DROP-WEIGHT TEAR TEST / HEAVY IMPACT TESTER

Experiment : Drop-Weight Tear Test
Year of Purchase : 2016
Cost : 4.48 Lac

The Drop-Weight Tear Test (DWTT) better represents the ductile fracture resistance than the Charpy Test, as it utilizes a specimen that has the full thickness of the pipe / Plates and has a fracture path long enough to reach steady-state fracture resistance. The zones of ductile and brittle fracture during DWTT characterize the quality of pipeline steels/ Plates.

Applications

Drop Weight Tear Testing is a material characterization test aimed at avoiding brittle fracture and ensuring crack arrest in pipelines (seamless or welded) / Plate.

This test method is that the hammer striker with weights is raised to a specific height then released. Free drop hammer impacts and tears the specimen. After the impact, proportions of ductile fracture (shear) and cleavage on the fracture surfaces are measured.

This testing machine complies with the relevant requirements of standards for DWTT such as metallic materials Drop-weight tear tests of ferrite steels.

- API RP 5L3 (recommended)
- ASTM E 436
- EN 10274
- GB 8363

A specimen supported at both ends is impacted with a cold-press-fitted notch, with the point of impact opposite to the notch. In some cases, high impact energies of up to 100,000 Joule (Approx.) are necessary to break the specimen.

Features and Advantages

- Regulating impact energy by adjusting the lifting height and mass of the weights.
- Very robust construction stands up to the rigors of high energy testing to provide high reliability with a minimum of downtime.

- The buffer is equipped to absorb the residual energy after breaking the specimen to protect the weight and anvil from destroying. Also install the safe outfit, such as safety net, safe pin for maintenance and hanger locking.
- Very rigid base and anvils ensure very low flexure under high test loads.
- Guided mass system to ensure that the impact geometry is correct throughout the entire test.
- Equipped with the specimen-carrying outfit, anti-falling of outfit for the specimen, centering outfit to guarantee quick, accurate and reliable tests.
- Ergonomically designed, no requirement for the operator to work at elevated heights or handle excessive physical loads.