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| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|--------------|--|---|---|---|
| I. | MECHANICAL PROPERTIES OF MATERIALS | | | |
| 1. | Ferrous & Non Ferrous - Pipes Structural steel Reinforcement steel bar Square tube Sheet Plane Sections Fittings Steel Wire Round bar/ bolt/fasteners | Tensile test Yield Strength Tensile Strength Elongation % %Reduction of area Shear Strength Hardness by Vickers Hardness by Brinell Hardness by Rockwell Bend Test | IS 1608: 2005 ISO 6892 :1998 ASTM E 8 M-2009 ASTM A 370 –2009ae1 ASME SEC-IX-10 IS 3600 (Part 3): 2009 IS 5242: 1979 (RA 2010) IS 1501: 2002 ISO 6507: 1 1997 ASTM E 92: 1982(2003)e2 IS 1500 (Part 1 to 3): 2013 ISO 6506(Part 1 to) 2005 ASTM E 10-2008 IS 1586 (Part 1to3): 2012 ISO 6508 (Part1to 3) 2005 ASTM E 18-2008b IS 1599: 2012 IS 2329: 2005 ISO 8491: 1998 ASME Sec IX-10 IS 3600 (Part5): 1983 (RA2010) ISO 5173:1981 (RA 2006) IS 3600 (Part-6): 1983 (RA 2008) ISO 5177: 1981 (RA 2003) | 0.001to1000 kN 50 to 2000 N/mm ² 50 to 4000 N/mm ² 1 to 80 % 1 to 80 % 0.001 to 1000 kN 50 to 200 HV ₅ 100to 600 HV ₁₀ , 300to 900 HV ₃₀ 50 to 400 HBW (2.5/187.5) 45 to 88 HRA (L.C 1 HRA) 30m to 100 HRB (L.C 1 HRB) 20 to 70 HRC (L.C 1 HRC) Qualitative (Mandrel Sizes upto 486 mm) |

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| | | Izod Impact tests (Room Temp.) | IS 1598: 1977 (RA2003) | 2 to 168 Joule (L.C.-2 Joule) |
| | | Charpy Impact Test (V-Notch & U-Notch) (Room Temp. & upto -40°C) | IS 1757 : 1988 (RA 2003) IS 1499: 1977 (RA 2009) IS 3600 (Part 2): 1985 (RA 2008) | 2 to 300 Joule (L.C.-2 Joule) |
| 2. | Tubes & Sockets | Drift expansion test | IS 2335: 2005 ISO 8493: 1998 | Qualitative |
| | | Flattening test | IS 2328: 2005 ISO 8492:1998 | Qualitative |
| 3. | Wire & Bars | Reverse bend Test | IS 1716: 1985 (RA 2010) | Qualitative |
| 4. | Reinforcement Bar | Re-bend test | IS 1786: 2008 | Qualitative |
| 5. | Aluminium & Ferrous Based | Measurement of Coating Thickness | IS 1868: 1996 (RA 2006) IS 6012: 1992 (RA 2010) IS 5523: 1983 (RA 2010) IS 3203: 1982 (RA 2006) | 1 to 1000 Micron (L.C.-0.1 & 1µm) |
| 6. | CI Pipe & Fittings | Hammer Test | IS 1729: 2002 (RA 2007) | Qualitative |
| | | Ring Test | IS 1536 : 2001 (RA2006) | 0.001 to 100 kN 50 to 1000 MPa |
| | | Coating test (To Observe Chipping & Flow of tar Coating) | IS 1536 : 2001 (RA 2006) IS 1537 : 1976 (RA 2006) IS 1538: 1993 (RA 2009) IS 3989: 2009 IS 1729: 2002 (RA 2007) | Qualitative (0 ° to 80 ° C) |

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|--------------|--|--------------------------------|---|---|
| 7. | Ferrous & Non Ferrous - Pipes Structural steel Reinforcement steel bar Square tube Sheet Plate Sections Fittings Milk can Ghee Tin Steel Wire Door Bolt Tower Bolt Door Handle Sink | Dimension | IS 1239: (Part 1): 2004 IS 1239: (Part 2): 2011 IS 3589: 2001 (RA 2006) IS 1161: 2014 IS 2062: 2011 IS 4923: 1997 (RA 2003) IS 1786: 2008 Clause 5.2 IS 778: 1984 (RA 2010) IS 14846: 2000 (RA 2005) IS 781: 1984 (RA 2005) IS 8329: 2000 (RA 2005) IS 1978: 1982 (RA 2009) IS 4246: 2002 (RA 2008) IS 5116: 1996 (RA 2011) IS 13983: 1994 (RA 2004) IS 10325: 2000 (RA 2005) IS 10339: 2000 (RA 2005) IS 1825: 1983 (RA 2011) IS 10773: 1995 (RA 2006) IS 1135: 1995 (RA 2006) IS 277: 2003 (RA 2007) IS 208: 1996 (RA 2012) IS 281: 2009 IS 737: 2008 IS 204 (Part1): 1991 (RA2010) IS 204 (Part2): 1992 (RA2012) IS 13316: 1992 (RA2008) IS 1536: 2001 (RA2006) IS 1537: 1976 (RA2005) IS 1538: 1993 (RA2009) IS 1729: 2002 (RA2007) IS 3989: 2009 | Measuring tape 1mm to 3 mtr Vernier caliper 0.01 mm to 450 mm Micrometer 0.01 to 25 mm 25 mm to 50 mm |

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|--------------|---|--------------------------------|---|---|
| | | Dimension | IS 733: 1983 (RA2006) IS 7452: 1990 (RA2003) IS 9396: (Part1): 1987 (RA 2005) IS 9503: 1988 (RA 2005) IS 9550: 2001 (RA 2004) | Measuring tape 1mm to 3 mtr Vernier caliper 0.01 mm to 450 mm Micrometer 0.01 to 25 mm 25 mm to 50 mm |
| 8. | Structural steel Reinforcement steel bar Square tube Sheet Plate Sections Pipes / Tube | -Mass/meter | IS 1239 (Part1): 2004 IS 1161: 2014 IS 1786: 2008 IS 2062: 2011 IS 4923: 1997 (RA 2003) IS 3589: 2001 (RA 2006) IS 1825: 1983 (RA 2011) IS 1536 : 2001 (RA 2006) IS 1537 : 1976 (RA 2005) IS 1538: 1993 (RA 2009) IS 3989: 2009 IS 1729: 2002 (RA 2007) IS 7138: 1973 (RA 2003) IS 7452: 1990 (RA2003) | 1g to 8kg (L.C.- 0.1 g.) 0.01kg to 150kg (L.C.- 1 g) |
| II. | METALLOGRAPHY TEST | | | |
| 1. | Cast Iron/Ductile Iron and Ferrous Material | Macro structural analysis | ASTM E3-01 (RA 2011)e1 IS 11371: 1985 (RA 2007) IS 3600 (Part 9): 1985 (RA 2008) | Qualitative |
| | | Micro structural analysis | ASTM E3: 01 (RA2011)e1 IS 3600 (Part 9): 1985 (RA 2008) IS 7739 (Part 1): 1975 (RA 2010) IS 7739 (Part 5): 1976 (RA 2007) IS 7754: 1975 (RA 2007) Metals handbook Vol 7 8 th edition | Qualitative |

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| | Cast Iron/Ductile Iron and Ferrous Material | Estimation of grain size by microscopic method | ASTM E 112-2010 IS 4748: 2009 | Qualitative (1to10) |
| | | Determination of case depth by microscopic method | IS 6416: 1988 (RA 2007) | Qualitative (0.01 to 1.0mm) |
| | | Determination of case depth by Micro-Hardness | IS 6416: 1988 (RA 2007) | Qualitative (0.01 to 1.0mm) |
| | | Determination of inclusion rating | ASTM E45-2005 e3 IS 4163: 2004 ISO 4967 : 1998 | Qualitative (Thin /Thick to 5) |
| | | Determination of depth of decarburized layer by Microscopic Method | ASTM E1077-2001 (RA 2005) IS 6396: 2000 (RA 2007) | Qualitative 0.01 to 0.5mm) |
| 2. | Metallic /Non metallic coating on Ferrous/ Non-ferrous | Measurement of Coating Thickness by Microscopy Method | ASTM E 3-2001 (RA2 011)e1 IS 5523: 1983 IS 3203: 1982 (RA 2006) | 15 to 250 Micron |
| 3. | Thin material & Coating | Determination of Micro hardness | IS 1501: 2002 ISO 6507-1 2013 ASTM E384 – 2009 | 50 to 900 HV1 50 g to 1kg |
| III. BUILDING MATERIALS | | | | |
| 1. | Cement | Setting Time | IS 4031 (Part 5): 1996 (RA 2009) ASTM C 191-2008 BS EN 196 (Part 3)2005+A1 2008 | 10 min. to 24 hours |

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| | | Heat of Hydration | IS 4031 (Part 9): 1988 (RA 2005) ASTM C 186-2005 BS EN 196 (Part 9) -2010 | 50 to 600 KJ/kg |
| | | Degree of Whiteness (For WPC only) | IS 8042: 1989 (RA2009) | 40 to 95% |
| | | Pozzolanicity | BS EN 196 (Part 5): 2011 | 1 to 25% |
| 2. | Aggregates (Coarse, Graded aggregates, Key aggregate, Stone Metal, Ballast) | Sieve analysis (Gradation) | IS 2386 (Part 1):1963 (RA 2011) ASTM C 136 : 2006 IS 383: 1970 (RA 2011) | 0 to 100% |
| | | Water absorption | IS 2386 (Part 3): 1963 (RA 2011) ASTM C 127- 2007 AASHTO T 85 2004 | 0.1 to 20% |
| | | Impact value | IS 2386 (Part 4): 1963 (RA 2011) IS 5640 -1970 (RA 2013) ASTM C 131-2011 | 10 to 50% |
| | | Abrasion value | IS 2386 (Part 4): 1963 (RA2011) ASTM C 131-2006 | 5 to 50% |
| | | Crushing value | IS 2386 (Part 4): 1963 (RA 2011) | 5 to 50% |
| | | Bulk density/ Density | IS 2386 (Part 3): 1963 (RA 2011) ASTM C 29-2009 & C 128-2007 | 1 to 3kg/L |
| | | Specific gravity | IS 2386 (Part 3): 1963 (RA 2011) ASTM C 127-2007 , ASTM C 128 -2007 AASHTO T 85: 2004 | 1.0 to 3.5 |

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|--------------|---|--|--|---|
| | Aggregates (Coarse, Graded aggregates, Key aggregate, Stone Metal, Ballast) | Polished Stone Value (PSV) | DIN EN 1097 (Part 8) 2009 BS 812 (Part 114) 1989 IS 2386 (Part 4):1963 (RA 2011) | 30 to 70 |
| | | Stripping Value | IS 6241: 1971 (RA 2013) | 40 to 100 % |
| 3. | Aggregates (Fine, Stone dust, Sand , Crusher dust, Binding & Screening material) | Sieve analysis (Gradation) | IS 2386 (Part 1):1963 (RA 2011) ASTM C 136 : 2006 IS 383: 1970 (RA 2011) | 0 to 100% |
| | | Water absorption | IS 2386 (Part 3):1963 (RA2011) ASTM C 127- 2007 AASHTO T 85 2004 | 0.1 to 20% |
| | | Bulk density/ Density | IS 2386 (Part 3):1963 (RA 2011) ASTM C 29-2009 & C 128-2007 | 1 to 3kg/L |
| | | 75 micron passing materials | IS 2386 (Part 1):1963 (RA 2011) | 0.01 to 25.0% |
| | | Specific gravity | IS 2386 (Part 3): 1963 (RA 2011) ASTM C 127-2007 ASTM C 128 -2007 AASHTO T 85: 2004 | 1.0 to 3.5 |
| | | Deleterious materials | IS 2386 (Part 2): 1963 (RA 2011) ASTM C 142-1978 (RA 1984) | 0to 30% |
| | | Soundness | IS 2386 (Part 5): 1963 (RA2011) ASTM C 88-2011 | 0.01to 20 % |
| | | Alkali aggregate Reactivity (Chemical) Dissolved Silica Reduction in alkalinity Nature | IS 2386 (Part 7):1963 (RA2011) | 2to 25 milli moles /liter 10 to 200 millimoles /liter Qualitative |

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|--------------|---|---|--|---|
| | Aggregates (Fine, Stone dust, Sand , Crusher dust, Binding & Screening material) | Potential Alkali Aggregate Reactivity (Mortar Bar), Length Change | IS 2386 (Part 7):1963 (RA 2011) ASTM C 1260 -2007, ASTM C 227-2010, ASTM C 33 –2008, ASTM C 586 – 2005, ASTM C 1105 -2008 | 0.01 to 2% |
| | | Clay & Fine silt or fine dust (Sedimentation method) | IS 2386 (Part 2):1963 (RA 2011) | 0.1 to 50% |
| | | Fineness Modulus | ASTM C 136 2006 | 1 to 10 |
| | | Bulking | IS 2386 (Part 3):1963 (RA 2011) | 0.1 to 30% |
| | | Organic Impurities | IS 2386 (Part 2):1963 (RA 2011) ASTM C 40- 2004 | Qualitative (Visual) |
| | | Sand Equivalent Value | IS 2386 (Part 37):1976 (RA 2011) ASTM D 2419 -2009 | 20to 95% |
| 4. | Bricks (Burnt Clay bricks/ Modular Brick/ Non Modular / Sewer Brick) | Dimensions | IS 1077: 1992 (RA201) IS 2222 : 1991(RA2007) IS 4885: 1988 (RA2011) | 25to 5000 mm |
| | | - Length - Width - Thickness | | |
| | | Compressive strength | IS 3495 (Part 1): 1992 (RA 2011) | 35 to 2000 N/mm ² |
| | | Efflorescence | IS 3495 (Part 3): 1992 (RA 2011) | Qualitative (Visual) |
| | | Water absorption | IS 3495 (Part 2): 1992 (RA 2011) | 0.1 to 50% |

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| 5. | Bricks Fly Ash Bricks / Fly Ash Lime Bricks) | Dimensions | IS 12894 : 2002 (RA 2012) | 25 to 5000 mm |
| | | Length | IS 13757: 1993 (RA 2011) | |
| | | Width | | |
| | | Thickness | | |
| | | Compressive strength | IS 3495(Part 1): 1992 (RA 2011) | 35 to 2000 N/mm ² |
| | Efflorescence | IS 3495(Part 3): 1992 (RA 2011) | Qualitative (Visual) | |
| | Water absorption | IS 3495(Part 2): 1992 (RA 2011) | 0.1to 50% | |
| | Drying Shrinkage | IS 4139: 1989 (RA 2004) | 0.01to 2 % | |
| 6. | Bricks (Calcium Silicate Bricks) | Dimensions | IS 9428: 1993 (RA 2006) | 25 to 5000 mm |
| | | Length | | |
| | | Width | | |
| | | Thickness | | |
| | | Compressive strength | IS 9428: 1993 (RA 2010) | 50 to 2000 N/mm ² |
| | | Flexural strength | IS 9428: 1993 (RA 2010) | 10 to 1000 kN/m ² |
| | | Heat Resistance | IS 9428 : 1993 (RA 2010) | |
| | | Linear shrinkage | | 0.01to 10% |
| Loss in mass | | 0 to 2% | | |
| Compressive Strength | | 100 to 500 kN/ mm ² | | |
| | Bulk density | IS 9428 : 1993 (RA2010) | 1 to 3 g/cm ³ | |
| | Moisture content | IS 9428 : 1993 (RA2010) | 0.1 to 50% | |

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| 7. | Bricks (AR Bricks) | Compressive strength | IS 4860: 1968 (RA 2011) | 50 to 2000 N/mm ² |
| | | Water absorption | IS 4860: 1968 (RA 2011) | 0.1 to 50% |
| | | Warpage | IS 4860: 1968 (RA 2011) | 0.1 to 5mm |
| | | Resistance to Acid | IS 4860: 1968 (RA 2011) | 0.1 to 10% |
| | | Abrasion resistance | IS 4860: 1968 (RA 2011) | 0.1 to 10% |
| | | Flexural strength | IS 4860: 1968 (RA 2011) | 10 to 1000 kN/m ² |
| 8. | Bricks (Fire Clay, Castable Refractory) | Bulk density | IS 1528 (Part 6) : 2010 IS 10570 : 2011 | 1 to 3 g/cm ³ |
| | | True Density / Specific gravity | IS 1528(Part 6): 2010 IS 10570 :1983 (RA 2002) | 2 to 3.5 |
| | | Apparent porosity | IS 1528 (Part 6): 2010 IS 10570: 1983 (RA 2002) | 0.1to 100% |
| | | Linear change | IS 1528 (Part 6): 2010 IS 10570 : 1983 (RA 2002) | (-)5 to 5% |
| | | Cold crushing strength | IS 1528 (Part 6): 2010 IS 10570 :1983 (RA 2002) | 50 to 2000 N/mm ² |
| | | Modulus of rupture | IS 1528 (Part 6): 2010 IS 10570 :1983 (RA 2002) | 10 to 100 N/mm ² |
| 9. | Stones (Marble) | Dimensions | IS 1130: 1969 (RA 2013) ASTM C 615 2010, EN 98 : 1991 | 5 to 500 mm |

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| | Stones (Slate Stone, Quartz Base Stone, Sand stone, Dholpur stone, Kota Stone) | Apparent /Open Porosity | IS 1124: 1974 (RA2013) IS 13030: 1991 (RA2001) EN 772 (Part 4): 1998 | 0.1 to 50% |
| | | Specific gravity/ Real & Bulk density | IS 1122: 1974 (RA2013) | 2 to 3.5 |
| | | Modulus of Rupture | IS 1121(Part 2): 2013, Guidelines of EN 100 1991 | 5 to 50 N/mm ² |
| | | Moh's hardness (Scratch Hardness) | IS 1130: 1969 (RA2013) ASTM C 615: 2010 | 1 to 9 Scale |
| | | Dimensions | IS 1130: 1969 (RA2013) ASTM C 615: 2010 EN 98 :1991, EN 176 1992 | 10to 800 mm |
| | | Resistance to thermal shock | EN 104: 1991 | Qualitative (Visual) |
| | | Weathering | IS 1125 :1974(RA 2008) | Qualitative (Visual) |
| | | Durability | IS 1126 :1974 (RA 2008) | Qualitative |
| 12. | Tiles (Ceramic/ Glazed Vitrified) | Dimensions & Surface quality | IS 13630 (Part 1):2006 (RA 2012) IS 15622 :2006 (RA 2011) BS 6431 (Part 10): 1997 EN 98 1991 ISO 10545 (Part 2): 1985 IS 4457: 2007 IS 654: 1992 (RA 2002) IS 6250: 1981 (RA 2008) | 5 to 900 mm |

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|--------------|---|-----------------------------------|---|---|
| | Tiles (Ceramic/ Glazed Vitrified) | Thermal Shock Resistance | IS 13630 (Part 5): 2006 (RA 2012) BS 6431 (Part 16): 1992 EN 104 1991 ISO 10545 (Part 9): 2004 | Qualitative (10 to 50 cycles) |
| | | Tile Abrasion (surface) | IS 13630 (Part 11): 2006 (RA2012) BS 6431 (Part 20): 1984 EN 154 : 1991 | Qualitative (Class 1 to 5) |
| 13. | Tiles (Terrazzo/ Cement Concrete /Chequered) | Dimensions | IS 1237:2012 IS 13801:2013 | 5 to 500mm |
| | | Water absorption | IS 1237 : 2012 IS 13801 : 2013 | 0.5 to 25% |
| | | Resistance to wear | IS 1237 : 2012 IS 13801 : 2013 | 0.1 to 10mm |
| | | Wet transverse strength | IS 1237 : 2012 IS 13801 : 2013 | 0.5 to 10 N/mm ² |
| | | Thickness of wearing layer | IS 1237 : 2012 IS 13801 : 2013 | 0.1to 15mm |
| | | Flatness | IS 1237 : 2012 IS 13801 : 2013 | 0.01to 10mm |
| | | Perpendicularity | IS 1237 : 2012 IS 13801 : 2013 | 0.01to 10mm |
| | Straightness | IS 1237 : 2012 IS 13801 : 2013 | 0.01to 10 mm | |

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| 14. | Tiles (Clay roofing tile/ Roof Slate tiles) | Dimensions & Surface quality | IS 6250 : 1981 2013 ISO 10545 (Part 2) : 1985 | 5 to 700 mm |
| | | Water absorption | IS 6250 : 1981 (RA2013) ISO 10545 (Part 2): 1985 | 0.0 1to 25% |
| | | Wet transverse test | IS 6250 : 1981 (RA2013) ISO 10545 (Part 2): 1985 | 0.5 to 10 N/mm ² |
| | | Modulus of Rupture | IS 6250 : 1981 (RA 2013) | 10 to 100 N/mm ² |
| | | Permeability to water | IS 6250 : 1981 (RA 2013) | Qualitative (Visual) |
| | | Wetting and drying | IS 6250 : 1981 (RA2013) | Qualitative (Visual) |
| 15. | Tiles (AR tiles) | Dimensions & Surface quality | IS 4457 : 2007 | 5 to 700 mm |
| | | Water absorption | IS 4457 : 2007 (RA 2012) | 0.01 to 25% |
| | | Chemical Resistance/ Chemical Properties | IS 4457 : 2007 (RA 2012) | Qualitative (Visual) |
| | | Tile Abrasion (surface) | IS 4457 : 2007 (RA 2012) | Qualitative (Class 1 to 5) |
| | | Breaking strength | IS 4457 : 2007 (RA 2012) | 500 to 2500 N/mm ² |
| 16. | Building Limes | Residue on slaking | IS 6932 (Part 3) : 1973 (RA 2009) BS 890 : 1995 ASTM C 110 : 2009 | 0.1 to 100% |
| | | Workability test | IS 6932 (Part 8) : 1973 (RA 2009) BS 890: 1995 | 5 to 15 |

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| | Gypsum Products (Plaster of Paris) | Setting time | IS 2333 : 1992 (RA 2009) IS 2542 (Part 1/ Sec 3) : 1978 | 5 to 200 minutes |
| | | Soundness (Popping & Pitting) | IS 2542 (Part 1/ Sec 6): 1978 | Qualitative (Visual) |
| | | Expansion after setting | IS 2333 : 1992 (RA 2009) IS 2542 (Part 1/ Sec 9) : 1978 | 0.1 to 0.5% |
| | | Water absorption | IS 2333 : 1992 (RA2009) | 10 to 50% |
| | | Mechanical Resistance of set neat plaster | IS 2542 (Part 1/ Sec 7) : 1978 | 2 to 6 mm |
| | | Compressive strength(Dry) | IS 2333 : 1992 (RA 2009) | 5 to 100 N/mm ² |
| 18. | Gypsum Products (Gypsum Building Plaster board) | Dimensions | IS 2542 (Part 2 / Sec 1) : 1978 (RA 2012) IS 2380 (Part 16) :1977 (RA 2013) EN 520: 2009 IS 2095 : 1996 (RA 2011) | 10 to 3000 mm |
| | | Transverse strength (Breaking load) | IS 2542 (Part 2/ Sec 4) : 1981 (RA2007) EN 520: 2009 | 100 to 1500N |
| | | Water absorption | IS 2542P 2 /Sec 6) : 1978 (RA 2012) IS 2380 (Part 16): 1977 (RA 2013) EN 520 2009 | 0.1t o 50% |
| | | Mass of Plaster | IS 2542 (Part 2/ Sec 3) : 1981 (RA 2012) | 7 to 15 kg/m ² |

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| | Gypsum Products (Gypsum Building Plaster board) | Free Moisture / Moisture | IS 2095 : 1996 IS 2542 (Part 2/ Sec 7) : 1978 | 1 to 20% |
| | | Swelling | IS 2380 (Part 17) :1977 (RA 2013) | 0.1 to 2 % |
| | | Surface hardness | IS 2095 (Part 3) : 1996 | 0.5 to 20mm |
| 19. | Gypsum Products (Asbestos cement sheets) | Dimensions | IS 459 : 1992 (RA2007) IS 5913 : 2009 | 10to 3000 mm |
| | | Density | IS 459 : 1992 (RA 2007) IS 5913 : 2009 | 1 to 3 g/cc 500 to 3000 kg/m ³ |
| | | Water absorption | IS 459 : 1992 (RA 2007) IS 5913 : 2009 | 0.1 to 50% |
| | | Impermeability | IS 459 : 1992 (RA 2007) IS 5913 : 2009 | Qualitative (Visual) |
| | | Frost cracking | IS 459 : 1992 (RA 2007) IS 5913 : 2009 | Qualitative (Visual) |
| 20. | Building Chemicals (Integral WPC) | Permeability to water | IS 2645 : 2003 (RA 2012) | 0 to 100% |
| | | Setting time | IS 4031 (Part 5) : 1988 (RA 2009) | 10 to 600 minutes |
| | | Compressive strength | IS 4456 : 1967 (RA 2006) | 5 to 600 kg/cm ² |

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|--------------|---|--------------------------------|--|---|
| 21. | Building Chemicals (Chemical Resistant Mortar Deep Penetrating Sealant /Epoxy/Grouts/) | Permeability to water | IS 2645 : 2003 (RA2012) | 0 to 80mm |
| | | Setting time | IS 4031(Part 5) : 1988 (RA 2009) | 10 to 600 minutes |
| | | Working time | IS 4456 : 1979 (RA 2001) IS 9162 : 1979 (RA 2001) | 1 to 60 minutes |
| | | Flexural strength | IS 4456 : 1967 RA 2006 IS 9162 : 1979 (RA 2001) | 10 to 200 kg/cm ² |
| | | Compressive strength | IS 4456 : 1967 RA 2006 IS 9162 : 1979 (RA 2001) | 5 to 600 kg/cm ² |
| | | Bond strength | IS 4456 : 1967 (RA 2006) | 1 to 300 kg/cm ² |
| | | Toluene Absorption | IS 4456 : 1967 (RA 2006) | 0.1 to 30% |
| | | Chemical resistance | IS 4456 : 1967 (RA 2006) IS 4832 : 1969 (RA 2006) | Qualitative (Visual) |
| | | Consistency | IS 12027 :1987 (RA 2013) | Qualitative (Visual) |
| | | Early Water Repellency | IS 12027 :1987 (RA 2013) | Qualitative (Visual) |
| | | Absorption of Water | IS 12027 : 1987 (RA 2013) | 0.1 to 20% |
| | | Evaporation of Water | IS 12027 :1987 (RA 2013) | 0.1 to 20% |
| Durability | IS 12027 :1987 (RA2013) | Qualitative (Visual) | | |

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|-------|---|-------------------------|---|--|
| 22. | Building Chemicals (Silicon Water Repellant) | Permeability to water | IS 2645 : 2003 (RA 2012) | 5 to 80 mm |
| | | Setting time | IS 4031 (Part 5) : 1988 (RA 2009) | 10 to 600 minutes |
| | | Working time | IS 4456 : 1967 (RA 2006) | 1 to 60 minutes |
| | | Flexural strength | IS 4456 : 1967 (RA 2006) | 10 to 200 kg/cm ² |
| | | Compressive strength | IS 4456 : 1967 (RA 2006) | 5 to 600 kg/cm ² |
| | | Bond strength | IS 4456 : 1967 (RA 2006) | 1 to 20 kg/cm ² |
| | | Toluene Absorption | IS 4456 : 1967 (RA 2006) | 0.1 to 30% |
| | | Chemical Resistance | IS 4456 : 1967 (RA 2006) IS 4832 : 1969 (RA 2006) | Qualitative (Visual) |
| | | Consistency | IS 12027 :1987 (RA2013) | Qualitative (Visual) |
| | | Early Water Repellency | IS 12027 :1987 (RA2 013) | Qualitative (Visual) |
| | | Absorption of Water | IS 12027 :1987 (RA 2013) | 0.1 to 20% |
| | | Evaporation of Water | IS 12027 :1987 (RA 2013) | 0.1 to 20% |
| 23. | Concrete | Compressive Strength | IS 516 : 1959(RA 2008) ASTM C 494 : 2013 BS 1881(Part 116): 1983 IS 10262 :2009 IS 456 : 2000 (RA 2005) | 5 to 150 N/mm ² |

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|------------|----------------------------|-------------------------|---|--|
| | Concrete | Drying Shrinkage | IS 1199 : 1959 (RA 2008) | 0.001 to 0.5 % |
| | | Compaction Factor | IS 1199 : 1959 (RA 2008) | Qualitative |
| | | RCPT | ASTM C : 1202 : 2009 | 400 to 6000 coulombs |
| | | Concrete Permeability | DIN 1048 (Part 5): 2005 | 0.1 to 150 mm |
| 24. | Admixtures | Compressive Strength | IS 516 : 1959 (RA 2008) ASTM C 494 : 2010 BS 1881(Part 116) : 1983 IS 10262 :2009 IS 456 : 2000 (RA 2011) | 5 to 150 N/mm ² |
| | | Setting Time | IS 8142 : 1976 (RA 2007) ASTM C 494 2013 | 100 to 400 minutes |
| | | Slump | IS 9103 : 1999 (RA 2008) ASTM C 494 : 2013 | 10 to 200 mm |
| | | Flexural Strength | IS 516 : 1959 (RA 2008) ASTM C 494 : 2010 IS 10262 : 2009 IS 456 : 2000 (RA2011) | 5 to 50 N/mm ² |
| | | Bleeding | IS 2386 (Part 3): 1963 (RA2011) ASTM C 494 : 2013 IS 9103 :1999(RA 2008) | 0.1 to 10 % |
| | | Air content | IS 1199 :1959 (RA 2008) ASTM C 494 : 2013 | 0.1 to 10% |
| | | Water content | ASTM C 494 : 2010 IS 9103 :1999 (RA 2008) | 50 to 90 % |

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|-------|--|---|---|--|
| | Admixtures | Loss of Workability | IS 9103 :1999 (RA 2008) ASTM C 494 : 2013 | Qualitative (Visual) |
| | | Flow | IS 9103 :1999 (RA 2008) ASTM C 494 : 2013 | 100 to 200mm |
| | | Length Change | IS 1199 :1959 (RA 2008) ASTM C 494 : 2013 | 0.01 to 0.5% |
| | | Drying Shrinkage | IS 1199 :1959 (RA 2008) | 0.01to 0.5 % |
| 25. | Pozzolana (Fly ash / Fuel Ash , Bottom Ash) | Fineness- Specific surface (Blains) | IS 1727 : 1967 (RA 2008) BS 3892 (Part 1): 1997 & (Part 2) 1984 ASTM C 311 : 2007 | 100 to 700 m ² /kg |
| | | Lime reactivity | IS 1727 : 1967 (RA 2008) ASTM C 311 : 2007 | 0.1 to 20 N/mm ² |
| | | Compressive strength | IS 1727 : 1967 (RA 2008) BS 3892 (Part 1, Part 2 &Part 3) 1997 1984 & 1997) ASTM C 311: 2000 | 2 to 100 N/mm ² |
| | | Drying Shrinkage | IS 1727 : 1967 (RA 2008) | 0.02 to 4% |
| | | Setting time | IS 1727 : 1967 (RA 2008) | 1 to 5 minutes |
| | | Soundness, Autoclave | IS 1727 : 1967 (RA 2008) | 0.01to 2 % |
| | | Sieve Analysis (45 microns retained) | IS 1727 : 1967 (RA 2008) ASTM C : 1240 : 2004 | 0 to 80% |
| | | Moisture | BS 3892 (Part 1) 1997 , (Part 2): 1984 & (Part 3): 1997 | 0.1 to 25% |

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|--------------|--|--------------------------------|---|---|
| | Pozzolana (Fly ash / Fuel Ash , Bottom Ash) | Bulk Density | IS 6441 (Part 1): 1972 (RA2007) IS 6598 :1972 (RA2004) | 0.4 to 3.0 g/cm ³ |
| 26. | Pozzolana (Micro silica , Silica Fume) | Compressive strength | IS 1727: 1967(RA 2008) BS 3892 (Part 11997 , Part 2 1984 & Part 3:1997) ASTM C 311: 2000 | 2 to 100 N/mm ² |
| | | Sieve Analysis | IS 1727: 1967 (RA 2008) ASTM C-1240- 2004 | 0 to 80% |
| | | Moisture | BS 3892 (Part 1, Part 2& Part 3) 1997, 1984 & 1997 | 0.1 to 25% |
| | | Pozzalana Activity Index | ASTM C-1240-2005 | 10 to 150 N/mm ² |
| | | Bulk Density | IS 6441 (Part 1): 1972 (RA 2012) IS 6598 :1972 (RA 2004) | 0.2 to 3.0 g/cm ³ |
| 27. | AAC/ CLC blocks | Compressive Strength | IS 6441 (Part 5): 1972 (RA 2012) IS 5688 :1982 (RA 2004) | 1 to 10 N/mm ² |
| | | Drying Shrinkage | IS 6441 (Part 2): 1972 (RA2012) | 0.01 to 1% |
| | | Moisture | BS 3892 (Part 1 1997 , Part 2 1984 & Part 3 1997) | 0.1 to 10% |
| | | Dimensions | IS 2185 (Part 3): 1984 (RA 2010) IS 5688 : 1982 (RA 2004) | 80 to 800 mm |
| | | Bulk Density | IS 6441 (Part 1): 1972 (RA 2012) IS 6598 :1972 (RA 2004) IS 2185 (Part 3 & 5): 1984 (RA 2010) | 350 to 1500 kg/m ³ |

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|---------------------|---|---|--|---|
| 28. | Hardened Concrete (Precast Concrete Blocks, Kerbs, RCC slab, Channels, Manhole cover, Paver block) | Dimensions | IS 15658 : 2006 (RA2011) | |
| | | Length | IS 5758: 1984 (RA2010) | 100 to 600 mm |
| | | Width | IRC SP 63-2004 | 100 to 300 mm |
| | | Thickness | | 50 to 200 mm |
| | | Aspect Ratio | | 2 to 5 |
| | | Chamfer | | 2 to 10 mm |
| | | Plan Area | | 0.01 to 0.2 m ² |
| | | Wearing face area | | 0.01 to 2 m ² |
| | | Squareness | | 0 to 5 mm |
| | | Thickness of Wearing Layer | IS 15658 : 2006 (RA 2011) IRC SP 63: 2004 | 0.1 to 25 mm |
| 29. | Concrete Pipe (Reinforced, Asbestos & Stoneware) | Water absorption | IS 15658 : 2006 (RA 2011) IRC SP 63: 2004 | 1 to 10% |
| | | Compressive Strength | IS 15658 :2006 (RA 2011) IRC SP 63:2004 | 10 to 100 N/mm ² |
| | | Abrasion Resistance (Loss in volume after 16 cycles) | IS 15658 : 2006 (RA 2011) IRC SP 63-2004 | 2000 to 8000 mm ³ / 5000 mm ² |
| | | Freeze & Thaw durability | IS 15658 : 2006 (RA 2011) | Qualitative (Visual) |
| | | Load Test | IS 12592 :2002 (RA 2013) | 100 to 500 kN |
| | | RCPT | ASTM C-1202-2009 | 400 to 6000 coulombs |
| | | Hydraulic Pressure (Hydrostatic Test) | IS 458: 2003(RA 2008) IS 651 : 2007 | Qualitative 0.050 to 0.2 N/mm ² (MPa) |
| | | Dimensions | IS 458: 2003(RA 2008) | 10 to 2600 mm |
| | | - Barrel wall thickness | IS 651 : 2007 (RA2012) | |
| | | - Length | IS 1592: 2003(RA 2008) | |
| - Internal diameter | | | | |

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|------------|--|------------------------------------|--|--|
| | Concrete Pipe (Reinforced , Asbestos & Stoneware) | Finish | IS 458: 2003 (RA 2008) | Qualitative (Visual) |
| | | Absorption test (water absorption) | IS 651: 2007 (RA 2012) | 0.1 to 10 % |
| | | Alkali Resistance | IS 651 : 2007, (RA 2012) | Qualitative (Visual) |
| | | Acid Resistance | IS 651 : 2007 (RA 2012) | 0.1 to 5% |
| 30. | Sanitary Wares (Cisterns , Water Wash down closets , Squatting Pans Urinals, Wash Basins) | Dimensions | IS 2556 (Part 2 , 3 , 4): 2009 IS 2556 (Part 6): 2003 | 1 to 1000 mm |
| | | Load bearing test | IS 2556 (Part 2 & 4): 1994 (RA 2009) | Qualitative (Visual) |
| | | Tap Holes | IS 2556 (Part 4): 1994 (RA 2009) | Qualitative (Visual) |
| | | Impact test | IS 7231: 1994 (RA 2009) IS 774 : 2004 (RA 2009) | Qualitative (Visual) |
| | | Defects | IS 7231: 1994 (RA 2009) IS 774 : 2004 (RA 2009) IS 2556 (Part 2): 2009 | Qualitative (Visual) |
| | | MOR (of bar) | IS 774 : 2004 (RA 2009) IS 2556 (Part 1): 2011 | 1 to 150 MPa |
| | | Chemical Resistance | IS 774 : 2004 (RA 2009) IS 2556 (Part 1): 2011 | Qualitative (Visual) |
| | | Resistance to staining | IS 774 : 2004 (RA 2009) IS 2556 (Part 2 & 4): 2009 | Qualitative (Visual) |

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|--------------|--|------------------------------------|---|---|
| | Sanitary Wares (Cisterns , Water Wash down closets , Squatting Pans Urinals, Wash Basins) | Resistance to burning | IS 774 : 2004 (RA 2009). IS 2556 (Part 2 & 4) : 2009 | Qualitative (Visual) |
| | | Crazing | IS 774 : 2004 (RA 2009) IS 2556 (Part 2 & 4) : 2009 | Qualitative (Visual) |
| | | Water absorption | IS 774 : 2004 (RA 2009) IS 2556 (Part 1) : 2011 | 01 to 2.0% |
| 31. | Sub Base Non Bituminous GSB, WBM,WMM Stone metal) | 10% Fines Value | BS 812 (Part 111): 1990 IS 2386 (Part 4) : 1963 (RA 2011) | 10 to 100 ton |
| | | Water Absorption | IS 2386 : 1963 | 0.1 to 5% |
| | | Gradation (Sieving) | IS 2386 :1963 (RA 2011) | 0 to 100% |
| | | Soundness | IS 2386 :1963 (RA 2011) | 0.1 to 20 % |
| | | Proctor Compaction Test (OMC, MDD) | IS 2720 :1983 (Part 8) Heavy Compaction (RA 2010) IS 2720 :1980 (Part 7) Light Compaction- (RA 2011) | 1 to 5 g/cc MDD 5 to 20% OMC |
| | | Deleterious Materials | IS 2386 :1963 (RA 2011) | 0.1 to 30% |
| | | CBR | IS 2720 :1963 (Part 16): 1987 (RA 2011) | 10 to 100 |
| | | Plasticity Index | IS 2720 (Part 5):1985 (RA 2010) | 0 to 20% |
| | Liquid Limit | IS 2720 (Part 5): 1985 (RA 2010) | 0 to 50% | |

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|--------------|--|--------------------------------|---|---|
| | Sub Base Non Bituminous GSB, WBM,WMM Stone metal) | Plastic Limit | IS 2720 (Part 5): 1985 (RA 2010) | 0 to 50% |
| | | Abrasion Value | IS 2386: 1963 (RA 2011) | 5 to 50% |
| | | Polished Stone Value (PSV) | DIN EN 1097 (Part 8) 2010 BS 812 (Part 114), IS 2386 (Part 4): 1963 (RA 2011) | 30 to 70 |
| | | Stripping Value | IS 6241: 1971 (RA 2003) | Qualitative (Visual) |
| | | Impact Value | IS 2386 : 1963 (RA 2007) | 10 to 50% |
| | | Combined EI/ FI | MOST , MORTH IS 2386 (Part 1) 1963(RA2011) | 5 to 80% |
| 32. | Base & Surface Course Bituminous AC/DAC/SDBC/B C/SDAC BM/ BM/SDBM Premix Carpet , Seal coat, Slurry Seal , Mix Seal Surfacing, Mastic , BUSG, Bitumen Penetration Macadam | Gradation (Sieving) | MORTH V revision MOST IV revision , IS 2386 :1963 (RA 2011) | 0 to 100% |
| | | Binder content | ASTM D 6307 2010 | 0.5 to 20% |
| | | Field Density | AASHTO T-166 2010 | 2 to 3 g/cc |
| | | Marshall Stability | MS 2 manual 1997 | 1 to 15 kN |
| | | Sand Equivalent Value | IS 2720 (Part 37):1976 (RA 2011) | 20 to 80% |
| | | Hardness Number | IS1195 :2002 (RA2012) IS 5317 :2002 | 1 to 20 |
| | | Stone Polishing Value | BS 812 (Part 114): 1989 IS 2386 (Part 4): 1963 (RA 2011) | 30 to 70% |

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|-------|----------------------------|-------------------------------|---|--|
| 33. | Antistripping agent | Stripping Value | IS 6241: 1971 (RA2013) | 75 to 100% |
| | | Specific Gravity | IS 1202 :1978 (RA2004) | 0.50 to 3.0 |
| | | Under water Coating | IS 14982: 2001 (RA 2007) | Qualitative (Visual) |
| 34. | Bentonite | Stripping Value | IS 6241: 1971 (RA 2013) | Qualitative (Visual) |
| | | Sand content | IS 2720 (Part 4): 1985 (RA 2010) | 0.1 to 50% |
| | | Density | IS 2911 (Part1 , Sec 2): 1979 (RA 2010) | 1 to1.2 g /ml |
| | | Marsh Viscosity | IS 2911 (Part 1 , Sec 2): 1979 (RA2010) , ASTM-D-6910 M 09 | 10 to 100 seconds |
| | | Liquid Limit | IS 2720 (Part 5): 1985 (RA 2010) | 0 to 500% |
| | | Differential Free Swell Index | IS 2720 (Part 40) : 1977 (RA 2011) | 50 to 900 % |
| 35. | Timber/ Wood | Moisture content (wood) | IS 287: 1993 (RA 2008) IS 1708 (Part 1):1986 RA 2010 | 0.5 to 90 % |
| | | Density/ Specific gravity | IS 1708 (Part 2): 1986 (RA 2008) | 100 to 1200 Kg/m ³ |
| | | Nail holding test | IS 1708 (Part 15):1986 (RA 2005) | 10 to 1000 Kg |

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|--------------|-----------------------------------|--|--|---|
| | Timber/ Wood | Screw holding test | IS 1708 (Part 15): 1986 (RA 2005) | 10 to 1000 Kg |
| | | Moisture | IS 287: 1993 IS 11215: 1991 | 2 to 35% |
| | | Dimension & Squareness | IS 4020 (Part 2): 1998 | 0.5 to 3000mm |
| | | MOR & MOE | IS 1708 (Part 5): 1985 (RA 2008) | 10 to 150 N/mm ² |
| | | CS (Parallel & Perpendicular to grain) | IS 1708 (Part 8 & 9): 1986 (RA 2008) | 5 to 50 N/mm ² |
| | | Tensile Strength | IS 1708 (Part 12): 1986 (RA 2008) | 10 to 100 N/mm ² |
| 36. | Flush door shutter | Screw withdrawal strength | IS 4020 (Part 16):1998 | 10 to 1000 kg |
| | | Knife test | IS 4020 (Part 14):1998 | Qualitative (Visual) |
| | | Glue adhesion test | IS 4020 (Part 25): 1998 | Qualitative (Visual) |
| | | End immersion test | IS 4020 (Part 13): 1998 | Qualitative (Visual) |
| | | Moisture | IS 2202 (Part 1) : 1991 | 2 to 25% |
| | | Dimension | IS 4020 (Part 2): 1998 | 1to 3000mm |

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|--------------|--|--|--|---|
| 37. | Plywood (General, Marine, Concrete Shuttering, Decorative) | Glue shear strength | IS 1734 (Part 4) :1983 (RA 2003) | 10 to 300 kg |
| | | Adhesion of plies | IS 1734 (Part 5): 1983 (RA 2003) | Qualitative (Visual) |
| | | Water resistance test(Adhesion of Plies) | IS 1734 (Part 6) :1983 (RA 2003) | Qualitative (Visual) |
| | | Water resistance (Glue shear strength) | IS 1734 (Part 6): 1983 (RA 2003) | 10 to 300 kg |
| | | Moisture content | IS 1734 (Part 1): 1983 (RA 2003) | 0.5 to 25 % |
| | | Tensile strength parallel to surface Along the grain Across the grain | IS1734 (Part 9): 1983 (RA2003) | 5 to 1000 kg/cm ² |
| | | Static bending Strength Modulus of Rupture (Along & Across the grains) Modulus of Elasticity (Along & Across the grains) | IS 1734 (Part 11): 1983 (RA 2003) | 10to 100 N/mm ² 10 to 100 N/mm ² |
| | | Dimensions Thickness Variation in thickness Squareness Length Width | IS 4020 (Part 2): 1998(RA2003) IS 1659: 2004 IS 3087: 2005 IS 3097 : 2006 IS 12406 : 2003 IS 12823: 1990 (RA2005) | 25 to 3000 mm 0.01 o 1.0 % Qualitative (Visual) |

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|--------------|--|---------------------------------------|---|---|
| IV. | SOIL & ROCK | | | |
| 1. | Soil Testing Earthwork Subgrade Blanketing material | Gradation (Sieving) | MORTH V revision MOST IV revision , IS 2386 (Pt 1) : 1963 (RA 2011) | 0 to 100% |
| | | Classification | IS 1498 : 1970 (RA 2011) | Qualitative (Visual) |
| | | Free Swell Index | IS 2720 (Part 40): 1977 (RA 2011) | 1to 500% |
| | | Atterberg's Limit | IS 2720 (Part 5): 1985 (RA 2010) | 0 to 50% |
| | | Liquid Limit | | 0 to 50% |
| | | Plastic Limit | | 0 to 20% |
| | | Plasticity Index | | 0 to 20% |
| | | Deleterious Material | IS 2386 :1963 (RA 2011) | 0.1to 30% |
| | | California Bearing Ratio (CBR) Lab | IS 2720 :1963 (Part 16): 1987 (RA 2011) | 1 to 30 kN & 0.01 to 25 mm |
| | | Proctor Compaction Test (OMC, MDD) | IS 2720 : 1983 (Part 8) Heavy Compaction- (RA 2010) IS 2720 :1980 (Part 7) Light Compaction- (RA 2011) | 1 to 5 g/cc MDD 5 to 20% OMC |
| | | Shrinkage Limit | IS 2720 (Part 6): 1972 (RA 2011) | 0.1 to 20% |
| | | Permeability | IS 2720 (Part 17): 1986 (RA 2011) & IS 2720 (Part 36): 1987 (RA 2011) | 1×10^{-2} to 1×10^{-7} |
| | | Specific gravity | IS 2720 (Part 3): 1980 (RA 2011) | 1 to 3 |

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|--------------|--|--|--|---|
| | Soil Testing Earthwork Subgrade Blanketing material | Swelling pressure | IS 2720 (Part 4): 1985 | 0.1 to 50% |
| | | Consolidation (Oedometer test) | IS 2720 (Part 15) :1986 (RA 2002) BS 1377 (Part 1): 1990 ASTMD 2435 -2001 | 0.1to 4 kg/cm ² & 0.01to 25 mm |
| | | Moisture content | IS 2720 (Part 2): 1973 (RA 2010) | 0.1 to 50% |
| | | Grain size analysis | IS 2720 (Part 4): 1985 (RA 2010) | 0 to 100% |
| | | Shear strength | IS 2720 (Part 13): 1986 (RA 2011) | 0to 5kg/cm ² (Cohesion) 0to 60degree (Angle of internal friction) |
| 2. | Soil Testing (Field) | California Bearing Ratio (CBR) | IS 2720 :1963 (Part 16): 1987 (RA 2011) | 1 to 30 kN & 0.01 to 25 mm |
| | | Standard Penetration test (SPT) | IS 2131:1981 (RA2011) & Hand book of civil engineering | 1 to 100 blows |
| | | Load bearing capacity (LBC) / Plate load test | IS 1888: 1982 (RA 2011) & Hand book of civil engg. | 5 to 50 ton/ m ² |
| | | Field density test (Core cutter method) | IS 2720: 1975 (Part 29) (RA 2010) | 1 to 3 g/cc |
| | | Dry density (Sand replacement method) | IS 2720: 1975 (Part 28) (RA2010) | 1 to 3 g/cc |
| | | Earth Resistivity | IS 15736 : 2007 | 1 to 1000 OHM-M |

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| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|--------------|---|--------------------------------------|--|---|
| V. | PLASTIC & RUBBER | | | |
| 1. | Plastic (Rigid Flexible Laminated Cellular), Rubbers (Composite) | Density/Specific gravity | IS 2508: 1984(RA 2008) IS 4671: 1984 (RA2004) IS 7328: 92 (2003), ASTM D792-2013, ISO 1183: 2004 | 0.8 to 5 g/cc |
| | | Hardness (Shore A, Shore D, IRHD) | IS 3400 (Part 2)(RA 2008) IS 13360 (Part 5, Sec-11): 2013 ASTM D2240-2005 (2010) | 20 to 90 Shore A & D 30 to 100 IRHD |
| | | Low temperature brittleness | ASTM D 2137-2011 | -10 to - 60 °C |
| | | Tensile strength | IS 1998 : 1962 ((RA 2008)), IS 2508: 1984 ((RA 2008)), IS 3400 (Part 1): 2012, IS 6307:1985 (RA 2008), | 0.05 to 490 MPa |
| | | Elongation | ASTM D412-2013, ASTM D638-2010, ISO 527-2009, DIN 53455 -2008 BS 2782 -2011 | 0.5 to 900% |
| | | Flexing/Cut growth test | IS 3400 (Part 16):1974 (RA 2012) | Qualitative |
| | | Compression set | IS 1741: 1960 (RA 2008), IS 3400 (Part 10):1977 (RA 2008) IS 7888: 76(RA 2008) ASTM D395 :2003 ((RA 2008) | 0.1 to 90% |
| | | Compression test | IS 1998: 1962(RA 2008), IS 4671: 1984 (RA2004), ASTM D 695-2010, DIN 53454-04 | 0.05 to 500 MPa |

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|--------------|---|---------------------------------------|---|---|
| | Plastic & Rubber (Rigid Flexible Laminated Cellular) Rubbers Composite | Thermal conductivity | IS 3346:1988 (RA 2010) ASTM C177-2010 | 0.01 to 20 W/mK |
| | | Transverse (flexural) test | IS 13360 (Part 5, Sec-7): 1996 IS 13411: 1992 (RA 2008) ASTM D790-2007, ISO 178-2001 | 0.05 to 5000 N |
| | | Bond strength of bonded material | IS 3400 (Part 5 & 14) (RA2003) &(RA 2008) | 0.05 to 100 N |
| | | Heat deformation temperature | IS 867: 1963(RA 2008), ASTM D648-2007, ISO 75-2006 | 25 to 200°C |
| | | Heat (Vicat) softening point | IS 10810 (Part 22): 1984 (RA 2011), ASTM D1525-2009, DIN 53460-1976, ISO 306-2004 | 25 to 200°C |
| | | Melt flow rate | IS 2530: 1963(RA 2008), ASTM D1238-2013, ISO 1133-2005 | 0.1 to 20 g/10 min. |
| | | Inflammability / fire resistance test | ASTM D635-10 | 0.01 to 50 mm/min |
| | | Tear strength | IS 2076: 1981 (RA 2003), IS 14611: 1998 (RA 2008) | 0.5 to 10 N/m |
| | | Dart impact | IS 2508 :1984 (RA 2008), ASTM D1709-2009 | 10 to700 gm |

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|--------------|-------------------------------------|-------------------------------------|--|---|
| 2. | PVC Pipe/ SWR pipe/ CPVC | Reversion test of pipe | IS 12235: 2000 (Part 5) (RA 2010) | 0.5 to 20 mm |
| | | Heat (Vicat) softening point | IS 12235: 2000 (Part 5) (RA 2010) IS 6307: 1985 | RT to 200°C |
| | | Density | IS 12235: 2000 (Part 14) | 1.0 to 5.0 g/cc |
| | | Hydraulic test of pipes upto 280 mm | IS 12235 (Part 8/sec1): 2000 (RA 2010) | 0.1to 70 kg/cm ² |
| | | Resistance to external blows | IS 4985 Annexure –C 2000 (RA 2010) | Qualitative |
| | | Stress Relief test | IS 12235 (Part 6): 2005 (RA2010) | 0.1 to 10 % |
| | | Effect of Sunlight | IS 13592: 2013 | Qualitative |
| | | Tensile Strength | IS 8543 (Part 4): 1984 IS 12235 (Part 13): 2005 (RA 2010) | 10to 100 MPa |
| | | Axial Shrinkage | IS 13592 : 1992 | Qualitative |
| | Fire exposure test | IS 16088: 2012 | Qualitative | |
| 3. | HDPE Pipe | Reversion test of pipe | IS 4984 : 2002 (RA 2008) | 0.01to 20 mm |
| | | Density | IS 7328: 1998: (Part 14) | 1.0 to 5.0 g/cc |
| | | Hydraulic test of pipes upto 280 mm | IS 12235 (Part 8/sec1) 2005 (RA 2010) | 0.1to 70 kg/cm ² |

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|--------------|---|--|--|--|
| | | Reversion test of pipe | IS 12235: 2000 (Part 5) (RA 2010) | 0.01to 20 mm |
| 4. | Surgical rubber gloves | Dimension (Length, Width and Thickness) | IS: 4148 1989 (RA 2011), IS: 13422 -1992-(RA 2008) | 0.1 to 300 mm, |
| | | Tensile strength/ elongation before and after ageing / autoclaving | IS: 3400 (Pt-1&4) 1987(RA-2003) | Tensile Strength 0.1 to 500 MPa Elongation 5 to 1000% |
| | | Tension test | IS: 4148 -1989 (RA-2006) | 10 to 1000% |
| 5. | Non-Percolating Fire Fighting Hose | Dimension (Length, Inner & Outer Diameter) | IS 636: 988 (RA 2008) | 0.1 to 100 cm |
| | | Mass | IS 636: 988(RA 2008) | 5 to 100 kg |
| | | Hydrostatic Burst pressure | IS 636: 988(RA 2008) | Qualitative |
| | | Hydrostatic Proof pressure | IS 636: 988 (RA 2008) | Qualitative |
| | | Kink Test | IS 636: 988 (RA 2008) | Qualitative |
| | | Dimension stability | IS 636: 988 (RA 2008) | 0.01 to 100 cm |
| | | Adhesion | IS 636: 988 (RA 2008) | 0.05 to 10 N |
| | | Abrasion Resistance | IS 636: 988 (RA 2008) | Qualitative |
| | | Water Absorption | IS 636: 988 (RA 2008) | 0.1 to 10 % |
| | | Heat Resistance | IS 636: 988 (RA 2008) | Qualitative |
| | | Oil Resistance | IS 636: 98 8(RA 2008) | Qualitative |

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|--------------|---|--|--|---|
| 7. | Multilayered cross laminated PE Film | Total Mass Per Unit Area | IS 7016 : 1982 (RA 2008) | 5 to 200 GSM |
| | | Tensile strength / elongation | IS 2508 : 1994 (RA 2008) | Tensile strength 0.5 to 4900 N/m ² Elongation 5 to 900% |
| | | Tear Strength | IS 14611: 1998 (RA 2008) | 5 to 6400 g |
| | | Tensile strength/ elongation /Tear Strength after ageing at 70 ±1°C for 168h | IS 2508 : 1994(RA 2008) | Tensile Strength 0.5 to 4900 N/m ² Elongation 5 to 900% |
| | | Dart Impact | IS 2508 :1994 (RA 2008) | 10 to700 gm |
| 8. | Rigid Cellular Foam Material | Dimension (Length, Width & Thickness) | IS 12436: 1998(RA 2010) | 0.5 to 100 mm |
| | | Apparent Density | IS 12436: 1998(RA 2010) | 28 to 40 Kg/m ³ |
| | | Dimensional Stability at elevated temperature | IS 12436: 1998(RA 2010) | 0.1 to 100mm |
| | | Water vapour transmission rate | IS 12436: 1998(RA 2010) | 0.001to 20 g/m ² .h |
| | | Flame height, Time of Burning and Loss of Mass | IS 12436: 1998(RA 2010) | 0.01 to 50 mm/min |
| | | Water Absorption | IS 12436: 1998(RA 2010) | 10 to 50% |
| | | Flexural Strength | IS 12436: 1998(RA 2010) | 0.05 to 50 MPa |
| | | Compressive Strength | IS 12436: 1998(RA 2010) | 0.05 to 5 MPa |

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|--------------|--|---|--|---|
| | Rigid Cellular Foam Material | Horizontal Burning Characteristics Determination of Flammability by oxygen index | IS 12436: 1998(RA 2010) | 0.01 to 50 mm/min |
| | | Thermal conductivity | IS 3346 : 1980 (RA 2010) | 0.1 to 20 W/mK |
| 9. | LLDPE water tank | Gross capacity | IS 12701: 1996 (RA 2006) | 200 to 20000 l |
| | | Weight | IS 12701: 1996 (RA 2006) | 5 to 100 kg |
| | | Resistance to deformation | IS 12701: 1996 (RA 2006) | 0 .01to 5 % |
| | | Resistance to impact | IS 12701: 1996 (RA 2006) | Qualitative |
| | | Test for top load resistance | IS 12701: 1996 (RA 2006) | Qualitative |
| | | Tensile strength | IS 12701: 1996 (RA 2006) | 0.1 to 100 MPa |
| | | Flexural modulus | IS 12701: 1996 (RA 2006) | 0.1 to100 MPa |
| 10. | Irrigation equipment sprinkler pipes - Polythene pipes and couplers | Density | IS 14151: 1999 (RA 2009) | 0.5 to 1 g/cc |
| | | MFI | IS 14151: 1999 (RA 2009) | 0.1 to 10 g/10 min. |
| | | Dimensions (Length, Width, Thickness, Inner & outer Diameter) | IS 14151: 1999 (RA 2009) | 0.5 mm to 2 m |
| | | Hydraulic pressure | IS 14151: 1999 (RA 2009) | 0.1to12kg/cm ² |
| | | Reversion test | IS 14151: 1999 (RA 2009) | 0.01 to5 % |
| | | Tensile strength | IS 14151: 1999 (RA 2009) | 0.1 to5 MPa |

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|--------------|--|--|--|---|
| | Rubber sealing ring | Hardness IRHD | IS 3400 (Part-2) (RA 2008) for IRHD | 30 to 100 |
| | | Tensile strength and Elongation | IS 3400 (Part1 & 4): 2012 | Tensile Strength 0.01 to 4.5 MPa Elongation 0 to 500% |
| | | Compression SET | IS 3400 (Part 10): 1977(RA 2008) | 0.1to 90% |
| | | Water absorption | IS 3400 (Part 6): 2012 | 0.1 to 10% |
| | | Water immersion | IS 3400 (Part 6): 2012 | 0.1 to 20 % |
| | | Change in volume | IS 3400 (Part 6): 2012 | 0.1 to 10% |
| | | Cold resistance | IS 5382: 1985 appendix B (RA 2008) | Qualitative |
| | | Splice strength | IS 5382: 1985 appendix B (RA 2008) | 1 to 200 N/mm |
| | | Accelerated ageing at temperature 70°C | IS 5382: 1985(RA 2008) | Qualitative |
| | | Change in hardness | IS 3400 (Part-2): (RA 2008) for IRHD | 30 to 100 |
| | | Change in tensile strength | IS 3400 (Part1 & 4): 2012 | 0.01 to 10 MPa |
| | Change in elongation | IS 3400 (Part1 & 4): 2012 | 0.01 to 30% | |
| 16. | Rubber gasket for pressure cooker | Tensile strength and Elongation | IS 3400 (Part1 & 4): 2012 | Tensile Strength 0.01 to 4.5 MPa Elongation 0 to 1000% |
| | | Hardness, IRHD | IS 3400 (Part 2) (RA 2008) | 30 to 100 |

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|--------------|--|---|--|---|
| | Rubber gasket for pressure cooker | Tensile strength and Elongation after ageing at 100°C for 3-days | IS 3400 (Part1 & 4): 2012 | Tensile Strength 0.01 to 4.5 MPa Elongation 0 to 1000% |
| | | Change in hardness after ageing at 100°C for 3-days | IS 3400: (Part-2):(RA 2008) for IRHD | 30 to 100 |
| | | Tensile strength and Elongation after ageing in autoclave for 8-hours steam pressure of 100 kN/m ² | IS 3400 (Part1&4): 2012 | Tensile Strength 0.01 to 4.5 MPa Elongation 0 to 1000% |
| | | Hardness after ageing in autoclave for 8-hours steam pressure of 100 K N/m ² | IS 3400: (Part-2):(RA 2008) | 30to100 |
| | | Volume change after ageing in autoclave for 8-hours steam pressure of 100 kN/m ² | IS 3400 (Part6): 2012 | 0.1 to 10% |
| | | Compression set | IS 3400 (Part10): 1977 (RA 2008) | 0.1to 90% |
| 17. | Rubber Catheter | pH | IS 7523: 1974 appendix A (RA 2012) | 1 to 14 |
| | | Extractable colour | IS 7523: 1974 appendix B (RA 2012) | Qualitative |
| | | Tensile strength Elongation | IS 3400 (Part1& 4): 2012 | 0.01 to 4.5 MPa 0 to 1000% |
| | | Hydraulic test | IS 443: 1975 (RA2012) | Qualitative |

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| 21. | Flexible polyurethane foam for domestic mattresses | Colour | IS 7933: 1975 (RA 2008) | Qualitative |
| | | Dimension (Length, Width & Thickness) | IS 7933: 1975 (RA 2008) | 0.01 to 150 mm |
| | | Density | IS 7933: 1975 (RA 2008) | 5 to 40 Kg/m ³ |
| | | Tensile strength | IS 7933: 1975 (RA 2008) | 0.1 to 2.5 MPa |
| | | Compression SET | IS 7933: 1975 (RA 2008) | 0.01 to 25 % |
| | | Indentation hardness | IS 7933: 1975 (RA 2008) | 0.01 to 70 % deflection |
| | | Durability | IS 7933: 1975 (RA 2008) | 0.01 to 10 % |
| 22. | HDPE bags for pesticides | Dimensions (Length, Width & Thickness) | IS 8069: 1989 (RA 2007) | 100 to 1000 mm |
| | | Mass | IS 8069: 1989 (RA 2007) | 1 to 1000 GSM |
| | | Breaking strength | IS 8069: 1989 (RA 2007) | 0.1 to 10 N |
| 23. | Rubber flooring materials for general purpose | Dimensions (Thickness) | IS 809: 1992 (RA 2011) | 1 mm to 5 m |
| | | Width of sheet applicable on roll | IS 809: 1992 (RA 2011) | 0.1 to 2.5 m |
| | | IRHD Hardness | IS 3400 (Part2): (RA 2008) | 30 to 100 |
| | | Water absorption | IS 3400 (Part6): 2012 | 0.1 to 10% |
| | | Compression SET | IS 3400 (Part10): 1977 (RA 2008) | 0.1 to 90% |
| | | Resistance to abrasion | IS 3400 (Part3): 1987 (RA 2008) | Qualitative |

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|--------------|---|--|--|---|
| 24. | Hospital rubber sheeting | Autoclaving change upto 125°C | IS 8164: 1976 (RA 2008) | Qualitative |
| | | Resistance to detergents | IS 8164: 1976 (RA 2008) | Qualitative |
| 25. | Rubber hose for oil suction | Accelerated ageing | IS 8189: 1996 (RA 2012) | Qualitative |
| | | Type of wire | IS 8189: 1996 (RA 2012) | Qualitative |
| | | Identification of fabric | IS 8189: 1996 (RA 2012) | Qualitative |
| | | Tensile strength and Elongation of lining & cover | IS 8189: 1996 (RA2012) | 1 to 25 N/ m ² 0.1to 500 % |
| | | Dimensions (Length, Thickness, Inner & Outer Diameter) | IS 8189: 1996 (RA2012) | 1 mm to 5 m |
| | | Hydrostatic test | IS 8189: 1996 (RA2012) | 0.1 to 10 kg/cm ² |
| 26. | Flexible load bearing PU foam components | Colour | IS 8255: 1976(RA 2008) | Qualitative |
| | | Dimension (Length, Width, Thickness) | IS 8255: 1976 (RA 2008) | 1 mm to 5 m |
| | | Tensile strength Elongation | IS 8255: 1976 (RA 2008) | 1 to 25 N/ m ² 0.1to 500 % |
| | | Heat ageing test | IS 8255: 1976 (RA 2008) | 0.01 to 20 % |
| | | Compression SET | IS 8255: 1976 (RA 2008) | 0.01to 10 % |
| | | Component mass | IS 8255: 1976 (RA 2008) | 0.01to 1.0 kg |
| | | Hardness | IS 8255: 1976 (RA 2008) | Load in kg upto 70 % deflection |

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|--------------|---|--|--|---|
| | Flexible load bearing PU foam components | Load quotient | IS 8255: 1976 (RA 2008) | 1.5 to 5 |
| | | Flammability | IS 8255: 1976 (RA 2008) | Qualitative |
| | | Fatigue test | IS 8255: 1976 (RA 2008) | Loss of thickness 0.1 to 50 % |
| 27. | HDPE fitting for potable water supply | Dimensions (Thickness, Inner & outer Diameter) | IS 8360: 1977 (RA 2008) | 0.01 cm to 100 cm |
| | | Hydraulic proof test | IS 8360: 1977 (RA 2008) | Qualitative |
| 28. | Phenol formaldehyde resin | Flexural strength | IS 867: 1963 (RA 2008) | 0.1 to 15.0 MPa |
| | | Impact test | IS 867: 1963(RA 2008) | 0.1 to 25 J/m |
| | | Tensile strength and Elongation | IS 867: 1963 (RA 2008) | 0.1 to 5.0 MPa |
| | | Density | IS 867: 1963 (RA 2008) | 1to 2g/cc |
| 29. | Rigid PVC conduit pipe | Dimension (Length, Wall Thickness, Inner & Outer Diameter) | IS 9537: 2012 | 1mm to 100mm |
| | | Compression test | IS 9537: 2012 | 0 to 25 % |
| | | Impact test | IS 9537: 2012 | Qualitative |
| | | Resistance to heat | IS 9537: 2012 | Qualitative |
| | | Resistance to burning | IS 9537: 2012 | Qualitative |
| 30. | Elastic tape | Dimension (Thickness) | IS 9686: 1980 (RA 2012) | 0.1 mm to 50 mtr |
| | | Accelerated ageing | IS 9686: 1980 (RA 2012) | 27 to 100 °C |

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|--------------|---|---------------------------------|--|---|
| | PVC compounds | Thermal Stability upto 250 °C | IS 9766: 1992 (RA 2008) | 0.01 to 100 mm |
| | | Cold bend test | IS 9766: 1992 (RA 2008) | Qualitative |
| | | Ageing | IS 9766: 1992 (RA 2008) | 27°C to 100 °C |
| 34. | HDPE bags for cement | Ends/picks | IS 11652: 2000 (RA 2010) | 50 to 300 |
| | | Mass | IS 11652: 2000 (RA 2010) | 10 to 180gms |
| | | Breaking load & Elongation | IS 1969 : 1985 (RA 2006) | 5 to 10000 N |
| | | Dimensions | IS 11652: 2000 (RA 2010) | 1cm to 3 00 cm. |
| | | Av. Breaking strength of seam | IS 9030: 1979 (RA2 003) | 5 to 10000 N |
| 35. | Packaging materials / glass plastic containers | Physical Chemical tests | IP.2014 | |
| | | Non Volatile residue | BP.2014 | 0.1 to 50% |
| | | Residue on ignition | USP-36.2013 | 0.1 to 50% |
| | | Heavy Metals | | 1 to 20mg/kg |
| | | Buffering Capacity | | 0 to 10 ml |
| | | Light transmission | | 0 to 10 % |
| | | Multi internal reflectance (IR) | | Qualitative (Identification) |
| | | WVTR / MVTR | | 0 to 100 mg/ day/ L |
| | | TGA | | 50°C to 400°C |
| | | DSC | | 50°C to 1000°C |
| | | Colour extraction | | Qualitative |
| | | ESCR test | | Visual |
| 36. | HDPE / PP Woven Sacks for Fertilizers | Ends/picks | IS 1963 : 1981(RA 2008) | 50 to 300 |
| | | Mass | IS 1964 : 2001 (RA 2010) | 10 to 180 g |

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|--------------|--|--|--|---|
| | HDPE / PP Woven Sacks for Fertilizers | Breaking load & Elongation | IS1969 : 1985 (RA 2006) | 5 to 10000 N |
| | | Dimensions | IS 1954: 1990 (RA 2007) | 1cm to 3 00 cm. |
| | | Av. Breaking strength of seam | IS 9030: 1979 (RA 2003) | 5 to 10000 N |
| 37. | HDPE / PP Woven Sacks for Food Grains | Ends/picks | IS 14887 : 2000 (RA 2006) | 50 to 300 |
| | | Mass | IS 1964 : 2001 (RA 2010) | 10 to 180 g |
| | | Breaking load & Elongation | IS 1969 : 1985 (RA 2006) | 5 N to 10000 N |
| | | Dimensions | IS 1954 : 1990 (RA 2007) | 1cm to 3 00 cm. |
| | | Av. Breaking strength of seam | IS 9030:1979 (RA 2003) | 5 to 10000 N |
| 38. | HDPE / PP Woven Sacks for Suger | Ends/picks | IS 14968 : 2001 (RA 2006) | 50 to 300 |
| | | Mass | IS 1964 : 2001 (RA 2010) | 10 to 180gms |
| | | Breaking load & Elongation | IS 1969 : 1985 (RA 2006) | 5 to 10000 N |
| | | Dimensions | IS 1954 : 1990 (RA 2007) | 1cm to 3 00 cm. |
| | | Av. Breaking strength of seam | IS 9030 :1979 (RA 2003) | 5 to 10000 N |
| 39. | Surgical Items & Sutures | Physical Dimensions | IP.2014 | |
| | | Length | BP.2014 | 0.1cm to 10mt |
| | | Diameter | USP-37.2014 | |
| | | III)Tensile Strength/ Min. Breaking Load | | 1 to 100N |
| | | Needle attachment | | |
| | | Extractable Colour | | Qualitative |
| | | Soluble chromium compounds | | Qualitative |

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| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|--------------|---|--|---|---|
| 40. | Male Latex Condoms | Packaging and labeling requirements Length Width Thickness Lubricant Colour fastness Burst volume Bursting Pressure Water leakage | ISO 4074 SRI/DRUG/072 Issue dt 22-01-14 Rev no. 01 dt 22-01-16 | Qualitative 100mm to 250mm 10 mm to 100mm 0.04mm-0.5mm 50 to 500mg Qualitative 10 to 35dm3 0.2 to 2.5 KPa Qualitative |
| 41. | Copper-T 380A/ Copper-T 200B | Packaging and labeling Requirements Pouch integrity test Pouch content Visual inspection on all the content Weigh of copper wire Diameter of copper collar Copper collar pull Strength of tie | Specification of Copper T 380A/IS 12418 Part-IV 1991 SRI/DRUG/072 Issue dt 22-01-14 Rev no. 01 dt 22-01-16 | Qualitative Qualitative Qualitative Qualitative 10 to 1000 mg 1.0 to 5.0mm 10g to 3.0kg 10g to 3.0kg |
| 42. | Tubal rings | Packaging and labeling requirements Identification of the material Content of pack Pack integrity test Visual inspection of colour, Shape, fibrous protrusion and cutting. Inner diameter | IS 13009: 1990 SRI/DRUG/072 Issue dt 22-01-14 Rev no. 01 dt 22-01-16 | Qualitative Qualitative Qualitative Qualitative Qualitative 0.1to 10.0mm |

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|---|--|---|---|--|
| | Tubal rings | Outer diameter Thickness Memory test Friction force test Stain capacity Fracture | | 0.1 to 10mm 0.1 to 10mm 1 to 50 % 1 to 5kg 20 to 80% 1.0 to 5.0 kg |
| 43. | Adhesive Tape | Dimensions Tensile Strength Adhesive Strength | BP.2014/USP-37.2014 | 10 cm to 10mt 0.98 to 980 4.9 to 980 N |
| VI. TEXTILES & TEXTILE AUXILIARIES | | | | |
| 1. | Woven fabric (Such as dress material handloom cotton, mosquito netting handloom, cambric handloom and lining cloth handloom cotton, handloom cotton crepe, cellular shirting handloom cotton, Handloom buckram cloth, First aid dressing, Cotton Mosquito netting, Cotton cellular shirting dved, Nylon filter cloth, etc.) | Mass Ends/Picks Av. Breaking strength and elongation of fabric Tear Strength Pilling Crease recovery angle Dimensions (Width) | IS 1964 : 2001 (RA 2010) IS 1963 :1981(RA 2008) IS 1969 (Part 1 & 2) :1985 (RA 2006) IS 6489 (Part 1 to 4) : 2011 IS 10971 (Part 1 to 2) : 2011 IS 4681 : 1990 (RA 2004) IS 1954 : 1990 (RA 2007) | 10 to 180 gms. 50 to 120 0.5 to 10000 N 100 to 500 N Qualitative 40 to 360 ⁰ 1cm to 3 00 cm |

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|--------------|---|-------------------------------------|---|--|
| 2. | Geo-textiles Geo-synthetics Geo-grids Geo-membrane | Tensile strength and Elongation | ASTM D 4595 : 2011, ASTM D 6693 : 2004 (RA 2010), EN ISO 10319-2008 | Tensile Strength 0.1 to 49 kN Elongation 5 to 100% |
| | | Index Puncture test | ASTM D 4833: 2007 (2013) | 10 to 10000 N |
| | | Dynamic perforation (one drop) test | IS 13162 : 1992 IS 13162 (Part 2) (RA 2010) EN-918 -1983 | 1 to 20 mm |
| | | Static puncture test (CBR) test | EN ISO 12236: 2006 | 100 to 10000 N |
| | | Thickness | IS 13162 : 1992 EN : 964: 1995 (RA 2005) | 0.01 to 10 mm |
| | | Tear Test | ASTM D 4533: 2011 | 10 to 500 N |
| VII. | PAPER | | | |
| 1. | All type of Papers (Such as Base paper for carbon paper, Writing & printing paper, Computer paper, Coated paper & Board, Cover paper, Plain copier paper, Base paper for tracing paper, Germination paper, Tracing paper, Map printing paper, Volatile corrosion inhibitor (VCI) treated paper etc.) | Tensile strength | IS 1060 (Part1) : 1966 (RA2009) | 5 to 1000 N |
| | | Burst strength and burst factor | | 0.01 to 10.5 MPa |
| | | Tear strength and tear factor | | 0.5 to 6400 N |
| | | Grammage | | 0.5 to 300 g/m ² |
| | | Tensile index | | 0.1 to 70 mN/g |
| | | Burst index | | 0.2 to 25 Kpa.m ² /g |
| | | Brightness | | 0.5 to 100% |
| | | Opacity | | 0.5 to 100% |
| | | Tear index | | 0.2 to 10 mN.m ² /g |
| | | Thickness | | 0.1 to 5mm |

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| VIII NOISE & VIBRATION | | | | |
| 1. | Measurement of Noise Reduction of Sound Isolating Enclosures | DG Set Acoustic Enclosures, Acoustically Treated DG Rooms & Machines Noise in dB (A) | SOP No.SRI/Air Environment-Noise & Vibration/00 dt.01.12.11, IS 4758: 1968 (RA 2002), IS 11446: 1985 (RA 2001) | 20 to 140 dB (A) |
| | | Environmental Noise Level in dB (A) (L ₁₀ , L ₅₀ , L ₉₀) | SOP No.SRI/Air Environment-Noise & Vibration/00,dt.01.12.11, IS 9876 : 1981 (RA 2001) IS 9989: 1981 (RA 2001) | 20 to 140 dB (A) |
| 2. | Measurement of Insertion Loss Ducts and Mufflers | Nose Insertion Loss measurements in dB (A) | SOP No.SRI/Air Environment-Noise & Vibration/00,dt.01.12.11, IS 9876 : 1981 (RA 2001) IS 9989 : 1981 (RA 2001) | 20 to 140 dB (A) |
| 3. | Mechanical Vibrations & Performance | Velocity (in mm/sec) (rms) | SOP No.SRI/Air Environment-Noise & Vibration/00 dt.01.12.11, IS 15591: 2005 | 0.5 to 100 mm/sec(rms) |
| | | Acceleration (in mm/sec ²) (rms) | SOP No.SRI/Air Environment-Noise & Vibration/00 dt.01.12.11, IS 15591: 2005 | 0.5to 100 m/sec ² (rms) |
| IX. AUTOMOTIVE COMPONENTS | | | | |
| 1. | Conveyer belt | Dimension (Length, Width, Cover Thickness) | IS 1891: 1994 (RA 2005) | 0.1 to 200 cm |
| | | Tensile strength / elongation at break before and after ageing | IS 3400 (Part1 & 4) (RA2 012) | Tensile strength 5 to 100 MPa, Elongation 5 to 1000% |
| | | Full thickness Breaking strength & Elongation | IS 1891: 1994 (RA 2005) | Tensile strength 5 to 5000 kN/m Elongation 5 to 1000% |
| | | Adhesion | IS 1891: 1994 (RA 2005) | 2 to 100 kN/m |

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|--------------|--|--|--|--|
| 2. | V-Belts | Nominal height of belt | IS 2494 : 1994 (RA 2008) | 0.1 to 25 mm |
| | | Nominal top width | IS 2494 : 1994 (RA 2008) | 0.1 to 40 mm |
| | | Tensile test/Elongation | IS 2494 : 1994 (RA 2008) | Tensile Strength 0.05 to 490 MPa Elongation 5 to 100% |
| 3. | Cycle tubes | Dimension (width & thickness) | IS 2415: 2004 (RA 2010) | 0.1 to 100 mm |
| | | Tensile strength / elongation at break | IS 3400 (Part1) (RA 2012) | 0.5 to 500 MPa |
| | | Tension set | IS 3400 (Part13): 1983 (RA 2008) | 2 to 100%, |
| | | Joint adhesion strength | IS 3400 (Part1) (RA 2012) | 0.5 to 100 N/mm, |
| 4. | Valves and Accessories for Tyre & Tubes | Dimensions (Thickness) | IS 9081: 2011 | 1 mm to 5 meter |
| | | Bendability 10 to -40°C | IS 9081: 2011 | Qualitative |
| | | Pull Out Strength | IS 9081: 2011 | 1 to 20 N |
| | | Hardness SHORE A | IS 9081: 2011 | 10 to 73 |
| | | Adhesion Test | IS 9081: 2011 | 0.1 to 50.0 MPa |
| | | Hot Air Treatment | IS 9081: 2011 | Qualitative |
| 5. | General purpose rubber water hose | Dimension (Length, Inner & Outer Diameter) | IS 444: 1987 (RA 2003) | 10 mm to 500cm |
| | | Tensile strength and Elongation at Break of Lining and Cover | IS 444: 1987 (RA 2003) | Tensile Strength 0.01 to 5.0 MPa Elongation 1 to 500 % |

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|--------------|--|--|--|---|
| | General purpose rubber water hose | Accelerated ageing test | IS 444: 1987 (RA 2003) | Qualitative |
| | | Swelling Test | IS 444: 1987 (RA 2003) | 0.01 to 100cm |
| | | Adhesion strength | IS 444: 1987 (RA 2003) | 0.15 to 100 J/m |
| | | Hydraulic test | IS 444: 1987 (RA 2003) | 0.1to 10 kg/cm ² |
| 6. | LPG Rubber Hose | Dimension (Length, Wall Thickness, Inner & Outer Diameter) | IS 9573: 2012 | 1 mm to 500cm |
| | | Tensile strength and Elongation break for Lining and Cover | IS 9573: 2012 | Tensile Strength 0.01 to 5.0 MPa Elongation 1to 500 % |
| | | Accelerated ageing test 27-100°C | IS 9573: 2012 | Qualitative |
| | | Resistance of Lining to n-pentane | IS 9573: 2012 | Qualitative |
| | | Adhesion | IS 9573: 2012 | 0.15 to 100 N/m |
| | | Low Temperature Flexibility | IS 9573: 2012 | Qualitative |
| | | Flexibility of Hose | IS 9573: 2012 | Qualitative |
| | | Hydraulic Test | IS 9573: 2012 | 0.1 to 120 kg/cm ² |
| | | Burning behaviour | IS 9573: 2012 | Qualitative |
| | | Proof pressure test | IS 9573: 2012 | Qualitative |
| | | Bursting pressure | IS 9573: 2012 | Qualitative |
| | Thickness of Lining and Cover | IS 9573: 2012 | 1 to 5.0 mm | |

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| X. | PERFORMANCE TEST | | | |
| 1. | Pipes & Fittings/Valves Bib cock and stop cock | Hydraulic Pressure Test | IS 1239 (Part : 2) : 2011 IS 1536 : 2001 (RA 2006) IS 8329 : 2000 (RA 2005) IS 3989 : 2009 IS 1978 : 1982 (RA 2009) IS 1729 : 2002 (RA 2007) IS 778 : 1984 (RA 2010) IS 781: 1984 (RA 2005) IS 14846 : 2000 (RA 2005) | Qualitative (0.1 to 100 kg/cm ²) |
| 2. | Aluminum Milk Can & Container | Capacity | IS 10325 : 2000 (RA 2005) IS 10339:2000 (RA 2005) IS 1825:1983 (RA 2011) IS 9992: 1991 (RA 2005) IS 9396 (Part 1):1987 (RA 2005) IS 9503: 1988 (RA 2005) | 0.1 to 40 L |
| | | Drop test | IS 1825:1983 (RA 2011) | Qualitative |
| | | Handle pull test | IS 10325:2000 (RA 2005) IS 9992:1991 (RA 2005) IS 916:2000 (RA 2005) | Qualitative |
| 3. | Domestic Pressure Cooker | Capacity Construction Workmanship and finish Air Pressure Test Proof Pressure Test Operating test for pressure Regulating device Test for safety Pressure Relief Device Bursting Pressure Test Test For Removal of Lid under Pressure | IS 2347: 2006 | 1 to 22 L Qualitative (0.01 to 6 kg/cm ²) |

