



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name INDUSTRIAL DEVELOPMENT & TESTING LABORATORY, 40/107, JAI BIBI ROAD, PLOT NO. 18 & 20 , GHUSURI, HOWRAH, WEST BENGAL, INDIA

Accreditation Standard ISO/IEC 17025:2005

Certificate Number TC-8143 Page No. : 2 / 20

Validity 22/11/2018 to 21/11/2020 Last Amended on 26/11/2018

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
16	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM ALLOYS	Nickel	ASTM E 1251 – 2017a: 2017	0.010 % to 0.30 %
17	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM ALLOYS	Silicon	ASTM E 1251 – 2017a: 2017	0.05 % to 16.00 %
18	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM ALLOYS	Tin	ASTM E 1251 – 2017a: 2017	0.005 % to 0.10 %
19	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM ALLOYS	Titanium	ASTM E 1251 – 2017a: 2017	0.01 % to 0.25 %
20	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM ALLOYS	Zinc	ASTM E 1251 – 2017a: 2017	0.10 % to 0.30 %
21	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Chromium	IS 504 (Part 8) - 2002 (R.A. 2018): 2002	0.10 % to 0.30 %
22	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Copper	IS 504 (Part 3) - 2002 (R.A. 2018): 2002	0.10 % to 5.00 %
23	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Iron	IS 504 (Part 2) - 2002 (R.A. 2018): 2002	0.11 % to 2.00 %
24	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Magnesium	IS 504 (Part 6) - 2002 (R.A. 2018): 2002	0.11 % to 11.00 %
25	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Manganese	IS 504 (Part 5) - 2002 (R.A. 2018): 2002	0.10 % to 1.50 %
26	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Nickel	IS 504 (Part 7) - 2002 (R.A. 2018): 2002	0.05 % to 4.00 %
27	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Silicon	IS 504 (Part 1) - 2002 (R.A. 2018): 2002	0.31 % to 13.00 %
28	CHEMICAL- METALS & ALLOYS	ALUMINIUM & ALUMINIUM BASE ALLOYS	Tin	IS 504 (Part 9) - 2002 (R.A. 2018): 2002	0.02 % to 0.10 %

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41	CHEMICAL- METALS & ALLOYS	CARBON & LOW ALLOY STEEL	Silicon	ASTM E 415 - 2017 & IS 8811 - 1998 (R.A. 2012): 2017	0.014 % to 1.85 %
42	CHEMICAL- METALS & ALLOYS	CARBON & LOW ALLOY STEEL	Sulphur	ASTM E 415 - 2017 & IS 8811 - 1998 (R.A. 2012): 2017	0.005 % to 0.05 %
43	CHEMICAL- METALS & ALLOYS	CARBON & LOW ALLOY STEEL	Vanadium	ASTM E 415 - 2017 & IS 8811 - 1998 (R.A. 2012): 2017	0.005 % to 0.55 %
44	CHEMICAL- METALS & ALLOYS	CARBON AND LOW ALLOY STEEL	Carbon	ASTM E 415 - 2017 & IS 8811 - 1998 (R.A. 2012): 2017	0.02 % to 1.00 %
45	CHEMICAL- METALS & ALLOYS	CAST IRON	Carbon	IS 12308 (Part 11) - 1991 (R.A. 2012): 1991	1.50 % to 4.50 %
46	CHEMICAL- METALS & ALLOYS	CAST IRON	Manganese	IS 12308 (Part 10) - 1991 (R.A. 2012): 1991	0.10 % to 5.00 %
47	CHEMICAL- METALS & ALLOYS	CAST IRON	Nickel	IS 12308 (Part 7) - 1991 (R.A. 2012): 1991	0.50 % to 2.00 %
48	CHEMICAL- METALS & ALLOYS	CAST IRON	Phosphorus	IS 12308 (Part 5) - 1991 (R.A. 2012): 1991	0.01 % to 0.50 %
49	CHEMICAL- METALS & ALLOYS	CAST IRON	Silicon	IS 12308 (Part 6) - 1991 (R.A. 2012): 1991	0.10 % to 6.00 %
50	CHEMICAL- METALS & ALLOYS	Copper & Copper Alloy	Aluminium	BS EN 15079: 2015	0.001 % to 0.010 %
51	CHEMICAL- METALS & ALLOYS	Copper & Copper Alloy	Antimony	BS EN 15079: 2015	0.005 % to 0.010 %
52	CHEMICAL- METALS & ALLOYS	Copper & Copper Alloy	Arsenic	BS EN 15079: 2015	0.005 % to 0.010 %
53	CHEMICAL- METALS & ALLOYS	Copper & Copper Alloy	Bismuth	BS EN 15079: 2015	0.010 % to 0.15 %
54	CHEMICAL- METALS & ALLOYS	Copper & Copper Alloy	Boron	BS EN 15079: 2015	0.0005 % to 0.006 %

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70	CHEMICAL- METALS & ALLOYS	COPPER & COPPER ALLOYS	Silver	BS EN 15079 - 2015: 2015	0.001 % to 0.050 %
71	CHEMICAL- METALS & ALLOYS	COPPER & COPPER ALLOYS	Tin	BS EN 15079 - 2015: 2017	0.01 % to 5.50 %
72	CHEMICAL- METALS & ALLOYS	COPPER & COPPER ALLOYS	Zinc	BS EN 15079 - 2015: 2015	0.15 % to 49.00 %
73	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Copper	IS 440 - 1964 (R.A. 2018), IS 3685 - 1966 (R.A. 2012), IS 7212 - 1974 (R.A. 2015) & IS 4027 (Part 1) - 1987 (R.A. 2012): 1964	50.00 % to 99.99 %
74	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Iron	IS 4027 (Part 8) - 1991 (R.A. 2012): 1991	0.05 % to 6.00 %
75	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Lead	IS 3685 - 1966 (R.A. 2012), IS 4027 (Part 1) - 1987 (R.A. 2012) & IS 440 - 1964 (R.A. 2018): 1966	0.10 % to 14.00 %
76	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Manganese	IS 3187 - 1965 (R.A. 2012): 1965	0.10 % to 2.00 %
77	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Nickel	IS 3685 - 1966 (R.A. 2012): 1966	0.05 % to 5.00 %
78	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Phosphorous	IS 3685 - 1966 (R.A. 2012), IS 4027 (Part 3) - 1987 (R.A. 2012) & IS 440 - 1964 (R.A. 2018): 1966	0.01 % to 0.60 %
79	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Silicon	IS 3685 - 1966 (R.A. 2012): 1966	0.05 % to 2.50 %
80	CHEMICAL- METALS & ALLOYS	COPPER AND COPPER BASE ALLOYS	Tin	IS 3685 - 1966 (R.A. 2012) & IS 4027 (Part 5) - 1987 (R.A. 2012): 1966	0.10 % to 13.00 %

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93	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Aluminium	ASTM E 2209 – 2013: 2013	0.002 % to 0.010 %
94	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Carbon	ASTM E 2209 – 2013: 2013	0.70 % to 1.40 %
95	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Chromium	ASTM E 2209 – 2013: 2013	0.50 % to 2.50 %
96	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Manganese	ASTM E 2209 – 2013: 2013	10.00 % to 14.00 %
97	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Molybdenum	ASTM E 2209 – 2013: 2013	0.25 % to 1.40 %
98	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Nickel	ASTM E 2209 – 2013: 2013	1.50 % to 4.40 %
99	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Phosphorus	ASTM E 2209 – 2013: 2013	0.030 % to 0.10 %
100	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Silicon	ASTM E 2209 – 2013: 2013	0.20 % to 1.00 %
101	CHEMICAL- METALS & ALLOYS	HIGH MANGANESE STEEL	Sulphur	ASTM E 2209 – 2013: 2013	0.005 % to 0.020 %
102	CHEMICAL- METALS & ALLOYS	IRON & STEEL	Chromium	IS 228 (Part 6) - 1987 (R.A. 2014): 1987	0.10 % to 25.00 %
103	CHEMICAL- METALS & ALLOYS	Iron & Steel	Phosphate Coating Test	IS 3618 - 1966 (R.A. 2016): 1966	0.30 g/sq.m. to 100 g/sq.m.
104	CHEMICAL- METALS & ALLOYS	IRON & STEELS	Carbon	IS 228 (Part 1) - 1987 (R.A. 2018): 1987	0.05 % to 1.50 %
105	CHEMICAL- METALS & ALLOYS	IRON & STEELS	Copper	IS 228 (Part 15) - 1992 (R.A. 2014): 1992	0.05 % to 2.00 %
106	CHEMICAL- METALS & ALLOYS	IRON & STEELS	Manganese	IS 228 (Part 2) - 1987 (R.A. 2018): 1987	0.10 % to 5.00 %
107	CHEMICAL- METALS & ALLOYS	IRON & STEELS	Molybdenum	IS 228 (Part 7) - 1990 (R.A. 2018): 1990	1.00 % to 3.50 %

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123	CHEMICAL- METALS & ALLOYS	Stainless Steel / High Alloy Steel	Vanadium	ASTM E 1086: 2014	0.010 % to 0.30 %
124	CHEMICAL- METALS & ALLOYS	WHITE METAL	Antimony	IS 1409 - 1959 (R.A. 2016) , Sec. 6: 1959	2.00 % to 16.00 %
125	CHEMICAL- METALS & ALLOYS	WHITE METAL	Copper	IS 1409 - 1959 (R.A. 2016): 1959	0.10 % to 6.00 %
126	CHEMICAL- METALS & ALLOYS	WHITE METAL	Lead	IS 1409 - 1959 (R.A. 2016) , Sec. 7: 1959	3.00 % to 80.00 %
127	CHEMICAL- METALS & ALLOYS	WHITE METAL	Tin	IS 1409 - 1959 (R.A. 2016) , Sec. 4: 1959	4.50 to 90.00
128	CHEMICAL- METALS & ALLOYS	ZINC COATED IRON & STEEL ARTICLES	Dip Test	IS 2633 - 1986 (R.A. 2016) & BS 729 - 1971: 1986	Qualitative(Visible)
129	CHEMICAL- METALS & ALLOYS	ZINC COATED IRON & STEEL ARTICLES	Mass Test	IS 6745 - 1972 (R.A. 2016) , IS 1573 - 1986 (R.A. 2016) , BS 729 - 1971 & BS EN ISO 1461 - 2009: 1972	50 g/m2 to 1500 g/m
130	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	(a) Consistency (b) Viscosity , Ford Cup No. 4	IS 101 (Part 1 / Sec. 5) - 1989 (R.A. 2014), Cl. 3: 1989	10 S to 200 S
131	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Accelerated Storage Stability	IS 168 - 1993, Annex.D / IS 13607 - 1992, Annex. C: 1993	Qualitative
132	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Acid Value	IS 101 (Part 9 / Sec. 1) : 1993	0.5 mg KOH/g to 100 mg KOH/g
133	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Colour	IS 101 (Part 4 / Sec. 2) - 1989 (R.A. 2014) , Ref. IS 5 - 2007 (R.A. 2017): 1989	Qualitative
134	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Drying Time (a) Surface Dry (b) Hard Dry (c) Tack Free	IS 101 (Part 3 / Sec. 1) - 1986 (R.A. 2017), Cl. 2.1, 2.2 & 2.3: 1986	Qualitative

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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
146	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Scratch Hardness	IS 101 (Part 5 / Sec. 2) - 1988 (R.A. 2014) , Cl. 1B: 1988	Qualitative
147	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Unreacted Monomer Percentage by Mass	Appendix 8 of Spec. No. M & C/PCN/100/2006: 2006	Qualitative(Range : 2% Max)
148	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Volatile Matter by Mass	IS 101 (Part 2 / Sec. 2) - 1986 (R.A. 2017): 1986	0.5 % to 50 %
149	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Volume Solids	IS 101 (Part 8 / Sec. 6) - 1993 (R.A. 2014): 1993	1 % to 90 %
150	CHEMICAL- PAINTS & SURFACE COATING	Ready Mixed Paint Primers	Water Content	IS 101 (Part 2 / Sec. 1) - 1988 (R.A. 2014): 1988	0.1 % to 2.0 %
151	CHEMICAL- RUBBER & RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Ash Content	IS 3400 (Part 22) - 1984 (R.A. 2013): 1984	0 to 80 %
152	CHEMICAL- RUBBER & RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Polymer Identification	IS 3400 (Part 22)- 1984 (R.A. 2013) : 1984	Qualitative
153	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Deformed Steel bar	Re-bend Test	IS 1786 - 2008 (R.A. 2013): 2008	Qualitative((Mandrel Dia : 24, 30, 32, 36, 40, 42, 48, 50, 56, 60, 70, 72, 84, 96, 112, 120, 128, 140, 150, 160, 168, 175, 192, 196, 200, 224 & 256 mm))
154	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Materials	Tensile Test (% Reduction of Area)	ISO 6892 – Part1 : 2016 & ASTM A-370 -17a, IS 1608-Part-1: 2018	2 % to 75 %
155	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Ferrous & Non Ferrous Materials	Tensile Test (%Elongation)	ISO 6892 - Part1- 2016 & ASTM A-370-17a, IS 1608 -Part 1: 2018	1 % to 70 %

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164	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metal & Insulator Fittings for Overhead Power Lines greater than 1000 Volt	Verification of Dimension	IS : 2486 (Part 2) - 1989 (R.A. 2014) : 1989	Qualitative
165	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Bend Test	IS 1599 - 2012 (R.A. 2017) , ASTM E 290 - 2014 & ASTM A - 370 - 2017a: 2012	Qualitative((Mandrel Diameter : 2, 4, 5, 6, 8, 10, 12, 16, 18, 20, 24, 30, 32, 36, 40, 44, 48, 50, 56, 60, 66, 72, 75, 80, 90, 100, 108 mm))
166	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Bend Test (For Pipes)	IS 2329 - 2005 (R.A. 2017): 2005	Qualitative((OD : 10 mm to 50 mm))
167	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Brinell Hardness Test	ASTM E 10 - 2017 & ASTM A 370 - 2017a, IS 1500 - 1: 2013	100 HBW to 520 HBW
168	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Brinell Hardness Test	IS : 1500 - 1 : 2013 , ASTM E 10 - 2017 & ASTM A 370 - 2017a: 2013	100 HBW to 177 HBW
169	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Charpy Impact Test 'V' Notch	IS 1757 (Part 1) : 2014	2 J to 240 J
170	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Izod Impact ('V' Notch)	IS 1598 - 1977 (R.A. 2015): 1977	16 J to 126 J
171	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Rockwell Hardness Test B Scale	IS 1586 - 1 : 2012 (R.A. 2017) & ASTM E 18 - 2017: -	45 HRBW to 100 HRBW
172	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metallic Materials	Rockwell Hardness test C Scale	IS 1586 - 1 : 2012 (R.A. 2017) & ASTM E 18 - 2017: 2012	20 HRC to 65 HRC

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181	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel Fasteners	Ultimate Tensile Load Test of machined bolts	ISO 898 : 1 : 2013 & ASTM A - 193M - 2017, IS 1367 (Part 3) : 2017	12 Mpa to 600 Mpa
182	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel Wire	Torsion Test	IS : 1717: 2012	Qualitative(Dia = 0.10 mm to 5.00 mm)
183	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel Wire	Wrapping Test	IS : 1755 - 1983 (R.A. 2010): 1983	Qualitative(Dia = 0.30 mm to 5.00 mm)
184	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Welds & Welded test specimens	Fillet Weld Fracture	ASME Sec. IX - 2017 (QW 182) & IS 3600 (Part 8) - 1985 (R.A. 2013): 2017	Qualitative
185	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Welds & Welded test specimens	Macro Examination	ASME Sec. IX - 2017 (QW 183) & IS 3600 (Part 9) - 1985 (R.A. 2013): 2017	Qualitative((Visual))
186	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Welds & Welded test specimens	Nick Break	IS 3600 (Part 8) - 1985 (R.A. 2013): 1985	Qualitative
187	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Welds & Welded test specimens	Transverse Bend (Root Bend , Face Bend & Side Bend)	ASME Sec. IX - 2017 (QW 160) , IS 3600 (Part 5) - 1983 (R.A. 2016) & IS 3600 (Part 6) -1983 (R.A. 2013): 2017	Qualitative((Roller dia 8, 10, 12, 16, 20, 24, 30, 32, 36, 40 & 48 mm))
188	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Welds & Welded test specimens	Transverse Tensile Test	ASME Sec. IX - 2017 (QW 150)& IS 3600 (Part 3) - 2009 (R.A. 2016): 2017	25 Mpa to 600 Mpa
189	MECHANICAL-METALLOGRAPHY TEST	Aluminium & Aluminium Alloys	Avg. Grain Size	IS 7739 (Part 1) - 1975 (R.A. 2017) , IS 7739 (Part 3) - 1975 (R.A. 2012) & ASTM E 112 - 2013: 1975	Qualitative(100X Magnification)

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199	MECHANICAL-METALLOGRAPHY TEST	Steel	Macroscopic Study	IS 13015 - 1991 (R.A. 2007) , IS 7739 (Part 5) - 1976 (R.A. 2012) , IS 11371 - 1985 (R.A. 2012) & ASTM E 381 - 2017: 1991	Qualitative(20X Magnification)
200	MECHANICAL-METALLOGRAPHY TEST	Steel	Non Metallic Inclusion	IS 4163 - 2004 (R.A. 2017) & ASTM E 45 - 2018 Method A: 2004	Qualitative
201	MECHANICAL-METALLOGRAPHY TEST	Steel	Total Case Depth measurement by macrostructure method	IS 6416 - 1988 (R.A. 2012): 1988	10 micron to 1000 micron
202	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	%Elongation at Break	ASTM D 638 - 2014 & ISO 527 - 2 : 2012: 2014	1 % to 500 %
203	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Compression Strength	ASTM D 695: 2015	1 MPa to 100 MPa
204	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Melt Flow Index	ASTM D 1238: 2013	0.15 g / 10 min to 50 g / 10 min
205	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Rockwell Hardness in R Scale	ASTM D 785 - 2008 (R.A. 2015) : 2008	110 HRR to 130 HRR
206	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Specific Gravity	ASTM D 792 : 2013	0.80 to 3.00
207	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Tensile Strength	ASTM D 638 - 2014 & ISO 527 - 2 : 2012: 2014	10 MPa to 250 MPa
208	MECHANICAL-PLASTICS AND PLASTIC PRODUCTS	Polymer Products / Plastic & Plastic Products	Water Absorption	ASTM D 570 - 1998 (R.A. 2010) & ISO 62 - 2008 (At Room Temperature Only): 1998	0.05 % to 50 %

INDUSTRIAL DEVELOPMENT & TESTING LABORATORY

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Validity 22/11/2018 to 21/11/2020 Last Amended on 26/11/2018

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
218	MECHANICAL-RUBBER AND RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Rubber Properties in Compression	ASTM D 575 (2012): 1991	1 N/mm ² to 100 N/mm ²
219	MECHANICAL-RUBBER AND RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Shore A Hardness	IS 3400 (Part 23 / Sec. 1) - 2018 & ASTM D 2240 - 2015e1: 2018	10 N/mm ² to 90 N/mm ²
220	MECHANICAL-RUBBER AND RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Shore D Hardness	IS 3400 (Part 23 / Sec. 1) - 2018 & ASTM D 2240 - 2015e1: 2018	30 to 100 Shore D
221	MECHANICAL-RUBBER AND RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Tensile Strength	IS 3400 (Part 1) - 2012 (R.A. 2017) , ASTM D 412 - 2018 & ISO 37 - 2017: 2012	5 N/mm ² to 700 N/mm ²
222	MECHANICAL-RUBBER AND RUBBER PRODUCTS	Polymer Products / Rubber & Rubber Products	Tension Set	IS 3400 (Part 13) - 1983 (R.A. 2013) , ASTM D 412 - 2018 & BS EN ISO 2285 - 2013: 1983	0 to 100 %