Falling Weight Impact Tester - Model 300C (ISO/EN) – Model 300D (ASTM)

Falling Weight Impact Tester Model 300C
ISO 3127, EN744, EN1411

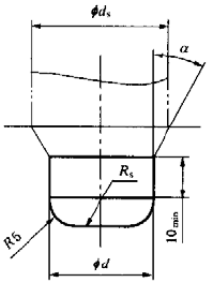
The Falling Weight Impact Tester is used to perform impact tests on plastic pipes, conforming to ISO 3127, EN744 and EN1411. Test pieces are subjected to blows from a falling striker, of specified mass and shape, dropped from a known height onto specified positions around the circumference of the test piece. The true impact rate of the batch, or production run from an extruder, is estimated.

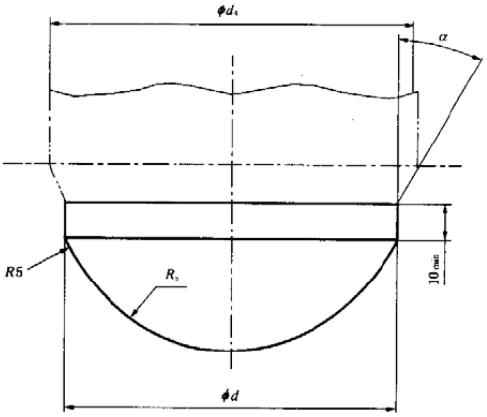
There are two test methods – round-the-clock method and staircase method.

Technical parameters:

- Working environmental temp.: room temp.
- Max. falling height: 2000mm
- Max. lifting speed of the strikers: 12m/min
- Resolution of displacement: 1mm
- Height error: +/- 2mm
- Noses of the strikers: d25 and d90
- Rs: 50
- Specimen Length: 300mm
- Dimensions: 1100mm (D) 600mm (W) 4500mm (H)
- Weight: 300kg
- Diameter of test pipes: 10mm-630mm
- Voltage: 220 VAC/ 50 Hz, single phase or 110 VAC/60 Hz
- Pneumatic air supply: working pressure = 0.4-0.8 MPa

The ISO/EN Standards calls for either of the two below impact designs:





Falling Weight Impact Tester - Model 300C (ISO/EN) – Model 300D (ASTM)

Falling Weight Impact Tester Model 300D
ASTM D2444

The falling weight Impact tester is mainly used to determine of the impact resistance of thermoplastic pipes and fittings under specified conditions of impact by means of a tup (falling weight). Three interchangeable striking noses are used on the tup, differing in the geometrical configuration. Two specimen holders are described.

ASTM D2444 covers the process used to determine the resistance of thermoplastic pipe and fittings to impact by a tup (falling weight) under defined conditions. The mass of the tup shall be 6, 12, 20 or 30 lbs (2.7, 5.4, 9.1, or 13.6 kg). There are three interchangeable inserts for the tup, Type A is a cone with a rounded point, Type B is a cylinder with a relatively flat surface, and Type C has a 0.5" diameter “pin” with a rounded end. Two specimen supports (either a V-block or a Flat Plate) are defined in the standard. The combination of test variables which offers reasonably repeatable results with the test being easy to run with little or no hazard to personnel is the one that should be used.

The impact resistance of thermoplastic pipe and fittings relates to its suitability for service and to quality of the processing. It may also provide a relative measure of the tested material’s resistance to breakage during handling and installation, and in non-buried applications, to in-service breakage. Results gathered by this test can be used as the basis for establishing impact test requirements in product standards; to measure the effect of changes in materials or processing on the product and to measure any effects of the environment on the pipe or fittings.

Technical parameters:

- Dimensions: 1100mm (D) 610mm (W) 5000mm (H)
- Weight: 400kg
- Voltage: 220 VAC/ 50 Hz, single phase or 110 VAC/60 Hz
- Available Noses of the strikers: TUP A TUP B TUP C
- Mass of striker: 2.7 kg, 5.4 kg, 9.1 kg, 13.6 kg
- Impact height: 50 mm – 3000 mm with display error within +/- 2 mm
- Diameter of test pipes: 10mm-630mm
- Specimen Holder:
  - Holder A for Tups A and C
  - Holder B for Tup B for testing fittings