



Our State-Of-The-Art

RUBBER LAB

A Process Oil Exclusive

- A HollyFrontier \$2,000,000 investment in the latest compounding, testing, and analyzing equipment for rubber.
- Staffed by our own rubber chemistry professionals, dedicated to helping customers develop solutions for enhancing performance.
- An example of the ongoing commitment to serve the Rubber Industry from HollyFrontier Specialty Products, the leader in Rubber Process Oils



MIXING, CURING, AND EXTRUDING

Banbury® Mixer, BR1600	Used for mixing rubber compounds.
Two-roll lab mill, G-2603 150 mm x 330 mm	Used for mixing rubber compounds.
Hydraulic Compression Press, G50H-19-ASTM-B	Used for curing rubber compounds.
Cold Feed Extruder, 1½" diameter screw, 12:1 L/D ratio	Used for lab-scale extrusions.
Hydraulic clicker press, AOM-SA22	Used to die cut rubber test specimens.
Bale cutter	Used for cutting bales of natural rubber or synthetic rubber.

TESTING AND CHARACTERIZATION

Rubber Process Analyzer, RPA 2000	Measures dynamic properties and rubber compounds before, during and after cure in a single test.
Dynamic Mechanical Analyzer, DMA+ 450	Measures dynamic mechanical properties of materials as a function of stress, temperature, time, frequency, atmosphere.
Materials Testing Machine, Z1010	Measures tensile stress-strain properties of a rubber specimen.
Rebound Resilience Tester, Z5109	Measures rebound resilience of elastomers and rubber.
Abrasion Tester, Z6103	Measures abrasive resistance of elastomers and rubber.
Fatigue to Failure Tester, FTFT	Determines the fatigue life of elastomeric compounds in tension.
Moving Die Rheometer, MDR 2000	Measures cure characteristics of mixed rubber.
Mooney Viscometer, MV 2000	Measures viscosity and scotch properties of raw elastomers and mixed rubber.
Durometer – Shore A, Z3130	Measures hardness of plastics and rubber.
Thermo gravimetric Analyzer, TGA 4000	Measures weight loss of a material with increasing temperature, or isothermally as a function of time.
Differential Scanning Calorimeter, DSC 8000	Determines endothermic and exothermic transitions as a material is heated.
Horizon Fog Testing System, FTS	Recreates automotive interior out-gassing in a timely, measurable way.