

# Material Evaluation and Technical Services



- **Material Evaluation and Testing**
  - **Chemical Analysis:**  
XRF, XRD, Emission Spectrometers, Gases in Metals, DTA, TGA.
  - **Physical Analysis:**  
Atomic Dilatometer, Surface Area Analyzer, High Speed Density Analyzer, Thermal Diffusivity, Differential Scanning Calorimetry, Magnetic Properties Evaluation.
  - **Mechanical Testing:**  
Universal Testing Machines up to 1000KN, Impact, Hardness and Microhardness, Rotating Bending, Plane and Uniaxial Fatigue Testing, Creep Evaluation, Tribometry.
  - **Metallographic Analysis:**  
Optical, SEM, TEM



# Mechanical, Physical and Chemical Testing Facilities



- ❑ The Technical Services Unit at CMRDI plays a very important role in supporting SME's.
- ❑ This unit helps in developing local products and increasing their competitive capabilities.







# Accredited Tests



- **Chemical Testing:**

- 1- Chemical Analysis by Optical Emission (ARL & Spectro).

- **Physical Analysis:**

- 2- Phase Identification by XRD.

- 3- Coating Thickness Measurement.

- 4- Surface Area Analysis.

- 5- Imaging by SEM and Analysis by EDS.

- **Mechanical Testing:**

- 6- Tensile Test.

- 7- Brinell Hardness.

- 8- Vickers Hardness.

- 9- Rockwell Hardness.

- 10- Micro Hardness.

- 11- Impact Test