



# TESTING FACILITY AT CSIR NML

List of testing facility



OCTOBER 28, 2021
CSIR-NATIONAL METALLURGICAL LABORATORY
Jamshedpur-831007



Research Planning & Business Development



# **Testing facility and Charges**

	Applied and Analytical Chemistry	(AAC) Divisi	ion
S.	Description	Relevant	Unit
No.		Standard	
AC 1	Ash Fusion Temperature (ore/mineral)		Per Sample
AC 2	Ash + Moisture (coal sample)		Per Sample
AC 3	Moisture (coal sample)		Per Sample
AC 4	Moisture(Equilibrated Basis) (coal sample)		Per Sample
AC 5	Ash (coal sample)		Per Sample
AC 6	Coal Sample Preparation (Above 72 Mess)		Per Sample
AC 7	Proximate (as received basis) (coal sample)		Per Sample
AC 8	Proximate (Dry Basis) (coal sample)		Per Sample
AC 9	Proximate( Equilibrated basis) (coal sample)		Per Sample
AC 10	Gross Calorific value (GCV) (as received basis) (coal sample)		Per Sample
AC 11	Gross Calorific value (GCV) (Equilibrated basis) (coal sample)		Per Sample
AC 12	Gross Calorific value (GCV) (coal sample)		Per Sample
AC 13	Ash Composition (Fe $_2$ 0 $_3$ %, Si0 $_2$ (%), Al $_2$ 0 $_3$ (%), Ca0(%), Mg0(%), Ti0 $_2$ (%), Mn0(%), P $_2$ 0 $_5$ (%), S0 $_3$ (%), Na $_2$ 0 (%), K $_2$ 0(%) any additional radical analysis charge (Rs. 1,000/-) per radical (rare earth is not included) (coal sample)		Per Sample
AC 14	Ultimate Analysis(coal sample)		Per Sample
AC 15	Total Sulphur Analysis (coal sample)		Per Sample



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AC 16	Sulphur Speciation (coal sample)	Per Sample
AC 17	Ash Fusion Temperature (coal sample)	Per Sample
AC 18	Swelling Index (coal sample)	Per Sample
AC 19	Caking Index (coal sample)	Per Sample
AC 20	HGI (coal sample)	Per Sample
AC 21	LTGKCokeType (coal sample)	Per Sample
AC 22	Rear Earth analysis in Coal/Coal ash/ Fly ash(14 radical)	Per Sample
AC 23	Gross calorific value, Ash & moisture(All on equilibrated basis at 60% R.H and 40°C) (For > 3.35mm sample size)	Per Sample
AC 24	Gross calorific value, Ash & moisture(All on equilibrated basis at 60% R.H and 40°C) (For > 3.35mm sample size) Additional of Rs. 300/- per samples may be charge, if sample size more then 212 micron	Per Sample
AC 25	First four elements or less	Per sample
AC 26	For every subsequent element	Per radical Per sample
AC 27	Complete analysis by direct emission spectrograph	Per sample
AC 28	XRF	Per 10 radical or less per sample
AC 29	XRF	Additional radical
AC 30	Hydrogen, Oxygen & Nitrogen in Metal	Per gas per sample
	Water sample (Colour, PH, Conductivity, Acidity/alkalinity, Total dissolved solids, Total Hardness, Turbidity, Chloride, Iron, Calcium, Magnesium, Manganese, Zinc, Fluoride,	Per 10 parameter per sample
AC 31	Nitrate, Sulphate, Bromide, Phosphate, Iodide, Nitrite,	



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	Nickel, Chromium, Lead, Cadmium, Copper, Cobalt,	
	aluminium, Molybdenum, Barium, Ammonium,	
	Sodium, Potassium, Lithium)	
AC 32	Additional radical (water sample)	Per Sample
	Special test for element like Arsenic antimony, tellurium,	Per radical per
AC 33	selenium, mercury, hydride generation	sample
	Speciation analysis:	Per sample
. ~ ~ .	(i) As(III) and As(V) in water	
AC 34	(ii) Se (IV) and Se (VI) in water	
	Trace Metal analysis by ICP-Mass	Per sample for
AC 35		first 5 radical
AC 36	Additional radical by ICP-Mass	Per radical /sample
	Testing charges of rear earth elements including Y, Sc,	Per radical
AC 37	Ge, Ga	
AC 38	Testing charges of precious metals (Au, Ag, Pd, Pt, Ir)	Per radical
AC 39	Testing charges of 14 rare earth element (REE) and Sc, Y	Per Sample
AC 40	Hydrogen insteel CRMs 502 (1.56PPM) & 503 (5.41 PPM) PIN Shape	Per bottle/per pieces
AC 41	CSR/CRI Analysis of Coke sample	Per sample
AC 42	Mercury Analysis in solid, liquid and gaseous samples	Per sample
AC 43	CAST IRON (CRM No. 201.8) (Turning form)	100 Gm Pack
AC 44	ALLOY CAST IRON (CRM No. 207.3) (Turning form)	100 Gm Pack
AC 45	STEEL 0.10 % C (CRM No. 213) (Turning form)	100 Gm Pack
AC 46	STEEL 0.48 % C (CRM No. 214) (Turning form)	100 Gm Pack
AC 47	STEEL 1 % C STEEL (CRM No. 215) (Turning form)	100 Gm Pack





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AC 48	STAINLESS STEEL (CRM No. 220) (Turning form)	100 Gm Pack
AC 49	LOW ALLOY STEEL (CRM No. 223.6 A)(Turning form)	100 Gm Pack
AC 50	BRASS 60:40 (CRM No. 241) (Turning form)	100 Gm Pack
AC 51	BRASS 70:30 ( CRM No. 242) (Turning form)	100 Gm Pack
AC 52	6% Si-Al ALLOYS (CRM No. 251.1) (Turning form)	100 Gm Pack
AC 53	HYDROGEN IN STEEL (CRM No. 502) (Pin Shape)	100 Gm Pack
AC 54	HYDROGEN IN STEEL (CRM No. 503) (Pin Shape)	100 Gm Pack
AC 55	L.C. Fe-CHROMIUM (CRM No. 229) (Powder form)	100 Gm Pack
AC 56	H.C. Fe-CHROMIUM (CRM No. 230) (Powder form)	100 Gm Pack
AC 57	Fe-SILICON (CRM No. 231) (Powder form)	100 Gm Pack
AC 58	Fe-MOLYBDENUM (CRM No. 232) (Powder form)	100 Gm Pack
AC 59	L.C. Fe-Manganese (CRM No. 233.1) (Powder form)	100 Gm Pack
AC 60	H.C. Fe-MANGANESE (CRM No.233.2) (Powder form)	100 Gm Pack
AC 61	Fe-TITANIUM (CRM No. 234) (Powder form)	100 Gm Pack
AC 62	Fe-VANADIUM (CRM No. 235) (Powder form)	100 Gm Pack
AC 63	BLAST FURNACE SLAG (CRM No. 435.2) (Powder form)	100 Gm Pack
AC 64	IRON ORE (CRM No. 161.3 ) (Powder form)	100 Gm Pack
AC 65	IRON ORE (CRM No. 161.4 A) (Powder form)	100 Gm Pack
AC 66	IRON ORE (CRM No. 161.5 A) (Powder form)	100 Gm Pack
AC 67	IRON ORE (CRM No.161.6 A) (Powder form)	100 Gm Pack



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AC 68	MANGANESE ORE (CRM No.166.3 A) (Powder form)	100 Gm Pack
AC 69	MANGANESE ORE (CRM No.166.4 A) (Powder form)	100 Gm Pack
AC 70	LIME STONE (CRM No.172) (Powder form)	100 Gm Pack
AC 71	COAL (CRM No. 150) (Powder form)	50 Gm Pack
AC 72	COAL (CRM No. 151) (Powder form)	50 Gm Pack
AC 73	PLAIN CARBON STEEL [CRM No. 305 (PC-1)] (Disc Form)	for each piece
AC 74	PLAIN CARBON STEEL (CRM No. 306 A) (Disc Form)	for each piece
AC 75	PLAIN CARBON STEEL [CRM No. 307 (PC-5)] (Disc Form)	for each piece
AC 76	PLAIN CARBON STEEL (CRM No. 308) (Disc Form)	for each piece
AC 77	STAINLESS STEEL (CRM No. 309) (Disc Form)	for each piece
AC 78	STAINLESS STEEL (CRM No. 301) (Disc Form)	for each piece
AC 79	STAINLESS STEEL (CRM No. 302) (Disc Form)	for each piece
AC 80	STAINLESS STEEL (CRM No. 303) (Disc Form)	for each piece

# Advance Materials & Processes (AMP) Division





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S. No.	Description	Relevant Standard	Unit
AM 1	FTIR spectraRange: 400-4000cm-1, Sample type: solid powder orliquid	S tailear a	Per sample
AM 2	UV-visible spectra (liquid sample only, 200-900nm)		Per sample
AM 3	Microhardness test		Per sample
AM 4	Nanoindentation		Per sample
AM 5	BET surface area only		Per sample
AM 6	Complete BET analysis including BET surface area, mesopore size distribution, pore volume andaverage pore diameter		Per sample
AM 7	Contact Angle Measurement (at room temp. to60°C)		Per sample
AM 8	Ultrasonic flaw detection		Per hour
AM 9	Ultrasonic thickness measurement		Per Spot
AM 10	Ultrasonic C-Scan measurement		Per specimen per hour
AM 11	Modulus of elasticity measurement by Ultrasonic		Per specimen
AM 12	Ultrasonic flaw detection by TOFD		Per hour
AM 13	Ultrasonic flaw detection by Phased array		Per hour
AM 14	Magnetic hysteresis loop using surface probe (MagStar)		Per hour
AM 15	Magnetic Barkhausen emissions using surface Probe (MagStar)		Per hour
AM 16	B-H. Loop & determination of Coercive force, maximum permeability using ring specimenhaving dimension: OD=30mm,		Per sample Per Temperature



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	ID=20mm, thickness=5mm	
AM 17	Saturation Magnetisation, Coercivity and	Per sample Per
	susceptibility in temperature range of 50K to	Temperature
	300Kusing Vibrating Sample Magnetometer using	
	3TSuperconducting Magnet	
AM 18	Saturation Magnetisation, Coercivity and	Per sample Per
	susceptibility in temperature range of 300K	Temperature
	to1000K using Vibrating Sample Magnetometer	
	using1.2 Electromagnet	
AM 19	Temperature scanning (300K to 1000K) of	Per sample
	magnetisation at low magnetic field	
AM 20	Temperature variation of electrical resistivity	Per sample Per
	(Roomtemp to 1000°C)	Temperature
	Sample dimension:100mmx2mmx2mm	
AM 21	Temperature variation of electrical resistivity (-	Per sample Per
	193°Cto 150°C)	Temperature
	Sample dimension:100mmx2mmx2mm	
AM 22	Differential scanning calorimetry (DSC) from RT to	Per sample
	700°C	
AM 23	Specific heat up to 500°C using Differential	Per sample
	ScanningCalorimeter (DSC)	
AM 24	Thermal diffusivity using laser flash method	Per sample Per
		Temperature
AM 25	Thermal diffusivity, Specific Heat &	Per sample Per
	ThermalConductivity using laser flash method	Temperature
AM 26	High temperature (upto 1400°C) TG , DTA, DSC	Per sample
AM 27	Raman Spectroscopy	Per Sample
AM 28	ED Current Testing	Per Sample



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AM 29 Thermal Imaging using thermography system Per Sample

Engineering (ENG) Division			
S.	Description	Relevant	Unit
No.		Standard	
EN 1	Code & heat-treatment (Heat treatment to diffuse		Per charge (Max.
	hydrogen out of weld test pieces)		Charge size
			100mmx250mmx250mm)
EN 2	Coating moisture test (loss in wt. At 120°C for 30		Per test
	minutes)		
EN 3	Welding electrode evaluation: mechanical property,	AWS/ ASME/ IS Codes	Per Electrode
	chemical Analysis of weldmetal, hardness, 1 bend test.		
EN 4	Welding filler evaluation: mechanical	AWS/ ASME/ IS Codes	Per filler
	property, chemical analysis of weld metal, hardness,		
	bend test		
EN 5	Friction Stir Welding of light metals (Aluminum,		Per day
	Magnesium, Copper		
EN 6	Bend test		Per Sample
EN 7	Diffusible Hydrogen in welds		Per Sample
EN 8	EDM wire cutting services		Per Hour
EN 9	Optical Imaging using Stereo Microscope		Per Sample
EN 10	High Speed Imaging using high speed camera (upto		Per Hour
	5,00,000 fps)		
EN 11	Weld Procedure qualification as per ASME Sec IX, ISO		Per test plate





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EN 12	Welder Qualification as per ASME Sec IX, ISO		Per test plate
EN 13	Twin wire submerged arc welding system (SWA)		Per Day
EN 14	Sample test plate welding (Carbon steel as per		Per Sample
	customer requirement		
EN 15	Coordinate Measuring Machine (CMM) for inspection &	As per customer	Per day
	reverse engineering	requirement	
EN16	Robotic MIG (for additive manufacturing etc.)	As per customer	Per day
		requirement	
EN17	Cold metal transfer GMAW and Pulse GMAW by Robotic MIG	As per customer	Per day
		requirement	
EN18	Pulse TIG welding	As per customer	Per day
		requirement	
EN19	surface roughness tester	As per customer	Per Sample
		requirement	
EN20	profile projector	As per customer	Per hour
		requirement	
EN21	Inspection of specimens	As per drawing	Per sample

Metal Extraction & Recycling (MER) Division			
S.	Description	Relevant	Unit
No.		Standard	
ME 1	Air Jet Erosion test at Room Temperature		Per sample per hour (Max. 3 readings)
ME 2	Air jet erosion at 50°C-500°C		per sample per hour (Max



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		2 readings)
ME 3	Nano-tribimeter	per sample per hour
ME 4	Vacuum Induction melting Up to 40 Kg/ heat	Per Heat
ME 5	Vacuum Induction melting Up to 20 Kg/heat	Per Heat
ME 6	Vacuum Induction melting 200gm- 2Kg/ heat	Per Heat
ME 7	Air melting	5 - 20 Kg Per Heat
ME 8	Arc Furnace melting (50 KVA)	Upto 30Kg Per Heat
ME 9	Submerged Arc melting 50 KVA	Upto 30KgPer Heat
ME 10	Submerged Arc melting 175KVA	Upto 300Kg Per Heat
ME 11	Softening Melting	Per Test
ME 12	Reducibility Index (RI)	Per Sample
ME 13	Reducibility Degradation Index (RDI)	Per Sample
ME 14	Thermal Degradation Index (TDI)	Per Sample
ME 15	Decrepitation of lime	Per Sample
ME 16	Bend Test	Per Set of sample (3
		Numbers)
ME 17	Flattering Test	Per Set of sample (3
		Numbers)
ME 18	Compression Test	Per Set of sample (3
		Numbers)
ME 19	Viscosity Measurement	Per Sample
ME 20	Swelling Test	Per Sample
ME 21	Isothermal conduction calorimetry	Per Sample(27°C)
ME 22	Resistance heating furnace with lifting hearth or	Per Heat
	bottom loading furnace (Tmax=1600°C	
ME 23	Inverse mound simulator for continues casting	Per Heat
	simulation	



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#### Minerals Processing (MNP) Division S. No. Description Relevant Unit Standard Mineral Characterisation (Identification only) MN 1 Per Sample **MN** 2 Mineral Characterisation (only Optical Microscopy) Per Sample **MN** 3 Mineral Characterisation (Optical microscopy, liberation) Per Sample Mineral Characterisation (Including XRD, SEMEtc) Per Sample MN 4 MN 5 Carbon coating Per Sample MN 6 DTA& TG Analysis Per Sample upto 4 hour MN 7 Bond's work index determination-Ball Mill Per Sample MN 8 Bond's work index determination-Rod Mill Per Sample MN 9 HardgrooveGrindability Index (HGI) Per Sample MN 10 Per Sample Settling tests Heavy media test (3 diff. Densities up to 3.3) MN 11 Per Sample **MN** 12 Washability Tests for Coal for one size range up to 0.5 mm Per Sample **MN** 13 Crushing strength- rocks Per Sample MN 14 size analysis (cyclosizing) Per Sample MN 15 size analysis (instrumental- laser, 1 to 1000 micron) Per Sample MN 16 size analysis (200 mm to 325 mesh) dry or wet Screening Per Set MN 17 sample preparation only (10 mesh to 200 mesh, up to 500g) Per Sample Sample preparation (200mm to 200 mesh, up to 500g) Per Sample **MN** 18 MN 19 Bulk sample preparation after grinding (50 Kg) Per Sample

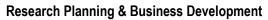


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<b>MN</b> 20	Tumbler test (Tumbler & Abrasive Index)	Per Sample
MN 21	Shatter test	Per Sample
MN 22	Grindability test	Per Sample
<b>MN</b> 23	Bulk density/Sp.Gr	Per Sample
MN 24	Zeta potential measurement (below 25 micron), ZPC	Per Sample
MN 25	Porosity measurement (Mercury)	Per Sample
MN 26	Surface tension Measurement (Liquid sample)	Per Sample
MN 27	Proximate analysis of coal	Per Sample
MN 28	Blaine No.	Per Sample
<b>MN</b> 29	Pellets CCS	Per Sample
<b>MN</b> 30	Briquette CCS	Per Sample
MN 31	Mineral/ Coal sample preparation for petrography	Per specimen
<b>MN</b> 32	Coal petrography: Identification of maceral vitrinite,	Per sample
	inertinite, liptinite and mineral matter (without sub-	
	macerals) and percentage	
<b>MN</b> 33	Coal petrography: Random reflectance measurement	Per sample
MN 34	Proximate analysis	Per sample
MN 35	CSR-CRI	Per sample
MN 36	Maximum fluidity ddpm of coke by Gieseler Dilatometer DL4000	Per sample
MN 37	Gieseler Plasticity of coke by Plastometer PL4000	Per sample
<b>MN</b> 38	Air permeability Test	Per sample
<b>MN</b> 39	Swelling index of pellets	Per sample
MN 40	Grinding of mineral/ore by Planetary mill (1mm to -200 mesh,	Per sample of 25g
	upto 25g sample)	
MN 41	Crushing mineral/ore lumps (50mm to -10 mesh , upto 10kg	Per sample of 10kg
	sample) by jaw Crusher/Roll crusher	
MN 42	Coal petrography including RRM, MMR	Per sample







	Materials Engineering (MTE) Division				
S.	Description	escription Relevant U			
No.		Standard			
MT 1	Salt spray test		Per sample up to 1000 hours. (Min. 5 samples)		
MT 2	Exfoliation corrosion (EXCO) test for Aluminum alloys	G34-01 (2007)	Per sample (minimum 5 samples)		
<b>M</b> T 3	Exfoliation corrosion (EXCO) ASSET Test	ASTM G66-99			
MT 4	Intergranular corrosion susceptibility in stainless steels Oxalic acid etching	ASTM A262-pratice A	Per sample (minimum 5 samples)		
MT 5	Intergranular corrosion susceptibility in stainless steels Ferric Sulfate- Sulfuric acid	ASTM A262- Practice B	Per sample (minimum 5 samples)		
<b>M</b> T 6	Intergranular corrosion susceptibility in stainless steels Boiling nitric acid test	ASTM A262- Practice C	Per sample (minimum 5 samples)		
MT 7	Intergranular corrosion susceptibility in stainless steels Copper sulfate- sulfuric acid	ASTM A262- Practice E	Per sample (minimum 5 samples)		
<b>M</b> T 8	Intergranular corrosion susceptibility in stainless steels Copper sulfate- sulfuric acid	ASTM A262- Practice F	Per sample (minimum 5		



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			samples)
<b>M</b> T 9	Stress corrosion cracking test in boiling magnesium		Per sample
	chloride		(minimum 5
			samples)
<b>M</b> T 10	Pitting and crevice corrosion resistance of stainless	ASTM G48	Per sample
	steels and related alloys by use of ferric chloride		(minimum 5
	solution.		samples)
<b>M</b> T 11	Measurement of degree of sensitization in stainless	ASTM G108-94 (2018)	Per sample
	steel by Single loop electrochemical potentiokinetic		
	reactivation test		
<b>M</b> T 12	Measurement of degree of sensitization in stainless		Per sample
	steel by double loop electrochemical potentiokinetic		
	reactivation test method		
<b>M</b> T 13	Electrochemical Impedance	ASTM G106-89 (2010)	Per sample
MT 14	Measurement of Corrosion potential of Al- alloys.	ASTM G69-97	Per sample
<b>M</b> T 15	Evaluation of IGC resistance of Al-alloys	ASTM G110-92	Per sample
MT 16	Evaluation of IGC resistance of Al-alloys	ASTM G67-92 (NAMLT)	Per sample
MT 17	High temperature oxidation		Per sample (min
			100 hour)
<b>M</b> T 18	Anodic/Cyclic polarization test	ASTM G5-94 (2011)	Per sample
<b>M</b> T 19	Electrochemical Impedance with time up to 10 days		Per sample
<b>M</b> T 20	Impact test on Notched Charpy at room temperature	ASTM E23	Per sample
<b>M</b> T 21	Impact test on Notched Charpybelow RT and upto -50°C	ASTM E23	Per sample
<b>M</b> T 22	Impact test on Notched Charpy at High temperatureupto		Per sample
	100°C		
<b>M</b> T 23	Hardness tests (Vicker/Brinell/Rockwell/Pyramid)		Per sample (5



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			reading)
MT 24	Tensile Test (At room temperature)	ASTM E8 M or	Per sample
		equivalent	
MT 25	Tensile Test (At high temperature up to 750 °C)	ASTM E8 M or	Per sample
		equivalent	
MT 26	Tensile Test (At high temperature >750 °C≤ 1000 °C		Per sample
MT 27	$K_{ m Ic}$ / CTOD test at RT	ASTM E 1820 or	Per sample
		equivalent	
<b>M</b> T 28	$ m J_{Ic}$ / $ m J$ -R curve / CTOD-R curve test	ASTM E 1820 or	
		equivalent	
<b>M</b> T 29	High cycle Fatigue test (Single stress value)	ASTM E 466 or	Per Hour
		equivalent	
<b>M</b> T 30	Fatigue test (S-N curve generation) (20 specimens will	ASTM E 466 or	Per grade
	be tested)	equivalent	
MT 31	Low cycle fatigue at RT	ASTM E 606 or	Per sample
		equivalent	
<b>M</b> T 32	Low cycle fatigue up to 500°C	ASTM E 606 or	Per sample
		equivalent	
<b>M</b> T 33	FCGRat RT	ASTM E 647 or	Per sample
		equivalent	
<b>M</b> T 34	Creep Test Stress rupture test up to 700 °C	ASTM 139 or	Per sample per
		equivalent	1000 hrs
<b>M</b> T 35	Creep test up to 700 °C	ASTM 139 or	Per sample per
		equivalent	1000 hrs
<b>M</b> T 36	Creep or stress rupture test above 700 °C (Max.1100 °C)	ASTM 139 or	Per sample per
		equivalent	1000 hrs
MT 37	Metallography Examination of microstructure		Per sample
	andmacrostructure including cutting, grindingand		



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	preparing the specimen and			
	interpretation of results with photograph			
<b>M</b> T 38	Metallography (quantitative)	Per sample		
<b>M</b> T 39	SEM - EDS	Per sample		
MT 40	SEM - EBSD	Per sample		
MT 41	SEM-In-situ Deformation/Tensile upto 2kN	Per sample		
MT 42	X-ray diffraction for normal 2 deg./m	Per sample		
	diffractogram (without interpretation)			
MT 43	Quantitative phase analysis XRD	Per sample		
MT 44	Residual stress by XRD	Per sample per		
		spot		
MT 45	TEM examination plus EDAX micro-analysis withsample	Per sample		
	preparation			
MT 46	AFM Per sample			
		hour		
MT 47	EPMA (WDX/EDX) Per hour			
MT 48	Mechanical processing in hot rolling with salt bath Per Sample			
	treatment			
MT 49	Mechanical Processing in Forging (Hot Material)	Per sample		
MT 50	Mechanical Processing in Cold Rolling Per sample			
MT 51	Mechanical Processing in Hot Rolling Per sample			
MT 52	Mechanical Processing in Wire drawing M/C (Bench			
	Draw) Wire drawing M/C	Per sample		
MT 53	Heat treatment (upto1000 °C up to 8 hr) Per sample			
MT 54	Heat treatment (1000-1200 °C up to 8 hr)			
MT 55	Salt bath heat treatment (220 °C to 650 °C for 8 hrs Per Sample			
MT 56	Sheet Metal forming test (Erichsen cupping test tool No. 21)	Per Sample		



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MT 57	Sheet Metal forming test (Deep drawing cup test)	Per Sample
MT 58	Sheet Metal forming test(hole expansion test)	Per Sample
MT 59	Sheet Metal forming test(Nakajima test for FLC)	Per FLC
MT 60	Hot Dip process simulator (HDPS) Test galvanizing test	Per day(max 20 Sample)
MT 61	Hot Dip process simulator (HDPS) Test galvannealing test	Per day(max 20 Sample)

# Research Planning and Business Development (RPBD) Division

#### 1. Patent:

S.N	Service Code	Service Name
RP 1	PT 01	Provisional patent specification drafting & filing
RP 2	PT 02	Complete patent specification drafting & filing
RP 3	PT 03	Complete specificationafter filing provisional specification
RP 4	PT 04	Patent prior art search
RP 5	PT 05	Freedom to Operate(FTO) Analysis
RP 6	PT 06	IP analytics and whitespace mapping

#### 2. Trade Mark:





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S.N	Service Code	Service Name
RP 7	TM 01	Application for registration of trademark including search & examination reply
RP 8	TM 02	Trademark prosecution fees
RP 9	TM 03	Trademark counter statement drafting, filing and prosecution
RP 10	TM 04	Trademark opposition, drafting, filing and prosecution
RP 11	TM 05	Trademark renewal

#### 3. INDUSTRIAL DESIGN

S.N	Service Code	Service Name
RP 12	ID 01	Application for registration per class based with all essential forms including search
RP 13	ID 02	Industrial design prosecution fee

### 4. Copyright

S.N	Service Code	Service Name
RP 14	CR 01	Application for registration of copyright



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RP 15	CR 02	Prosecution & obtaining certificate of copyright

### **5.GEOGRAPHICAL INDICATION**

S.N	Service Code	Service Name
RP 16	GI 01	Drafting & filing in India in single class & Prosecution charges till registration which includes technical support, documentation, legal & statutory advisory