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| Laboratory | Jyoti Test House, B-1/111, Sector-11, Faridabad, Haryana | Issue Date | 14.10.2013 |
| Accreditation Standard | ISO/IEC 17025: 2005 | Valid Until | 13.10.2015 |
| Discipline | Mechanical Testing | Page | 1 of 5 |
| Certificate Number | T-1895 | | |
| Last Amended on | - | | |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|------------------------------|-----------------------------------|---------------------------------|--|---|
| I. BUILDING MATERIALS | | | | |
| 1. | CEMENT | Compressive Strength | IS: 4031 (Part-6) 1988 Reaffirmed – 2009 | 20 to 100 Mpa |
| | | Consistency | IS: 4031 (Part-6) 1988 Reaffirmed – 2007 | 10 to 45% |
| | | Initial & Final Setting Time | IS: 4031 (Part-5) 1988 Reaffirmed – 2005 | 30 to 600 min |
| | | Soundness by Le-chitlier Method | IS: 4031 (Part-3) 1988 Reaffirmed – 2009 | 0.5 to 10 mm |
| | | Soundness by Auto Clave | IS: 4031 (Part-3) 1988 Reaffirmed – 2009 | 0.01 to 1% |
| | | Fineness by Blaine method | IS: 4031 (Part-2) 1999 Reaffirmed – 2008 | 150 to 600 m ² /kg |
| | | Specific Gravity | IS: 4031 (Part-2) 1999 Reaffirmed – 2007 | 2.5 to 3.2 |
| 2. | CONCRETE (Design Mix) | Slump | IS: 1199:1959 | 20 to 150 mm |
| | | Compressive Strength | IS: 516-1959 Reaffirmed – 2004 | 20 to 50 N/mm ² |
| 3. | COARSE AGGREGATE | Sieve Analysis | IS: 2386 (Part-1) 1997 Reaffirmed – 2002 | 1 to 100% |
| | | Material finer than 75 micron | IS: 2386 (Part-1) 1997 Reaffirmed – 2002 | 1 to 15% |

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| | COARSE AGGREGATE | Flakiness Index | IS: 2386 (Part-1) 1997 Reaffirmed – 2002 | 15 to 45% |
| | | Elongation Index | IS: 2386 (Part-1) 1997 Reaffirmed – 2002 | 15 to 45% |
| | | Bulk Density | IS: 2386 (Part-3) 1997 Reaffirmed – 2009 | 0.1 to 3.0 g/cc |
| | | Specific Gravity | IS: 2386 (Part-3) 1997 Reaffirmed – 2009 | 2.3 to 3.5 |
| | | Water Absorption | IS: 2386 (Part-3) 1997 Reaffirmed – 2009 | 0.5 to 5% |
| | | Crushing Value | IS: 2386 (Part-4) 1997 Reaffirmed – 2009 | 5 to 45% |
| | | 10% Fines Value | IS: 2386 (Part-4) 1997 Reaffirmed – 2009 | 100 to 300 kN |
| 4. | FINE AGGREGATE | Impact Value | IS: 2386 (Part-4) 1997 Reaffirmed – 2009 | 5 to 45% |
| | | Loss Angles Abrasion Value | IS: 2386 (Part-4) 1997 Reaffirmed – 2009 | 10 to 50% |
| | | Soundness | IS: 2386 (Part-5) 1997 Reaffirmed – 2009 | 1 to 15% |
| | | Sieve Analysis | IS: 2386 (Part-1) 1997 Reaffirmed – 2002 | 0 to 100% |
| | | Water Absorption | IS: 2386 (Part-3) 1997 Reaffirmed – 2009 | 0.5 to 50% |

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| | FINE AGGREGATE | Specific Gravity | IS: 2386 (Part-3) 1997 Reaffirmed – 2007 | 2.3 to 3.5 |
| | | Bulk Density | IS: 2386 (Part-3) 1997 Reaffirmed – 2007 | 1.4 to 1.8 g/cc |
| | | Deleterious Material -Finer than 75 micron -Clay Humps | IS: 2386 (Part-5) 1997 Reaffirmed – 2007 | 1 to 10% |
| | | Slit Contents (By Volume Only) | CPWD SPECIFIC | 2 to 20% |
| | | Soundness | IS: 2386 (Part-5) 1997 Reaffirmed – 2007 | 0.5 to 10% |
| 5. | ADMIXTURE FOR CONCRETE USE | Setting Time | IS: 9103-1999 | 30 to -600 min |
| | | Slump loss of workability | IS: 9103-1999 | 10 to 120 mm |
| | | Length Change | IS: 9103-1999 | 0 to 12.7 mm |
| | | Air Content | IS: 9103-1999 | 0.5 to 10% |
| | | Bleeding | IS: 9103-1999 | 0.1 to 10% |
| 6. | CONCRETE CUBE | Compressive Strength | IS: 516-1959 Reaffirmed – 2004 | 100 to 600 N/mm ² |
| 7. | SOIL | Plastic limit and liquid limit | IS: 2720 (Part-5) 1985 Reaffirmed – 2006 | 2 to 40% |
| | | Standard Proctor Test (OMC, MDD) Light Compaction | IS: 2720 (Part-7) 1980 Reaffirmed – 2007 | MDD: 1 to 5 g/cc OMC: 1 to 50% |

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| | SOIL | Standard Proctor Test (OMC,MDD) Heavy Compaction | IS: 2720 (Part 8) 1980 Reaffirmed – 2007 | MDD: 1 to 5% g/cc OMC: 1 to 50% g/cc |
| | | Laboratory CBR | IS: 2720 (Part 16) 1987 Reaffirmed – 2002 | 1 to 90% |
| | | Specific Gravity | IS: 2720 (Part 3) 1987 Reaffirmed – 2007 | 1.5 to 3.5 |
| 8. | BRICKS | Compressive Strength | IS: 3495 (Part 2) 1992 Reaffirmed – 2007 | 0.5 to 35 N/mm ² |
| | | Water Absorption | IS: 3495 (Part 3) 1992 Reaffirmed – 2007 | 0.05 to 20% |
| | | Efflorescence | IS: 3495 (Part 4) 1992 Reaffirmed – 2007 | Qualitative Test |
| | | Dimension | IS: 1077-1992 Reaffirmed 2007 | Length: 4500 Width: 2200 Height: 1400 |
| | II. METAL & ALLOYS | | | |
| 1. | STEEL & STEEL ALLOYS (Rod, sheet, Channel, Angle, TMT) | Tensile Strength | IS 1608: 2005 Reaffirmed 2008 | 40 to 1000 N/mm ² |
| | | Elongation | IS 1608: 2005 Reaffirmed 2008 | 0.2 to 40% |
| | | Bend Test | IS 1599: 1985 Reaffirmed 2008 | 1° to 180° |

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| 2. | STAINLESS STEEL ALLOYS | Yield Stress | IS 1608: 1995 Reaffirmed 2008 | 40 to 1000 N/mm ² |
| | | Weight per meter | IS 1786: 2008 | 1 to 20 kg/m |
| | | Rebend Test | IS 1786: 2008 | Qualitative |
| | | Impact Strength a) Charpy | IS 1757: 1988 Reaffirmed 2008 | 25 J to 300 J |
| | | b) Izod | IS 1499: 1977 Reaffirmed 2008 | 25 J to 300 J |
| | | Hardness a) HRA at 60 kgf | IS: 1586-2000 Reaffirmed 2008 | 20 to 88 HRA |
| | | b) HRB at 100 kgf | IS: 1586-2000 Reaffirmed 2008 | 20 to 100 HRB |
| | | c) HRB at 150 kgf | IS: 1586-2000 Reaffirmed 2008 | 20 to 70 HRC |
| 3. | GI | Microstructure a) Grain Size | IS: 4748: 1988 Reaffirmed 2008 | 100X |
| | | b) Inclusion Rating | IS: 4163: 1982 Reaffirmed 2008 | 0.5 to 2.5 mm |
| | | Anodizing Thickness | IS: 1868: 1996 Reaffirmed 2006 | 0.1% to 2% |