

Material Testing Laboratory

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Location: E002



Material testing laboratory is a part of Department of Mechanical Engineering and has vision to become a center of excellence in Materials testing and characterization. Presently, laboratory is equipped with universal testing machine with elevated temperature facility, hardness test, torsion, fatigue testing. There is equipment for material characterization such as cold mounting machine, polishing machine and metallurgical microscope. Moreover, dark room along with nondestructive testing equipment is available for testing the surface and sub-surface cracks of a product. The laboratory has been extensively used for various undergraduate and postgraduate courses namely, ME F215/MF F215 (Mechanical Engineering Laboratory), DE G631 (Material Testing and Technology), DE G514 (Fracture Mechanics). Many PhD, ME, and BE students use this lab for conducting experiments, which is a part of their thesis work.

List of Equipment:

Sr. No	Name of the Equipment with Specification
1.	Computerized Servo controlled Universal testing machine (with maximum load capacity 100kN loads) with high temperature furnace attachment (up to 1000°C)
2.	Rotating Fatigue Testing Machine with Data Acquisition System

3.	Torsion Testing Machine
4.	Impact Testing Machine (with IZOD, CHARPY Test)
5.	Micro-Vickers Hardness Tester (with 10 gf to 1000 gf load)
6.	Brinell Hardness Testing Machine (3000 kgf load), (with 5, 10 mm ball Indenters)
7.	Rockwell Hardness tester (with 60 to 150 kgf load, with Diamond Indenter)
8.	Spring Testing Machine (with different spring and loads)
9.	Stereo and Inverted Microscope with image analysis software
10.	Digital Ultrasonic Flaw Detector (Range: 24Ø to 2MHz)
11.	Specimen Polisher (8" Double Disc Polisher)
12.	Electromagnetic Yoke (Set)
13.	Erichsen cup test for sheet metal forming
14.	Simply Supported Beam Apparatus