



Toledo Molding & Die, Inc.

EQUIPMENT	TEST CAPABILITIES	TEST SPECIFICATIONS
Electro-Dynamic Shaker	<ul style="list-style-type: none"> ▪ Sinusoidal Vibration – Sweep & Dwell ▪ Random Vibration ▪ Shock and Shock Response Spectrum ▪ Environmental Temperature Control Cycling ▪ Slip Table (3 Axis Vibration) 	6,000 lbs. Peak 5,400 lbs. RMS 16,800 lbs. Max./2" p-p max -73° C to +177° C 54" W x 54" D x 48" H
Evaporator, Heater and Airflow Development Stand (EHAD)	<ul style="list-style-type: none"> ▪ Airflow Distribution ▪ Temperature Distribution ▪ Heater Performance ▪ Evaporator Performance 	Supply Air: 50 to 500 cfm 20 to 95% RH -20° to 150°F
Hot Glycol Pressure/Flow System	<ul style="list-style-type: none"> ▪ 90 psig Max ▪ 250°F Max ▪ P425 ▪ 30 gpm (varies w/ application) 	Can run in conjunction w/ Shaker for hose, connector or heater core durability.
Environmental Chamber	<ul style="list-style-type: none"> ▪ Environmental Temperature Cycling Control ▪ Environmental Humidity Cycling Control 	-73°C to +180°C 10% to 98% RH / 38" cube
Corrosion Chamber – External	<ul style="list-style-type: none"> ▪ Salt Fog ▪ Salt Spray ▪ Drying/Heating ▪ Humidity 	72" W x 30" D x 30" H Ambient to 60° C 30% to 100% RH
Corrosion Chamber – Internal	<ul style="list-style-type: none"> ▪ ASTM D 2570-96 ▪ GM10005C ▪ OY WATER per 21410NDS10 	6 to 80 gpm coolant flow to 110° C .5 to 2.5 gpm oil flow to 150° C 6 test stands
Hot Box	<ul style="list-style-type: none"> ▪ High Temperature Cycling Control ▪ DC Cycling Control 	Ambient to 200° C 35.5" W x 32" D x 53" H
Tensile Test	<ul style="list-style-type: none"> ▪ Load Deflection/Load to Failure ▪ Insertion/Retention 	Up to 6,000 lbs. Load of variable pull rate
Airflow Tunnel	<ul style="list-style-type: none"> ▪ Airflow Measurement ▪ Pressure Drop ▪ Blower Performance ▪ Air Leakage ▪ Water Separation Testing 	0.25 to 600 cfm ± 2% Accuracy
Noise Measurement	<ul style="list-style-type: none"> ▪ Overall Sound Pressure Measurement ▪ Spectrum Analysis 	12' x 16' Quiet Room
Dust Chamber	<ul style="list-style-type: none"> ▪ Floating dust 	1 m ³ chamber
Air Induction System Testing (Engine Intake from Inlet Ducting Through Intake Manifold)	<ul style="list-style-type: none"> ▪ Restriction ▪ Vacuum Collapse ▪ Seal Leakage 	40 hp blower capable of -100 inches of water column at 1200 cfm

Thermal Shock Testing	<ul style="list-style-type: none"> ▪ GM10006C ▪ GM10005C 	18° C to 105° C in less than 25 seconds
Electric Coolant Pump Durability Test	<ul style="list-style-type: none"> ▪ ES-5M64-8C419-AA Sect III.O. ▪ ES-4R83-18D474-AA Sect III.K. 	6 pumps per test stand 2 test stands Chamber temperatures from room temperature to 125° C Coolant temperatures in the same range but independent
Large Walk-In Chamber	<ul style="list-style-type: none"> ▪ Start-Stop (with dynamic breaking) ▪ Continuous Durability ▪ Hot Soak 	PLC control of fan speed, data acquisition and safeties

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