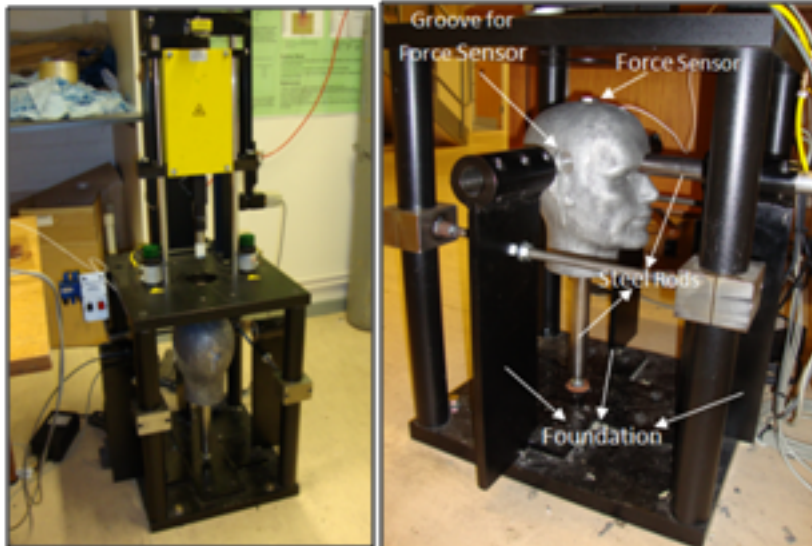
## ❖ Izod Tests

- Specimen is like a cantilever beam during test
- Specimen is mounted vertically
- Common standards
  - ASTM E23
  - AS 1544.1
  - BS 131-1



# And the Drop Test

- Specimens and final products
- Common standards
  - ASTM D2444
  - ISO 3127, ISO 4422
  - BS EN 12608, BS EN 744, BS 2782-11: method 1108C



# Basic SI Pendulum Machine

