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

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| **Equipment** | **Applications** | **Quantity** | **Location** |
| Inductotherm 35 kW VIP Induction Furnace | Melting (Up to 35 lbs of aluminum) | 1 | FoundryWB 113Ingot RoomWB 001 |
| Inductotherm Mini-Melt Furnace | Melting (Up to 50 lbs. of steel) | 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 |
| 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 |
| Band and Abrasive Saws | Sample preparation (cutting and sectioning) | 3 |
| Foseco Alspek-H | Hydrogen content analysis | 1 |
| Instron Charpy Impact Tester | Impact toughness measurements | 1 |
| VJ Technologies ValueCT CT scan X-ray Radiography Machine | Radiography of Small Castings | 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 |
| SpectroMaxX Spark Spectrometer | Chemical composition | 1 |
| formlabs 3D Printer | Molds development for Casting | 1 |
| Wilson VH3300 Vickers-Knoop Hardness Tester | Hardness Testing | 1 |
| Struers Tegramin 20 Automatic Polisher | Sample Preparation (Polishing) | 1 |
| Buehler IsoMet High Speed Pro Precision Saw | Sample Preparation (Cutting) | 1 |
| Buehler SimpliMet 4000 Mounting Press | Sample Preparation (Mounting) | 1 |
| Buehler EcoMet 300 Pro w/ AutoMet 250 Power Head | Sample Preparation (Grinding/Polishing) | 1 |
| Allied Diamond Wafering Saw | Sample Preparation (cutting and sectioning) | 1 |
| Buehler VibroMet 2 Vibratory Polisher1 | Sample Preparation (polishing) | 1 |
| Jet Polisher | Sampling Preparation (Polishing) | 1 |
| JEOL 100 CXII Transmission Electron Microscope | Microanalysis | 1 | OH 028 |
| Keysight/MTS Nanoindenter | Nanohardness | 1 | HL 047 |
| JEOL 7000F LF Scanning Electron Microscope (+EDS and EBSD) | Microanalysis | 1 |
| 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 2000TManual Polisher | Sample Preparation (Grinding) | 2 | WB 341 |
| Alumina Manual Polishing Wheels | Sample Preparation (Polishing) | 3 |
| 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

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| --- | --- | --- | --- |
| **Equipment** | **Applications** | **Quantity** | **Location** |
| MBRAUN LABstar Glovebox | Inert atmosphere experiments | 1 | WB 344 |
| 8 channel MTI battery potentio-stat | Battery characterization | 1 |
| 16 channel Bio-logic VMP3 potentio-stat | 1 |
| 16 channel Bio-logic VMP3 potentio-stat | 1 |
| 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 difractometer | X-ray diffraction analysis | 1 | Gateway Park |
| Bruker AXS D8 FOCUS X-ray Difractometer | X-ray diffraction analysis | 1 |
| TA Instruments  Thermogravimetric Analyzer (TGA) | Thermal Analysis | 1 |
| TA Instruments Differential Scanning Calorimeter (DSC) | Thermal Analysis | 1 |