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## **Test, Research and Development Resources**

**Corporate Headquarters**  
40W267 Keslinger Road  
PO Box 393  
LaFox, IL 60147-0393

### **Microwave Generator**

915 MHz 75 kilowatt generator  
Variable power up to 75 kilowatts (up to 255,000 BTU/hr)  
Real time forward and reflected power monitoring  
Allen-Bradley energy line power monitor (kilowatt hour power meter)

### **Industrial Microwave Test Oven**

10' by 52" multimode drying cavity  
Conveyor belts: solid or open mesh belts available  
Can be also used as large batch oven  
Optional upper belt can be installed to compress product  
Useful product width up to 42"  
Variable belt speed 10–100 inches per minute  
Dual microwave feed antennas  
Power material feeder with adjustable material shaper  
Product input temperature: RTD direct contact sensor  
Internal product temperature: two IR sensors looking into cavity  
Real time in-oven video camera and recorder  
Output product temperature: linear array of 5 direct contact RTDs plus IR sensor Process Sensors Inc. MCT-460 real-time NIR moisture analyzer  
Microwave power measurement: waveguide dual directional coupler measures forward and reflected power  
Ventilation system: intake and exhaust with temperature and humidity sensors

### **High Energy Test Fixture**

Small batch sample heating to 1500° C  
Up to 75 kilowatts power  
Inert gas floodable  
IR pyrometer  
Video observation

### **Continuous Flow Liquid Applicator**

Water equivalent heating to 100°C at up to 20 liters/minute  
Other liquids up to 200°C (non-evaporating)  
Direct measurement of temperature, flow, and energy absorption  
Variable speed pump  
Materials Lab  
High accuracy halogen moisture analyzers  
Oven drying analysis  
1000x digital microscope  
Centrifuge 4500 RPM  
Thermal imagers  
2.45 GHz inverter microwave oven (1.25 KW)  
Tabletop scales to 100 kg  
Assorted mixers  
Platform Scale to 1000 kg

### **Electronics Lab**

Vector Network Analyzer  
Spectrum Analyzers  
Digital Microwave Power Meters  
RF Signal Generators  
RF Power Amplifiers  
Reflow soldering and rework

### **CAD and Software Design**

3D CAD with Autodesk Inventor™  
3D Electromagnetic and Thermal Modeling with COMSOL™ Multiphysics  
Circuit design, analysis and simulation with Keysight Genesys™  
PLC and HMI Programming  
Embedded microcontroller programming  
Printed circuit board CAE layout