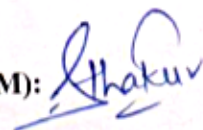


# Institute For Auto Parts and Hand Tools Technology, Ludhiana

## Rate List of Institute Services

S. No.	Job Description	Charges (Rs.)	Remarks
<b>Testing &amp; Evaluation Lab.</b>			
<b>Spectrometry Test (Spark Emission Testing)</b>			
1.	C, Mn, Si, S, P Chemical Analysis	60	Per element (Minimum Bill)
		290	
2.	Cr, Ni, Mo, Al, Cu etc. (all alloy elements) Chem. Analysis.	100	Per element (Minimum Bill @ 300/-)
3.	Cu, Al, Brass & Stainless-Steel Testing	580	Minimum Bill
4.	Cobalt Base	1150	Minimum Bill (up to 3 element)
5.	Titanium base	1150	Minimum Bill (up to 3 element)
6.	Zinc Base	1150	Minimum Bill (up to 3 element)
7.	Grade identification of Cu-base, Al-base, Iron-base Metals	580	For ferrous base
		700	For non-ferrous base
8.	Grade identification of material / Chemical composition with XRF.	580	Per sample.
9.	Percentage of Nitrogen	1150	Per sample
<b>Spectrometry Test (X- Ray Fluorescence)</b>			
1.	ROHS	2900	Per sample
2.	XRF Spectrometer / PMI Sorter On site (To & Fro vehicle arrangement / charges has to be arranged by the party).	2900	Up to 02 hours / Rs.2900 minimum bill
		5800	Up to 04 hrs.
		11500	Up to 07 hrs.
<b>Metallography</b>			
1.	Blue Fracture Test as per IS 10138-2010	5200	Per sample
2.	Coating Adhesion	200	Per sample
3.	Coating weight	345	Per sample
4.	Cast Iron Flakes size	460	Per sample
5.	Coating thickness with microscopic method	460	Per sample
6.	Coating thickness with gauge	250	Per sample
7.	De-Carburized Layer Measurement by microscopic method	350	Per sample
8.	De-Carburized Layer Measurement with Micro hardness method	580	Per sample
9.	Effective Case Depth with hardness profile method	580	Per sample
10.	Free From defects as per IS 1875-1992 (Only Visual Inspection)	580	Per sample
11.	Free From defects as per IS 7283-1992 (Visual + Macro)	1150	Per sample
12.	Failure Analysis	5800	Minimum billing / depends upon study, testing requirement and component.
13.	Grain size	460	Per sample
14.	Grain size measurement as per "McQuaid-Ehn test method	1150	Per sample
15.	Hardness Profile	580	Per sample
16.	Inclusion rating	460	Per sample
17.	Micro Vicker Hardness on mounted and polished sample	350	Per sample





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S No.	Job Description	Charges (Rs.)	Remarks
18.	Mass of Zinc coating	580	Per sample
19.	Microstructure Phase analysis + Photograph	580	Per sample
20.	Macro Testing (Macro etch / Grain flow)	120	Per micro photograph
		600	up to 4 square inches
		1150	up to 8 square inches
		2300	up to 256 square inches
21.	Phosphating Coating weight By Striping	1750	Per sample
22.	Ph Value	200	Per Parameter
23.	Re tempering charges	1150	Per sample
24.	Specific Gravity	200	Per Parameter
25.	Seamless / seam testing of material with micro/macro test method	580	Per sample
26.	Total case depth with graduated magnifying glass	350	Per sample
27.	Uniformity test	580	Per sample
28.	Welding Penetration	580	Per sample & per reading
<b>Mechanical Testing</b>			
1.	Bend Test	580	Per sample
2.	Breaking Load Test on Ferrous / non-ferrous metal.	350	Per sample
3.	<b>Breaking load test of component</b>		
	Up to 300 KN	580	Per sample
	Up to 500 KN	950	Per sample
	Up to 1000 KN	1750	Per sample
4.	Breaking load of Chain	2300	Per sample
5.	Critical component Geometry Testing (Breaking Load, Macro)	1150	Per sample
6.	Cupping Value	300	Per sample
7.	Dimension (up to 05 Parameter)	580	Per sample (minimum billing)
8.	Dimensions (above 05 Parameter)	580	Per Sample + additional Rs 115/parameter
9.	Hardness (HRC, HRB, BHN)	250	Per sample
10.	Hardness Vicker (at 5, 10, 20, 30, 50 kg.)	350	Per sample
11.	Head Soundness Test (Fastener)	350	Per sample
12.	Impact Testing at 27±2°C	350	Per sample
		1150	Per Set (03 Nos.)
13.	Jominy End quench test as per IS 3848-1981	5800	Per sample
14.	Mass per meter	300	Per sample
15.	Micro Vicker Hardness on unpolished sample	460	Per sample
16.	Permanent set test	580	Per Sample
17.	Permanent Load Test	5500	Per Set
18.	Pull load testing	580	Per sample
19.	Quality check (Gas stove)	3500	Per sample
20.	Re-Bend Test	580	Per sample
21.	Proof load and wedge load of Nuts and bolts		
	i) Up to 300 KN	580	Per sample
	ii) Up to 500 KN	950	Per sample
	iii) Up to 1000 KN	1750	Per sample
22.	Stress under Proof Load (Fastener)	350	Per sample
23.	Suitability Test	1150	Per sample





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S No.	Job Description	Charges (Rs.)	Remarks
24.	Shearing of Bolt	350	Per sample
25.	Slip load testing of assembly	580	Per sample
26.	Salt Spray Test	175	Per hour
		2300	(Minimum Bill)
27.	Tensile strength only.	350	Per sample and if %Elongation, YS, % RA @ Rs. 230/ parameter/ sample Note: minimum billing Rs. 350/-.
28.	Twist Test	580	Per Sample
29.	<b>Impact Testing at Sub- Zero Temperature</b>		
a)	0°C to - 20°C	1500	Per sample
		2200	Per set of 03 samples
b)	- 21°C to - 40°C	2650	Per sample
		3350	Per set of 03 samples
c)	- 41°C to - 160°C	6100	Per sample
		6800	Per set of 03 samples
<b>If the cooling / chilling media (i.e. LN2 / Dry Ice and Methanol / Ethanol) arrange by the customer then Subzero charges = Rs. 1000/- up to 03 samples.</b>			
<b>Hand Tools Testing Lab.</b>			
30.	Torque Testing	350	Per sample
31.	Cutting test	250	Per sample
32.	Tube Gripping Test	250	Per sample
33.	Shock Test	250	Per sample
34.	Torsion test	350	Per sample
35.	Handle Load Test	350	Per sample
36.	Insulation Test	500	Per sample

**Note:**

1. Sample preparation charges will be charged extra for Mechanical testing at actual rates.
2. If Sample need to cut for testing purpose; (a) Rs. 50/-min. charged per sample for simple geometry up to 25mm dia/thickness and hardness up to 35 HRC. (b) Rs.100/- min for dia. more than 25mm-60mm and hardness up to 35 HRC. (c) The sample has hardness more than 35 HRC and dimension above the 60mm will be charged as per actual rate/ case on quote basis.
3. Complex configuration to be determined on the basis of shape, size & mass and shall be used for any extra charges for testing of breaking load, macro and sample cutting.
4. Any specific test / non-parametric test per customer requirement; charges will be quote as per study of spec. or component geometry.
5. In case photocopy of the report is required by the customer then Rs.100 per copy will be charged.
6. Taxes as applicable.