

The Fisher-Barton Group

Materials Lab Equipment List

Materials Analysis - Microscopy equipment

Zeiss MA10 Scanning Electron Microscope w/ Thermo Scientific NORAN System 7 Energy Dispersive Spectroscopy - Used for high-magnification imaging with a high-energy electron beam and analyzing emitted X-rays for elemental/chemical characterization

Zeiss Stemi 2000C Stereo Microscope – Optical microscope used for low magnification, three-dimensional observation.

Zeiss AxioVert 40 Metallurgical Microscope – Optical microscope used for high magnification observation and verification of microstructures.

Keyence VK 9700 Laser Scanning Microscope - Produces high definition images and 3D measurement models with 1 nm resolution.

Material Analysis - Chemical analysis equipment

Thermo Scientific ARL 9900 X-ray Fluorescence and X-ray Diffraction – Contains X-ray Fluorescence (XRF) spectrometers integrated with X-ray Diffraction (XRD) for analyzing complex, unknown “bulk” samples, quantitatively identifying the elements present and the crystallographic structure of the solid “bulk” sample.

LECO GDS 850A Glow Discharge Spectrometer – Delivers highly accurate bulk analysis and quantitative depth profiling for coating and surface treatment analysis.

LECO TN400 Nitrogen Determinator – The preferred industry standard method for analyzing nitrogen.

LECO C230 Carbon Determinator – The preferred industry standard method for analyzing carbon.

Mechanical Testing equipment

Instron 9350 Drop Weight Impact Tester – Produces the time history of applied force and deformation during a test, as well as Charpy V-notch impact toughness testing.

MTS 322 Universal Testing Machine – Delivers the time history of applied force and deformation, in addition to mechanical properties and customized fatigue testing.

Falex ASTM G76 Airjet Erosion Wear Tester – Produces data to rank materials by their solid-particle erosion resistance.

Falex ASTM G65 Dry Sand Rubber Wheel Abrasion Wear Tester – Produces data to rank materials by their abrasion resistance.

Clemex CMT Automated Microhardness Tester – Knoop and Vickers hardness with walk-away capability that virtually eliminates operator errors for the most consistent, accurate results.

Struers DuraJet Hardness Tester – Capable of testing with all Rockwell and Superficial Rockwell methods.

Sample preparation equipment – Fisher-Barton set out to streamline and standardize sample preparation by investing in automated equipment that can mount, cut, and polish samples in a uniform production setting. Using this equipment produces easily compared results, which is important in development and in tracking uniformity and quality.

Struers Durajet 10 Hardness Tester

Struers Discotom-6 Cut-off Saw

Struers Citopress-20 Mounting Press

Struers Tegramin-25 Polisher

Branson 2510 Ultrasonic Cleaner

Denton Vacuum Specimin Coating Device - For occasional use to apply thin conductive layer of material for SEM sample analysis (prevents charging of the sample during analysis).