

## Mechanical Test Laboratory Price List

Note: Minimum charge of \$100 per invoice.

Tests requiring machining, sample preparation, fixturing, or significant setup time will be charged by the hour at applicable rates plus materials costs. An estimate will be given upon receipt of samples.

Quantities of 10 or more of a specific test may be eligible for a volume discount. This will be determined based upon the nature of the samples and test. Other multiple item tests are priced on a custom case basis.

Our regular turn-around time is 5 business days.

For RUSH orders, add a minimum of 50% dependant on timing and nature of work.

Our laboratory is accredited by the Standards Council of Canada (SCC) to ISO/IEC 17025 for specific tests as indicated by ✓. Our Scope of Accreditation is listed on the Standards Council of Canada website by reviewing our lab at <https://www.scc.ca/en/search/laboratories>



Metallic Materials					
<b>Tension &amp; Compression</b>					
Tensile	✓	ASTM E8	Metallic Materials	\$82 ea	
		ASTM A370	Steel Products		
		CSA G40.20/-21	Rolled or welded structural quality steel/ Structural quality steel		
	✓	ASTM B557	Wrought and Cast Aluminum- and Magnesium- Alloy Products		
Rebar Tensile		CSA 30.18	Billet-Steel Bars for Concrete Reinforcement	\$100 ea	
		CSA W186	Welding of Reinforcing Bars in Reinforced Concrete Construction		
Wire Tensile		ASTM A370	Steel Products	\$100 ea	
		✓	ASTM B557		Wrought and Cast Aluminum- and Magnesium- Alloy Products
Weld Tensile		✓	CSA W47.1	Fusion Welding of Steel	\$76 ea
		✓	CSA W47.2	Fusion Welding of Aluminum	
		✓	ASME IX QW-150	Welding General Requirements - Tension Tests	
		✓	ASME IX QB-150	Brazing General Requirements - Tension Tests	
			AWS D1.1	Structural Welding Code - Steel	
		AWS D1.2	Structural Welding Code - Aluminum		

Steel Chain Tensile	ASTM A413	Carbon Steel Chain	\$150 ea
	ASTM A466	Weldless Chain	
	ASTM A467	Machine and Coil Chain	
Roller Chain Tensile	Custom	Ultimate load of Chain	\$200 ea
Fastener Proof Load & Tensile	ASTM F606	Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets	\$150 for both or \$100 for 1
	SAE J429	Externally Threaded Fasteners	
	SAE J1199	Metric Externally Threaded Steel Fasteners	
	SAE J1216	Metric Threaded Fasteners (Cancelled Jul 1999)	
	SAE J995	Steel Nuts	
	Custom	Standard or customs test available	\$100 - \$200 ea

### Bending & Ductility

Weld Bend	✓ CSA W47.1	Fusion Welding of Steel	\$75 ea
	✓ CSA W47.2	Fusion Welding of Aluminum	
	✓ ASME IX QW-160	Welding General Requirements - Guided Bend Tests	
	✓ ASME IX QB-160	Brazing General Requirements - Guided Bend Tests	
Fillet-Weld Bend	✓ CSA W47.1	Fusion Welding of Steel	\$80 ea
	✓ CSA W47.2	Fusion Welding of Aluminum	
	✓ ASME IX QW-180	Welding General Requirements - Fillet-Weld Tests	
Torsional Ductility of Wire	ASTM A938	Torsion Testing of Wire	\$250 first sample \$50 / next samples

### Impact

Charpy	✓ ASTM E23	Notched Bar Impact Testing of Metallic Materials - Typically 3 specimens	For pre-notched specimens:
Pricing is for pre-notched	✓ ASME VIII UCS-67	Rules for Construction of Pressure Vessels Division 1 - Impact Testing of Welding Procedures - Typically 3 specimens	
Machining is extra	✓ CSA W47.1	Fusion Welding of Steel - Typically 5 specimens	\$100 / set of 3
	✓ ASTM A370	Steel Products - Number of specimens TBD	\$130 / set of 5
	CSA G40.20/- .21	Rolled or Welded Structural Quality Steel/ Structural Quality Steel - Number of specimens TBD	
	AWS D1.1	Structural Welding Code – Steel - Typically 3 or 5 specimens	
	✓ Option	Specimen Type A Vee notch (with broach)	\$10 ea

### Hardness

Rockwell Hardness	✓	ASTM E18	Rockwell Hardness of Metallic Materials	\$62 ea
		ASTM F606	Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets	
		SAE J429	Externally Threaded Fasteners	
		SAE J1199	Metric Externally Threaded Steel Fasteners	
		SAE J1216	Metric Threaded Fasteners (Cancelled Jul 1999)	
Brinell Hardness	✓	ASTM E10	Brinell Hardness of Metallic Materials	\$150 ea
	✓	ASTM E110	Indentation Hardness of Metallic Materials by Portable Hardness Testers	
Vickers - Hardness	✓	ASTM E384 ASTM E92	Microindentation Hardness of Materials	\$150 ea
Profile Hardness	✓	ASTM E384	Microindentation Hardness of Materials	\$200 ea
Case Depth	✓	ASTM E384	Microindentation Hardness of Materials (up to 10 hits – custom price for more hits)	\$200 ea

### Plastics, Resins, Rubbers, & Composite Materials

#### Tension & Compression

		ASTM D638	Tensile Properties of Plastics	\$100 ea
Plastics, Resins, & Composites Tensile		ASTM D3039	Tensile Properties of Polymer Matrix Composite Materials	\$150 ea
		Option	Strain Gauging (1 - 3 Quarter-Bridge gauges)	\$85 / gauge
Rubber Tensile		ASTM D412	Vulcanized Rubber and Thermoplastic Elastomers—Tension	\$100 ea
Flatwise Tensile		ASTM C297	Flatwise Tensile Strength of Sandwich Constructions	\$120 ea
Rubber Peel Adhesion		ASTM D413	Rubber Property—Adhesion to Flexible Substrate	\$100 ea
		ASTM D429	Rubber Property—Adhesion to Rigid Substrates	\$100 ea

#### Flexural

Flexural - 3 Point		ASTM D790	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials	\$150 ea 1 <sup>st</sup> sample \$ 75 rest
		ASTM C393	Core Shear Properties of Sandwich Constructions by Beam Flexure	See above
Flexural - 3 Point Short Beam Shear		ASTM D2344	Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates	See above
Flexural - 4 Point		ASTM D6272	Flexural Properties of Plastics and Electrical Insulating Materials by Four-Point Bending	See above

### Hardness

Durometer Hardness	ASTM D2240	Rubber Property—Durometer Hardness	\$60
--------------------	------------	------------------------------------	------

## Adhesives, Coatings & Environmental

### Physical Tests

Peel Adhesion - 180deg	ASTM D903	Peel or Stripping Strength of Adhesive Bonds	\$120 ea
Peel Adhesion -Tee	ASTM D1876	Peel Resistance of Adhesives (T-Peel Test)	\$120 ea
Lap Shear	ASTM D3163	Strength of Adhesively Bonded Rigid Plastic Lap-Shear Joints in Shear by Tension Loading	\$100 ea
	ASTM D3164(M)	Strength Properties of Adhesively Bonded Plastic Lap-Shear Sandwich Joints in Shear by Tension Loading	\$80 ea
	ASTM D1002	Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)	
	ASTM D5868	Lap Shear Adhesion for Fiber Reinforced Plastic (FRP) Bonding	
Galvanized Coating - on Wire	ASTM B498	Zinc-Coated (Galvanized) Steel Core Wire for Use in Overhead Electrical Conductors	\$200 1 <sup>st</sup> sample \$ 50 rest

### Temperature and Humidity Exposure

Programmable Environmental	Small	190°C to -73°C 10%RH to 95%RH	
		30" x 30" x 30" Chamber	\$175 / 8 hr †
	Medium	190°C to -73°C 10%RH to 95%RH	\$250 / 24 hr †
		38" x 38" x 38" Chamber	\$1300 / week †
Large	60°C to -40°C 10%RH to 80%RH		
	60" x 83" x 86" Chamber		

### Ultraviolet (UV) Exposure

Xenon-Arc	ASTM G155	Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials	\$5.00 / hr for 500 hours or less †
			\$4.00 / additional hour

### Coating Testing Options

Scribe Evaluation	ASTM D1654	Evaluation of Painted or Coated specimens Subjected to Corrosive Environments	\$40 ea
Coating Thickness	ASTM D7091	Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals	\$30 ea

Pencil Hardness	ASTM D3363	Film Hardness by Pencil Test	\$40 ea
Tape Adhesion	ASTM D3359	Measuring Adhesion by Tape Test	\$35 ea
Paint Blistering Evaluation	ASTM D714	Evaluating Degree of Blistering of Paints	\$30 ea
Rust Evaluation	ASTM D610	Evaluating Degree of Rusting on Painted Steel Surfaces	\$30 ea
Gravelometer	SAE J400	Test for Chip Resistance of Surface Coatings	\$150 1 <sup>st</sup> sample \$25 ea after 1 <sup>st</sup>

Product Testing & Verification			
Load or Displacement Control	Medium Servo-Hydraulic	22 klbf tension or compression	\$68 / hr †
		10 inch travel Cycle rates up to 6 Hz	\$460 / 8 hr † \$670 / 24 hr †
	Large Servo-Hydraulic	55 klbf tension or compression 5 inch travel Cycle rates up to 4 Hz	
Flammability - Vehicle Interior Materials	FMVSS 302	Flammability of Interior Materials	\$260 ea
	SAE J369	Flammability of Polymeric Interior Materials-- Horizontal Test Method	\$260 ea
Spring Constant	Custom	Tension or Compression Springs	\$200 1 <sup>st</sup> \$100 after
Webbing Load	Custom	Tension Test to Failure	\$110 ea
Strain Gauging	Custom	Strain Gauging and Measurement	\$200+

Other load versus travel tests are priced on a custom basis

† The rates quoted are run-time rates. Initial setup and project management costs will depend upon the nature of the test.

Subject to ITC's General Terms and Conditions.  
All terms and prices shown are subject to change without notice.