

Below is a list of the equipment owned by or available to ACRC/CHTE

Equipment	Applications	Quantity	Location
Inductotherm 35 kW VIP Induction Furnace	Melting (Up to 35 lbs of aluminum)	1	Foundry
Inductotherm Bench Induction Furnace	Small scale melting and heating	1	
Mellen Induction Furnace	Melting (Up to 5 lbs of aluminum)	1	
Vacuum Melting Furnace (Custom built)	Melting in controlled atmosphere (Up to 0.5 lbs of aluminum)	1	
Box Furnaces	Melting and Heat Treating (various sizes and temperature limits)	4	
Tube Furnaces	Heat treatment, Sessile drop experiments, controlled atmosphere experiments	3	
Fluidized Bed Furnace	Heat treatment	1	
Rotating Impeller Degasser (Custom built)	Degassing liquid aluminum	1	
N-Tech Metal Health Center	Fluidity and Hot Tearing Measurements	1	
Vibration Table	Casting metal under vibration	1	
Data Acquisition Units	Recording temperature, load, displacement, etc.	3	
ASTM Tensile Bar Molds	Tensile Testing of Cast Alloys	4	
Gas Tech II Reduced Pressure Tester	Melt quality analysis	1	
VJ Technologies 1000 X-ray Radiography Machine	Radiography of Small Castings	1	Ingot Room
Band and Abasive Saws	Sample preparation (cutting and sectioning)	3	
Foseco Alspek-H	Hydrogen content analysis	1	
Instron Charpy Impact Tester	Impact toughness measurements	1	
Nikon Epiphot 200 Optical Microscope	Microanalysis	1	Mechanical Testing Room
Nikon Stereo Microscope	Macroanalysis	1	
Instron Tensile and Fatigue Testing Machines	Static and dynamic mechanical properties at room and elevated temperature	4	
Tube Furnaces	Melting and Heating in controlled atmospheres	2	
Struers Tegramin 20 Automatic Polisher	Sample Preparation (Polishing)	1	

Allied Diamond Wafering Saw	Sample Preparation (cutting and sectioning)	1	
Jet Polisher	Sampling Preparation (Polishing)	1	
SpectroMaxX Spark Spectrometer	Chemical composition	1	WB 245
JEOL 100 CXII Transmission Electron Microscope	Microanalysis	1	OH 028
Keysight/MTS Nanoindenter	Nanohardness	1	
JEOL 7000F LF Scanning Electron Microscope (+EDS and EBSD)	Microanalysis	1	HL 047
Panalytical Empyrean X-ray Diffractometer	X-ray diffraction analysis	1	WB 231
Microhardness and Macrohardness Testers	Microhardness and Macrohardness	4	WB 336
Pace Technologies NANO 2000T Manual Polisher	Sample Preparation (Grinding)	2	
Alumina Manual Polishing Wheels	Sample Preparation (Polishing)	3	WB 341
Buehler Ecomet 5 Diamond Manual Polishing Wheels	Sample Preparation (Polishing)	3	
Buehler Vibromet 1 Vibratory Polishers	Sample Preparation (Polishing)	3	
Buehler Simpliment 5000 Mounting Press	Sample Preparation (Mounting)	1	WB 253
Mark V 600 Sectioning Saw	Sample Preparation (cutting and sectioning)	1	

Below is a list of the equipment owned by or available to CR3

Equipment	Applications	Quantity	Location
MBRAUN LABstar Glovebox	Inert atmosphere experiments	1	WB 344
8 channel MTI battery potentiostat	Battery characterization	1	
16 channel Bio-logic VMP3 potentiostat		1	
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Carver 25-12 Press	Electrode Fabrication	1	WB 338
MTIXL Electrode Coater	Electrode Fabrication	1	
SCK-100 Spin Coater	Electrode Fabrication	1	
ACM LAB MILL-8000 milling machine	Ball Milling	1	
Box Furnaces	Heat treatment	2	
Tube Furnace	Heat treatment	1	
Vacuum Furnace	Heat treatment	1	

Schutte-Buffalo W-6-H Hammermill	Shredding	1	
Bruker AXS Kappa Apex II single crystal x-ray diffractometer	X-ray diffraction analysis	1	Gateway Park
Bruker AXS D8 FOCUS X-ray Diffractometer	X-ray diffraction analysis	1	
TA Instruments Thermogravimetric Analyzer (TGA)	Thermal Analysis	1	
TA Instruments Differential Scanning Calorimeter (DSC)	Thermal Analysis	1	