

Laboratory Shree Civil Engg. Pvt. Ltd., 66-C Hari Om Villa, Jadavji Nagar, Bhuj, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6986

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Validity 05.03.2018 to 04.03.2020

Last Amended on --

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|---|--|
|-----|----------------------------|-------------------------|---|--|

CHEMICAL TESTING

| I. | WATER | | | |
|----|------------------------|---|-------------------|----------------------|
| 1. | Water for Construction | pH (Potentiometric Method) | IS 3025 (Part 11) | 2 to 12 |
| | | Chloride as Cl (Argentometric Method) | IS 3025 (Part 32) | 5 mg/L to 5000 mg/L |
| | | Sulphate as BaSO ₄ (Gravimetric Method) | IS 3025 (Part 24) | 11 mg/L to 1000 mg/L |

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MECHANICAL TESTING

| I. BUILDING MATERIALS | | | | |
|------------------------------|----------------------------|--|------------------|---|
| 1. | Hardened Concrete | Compressive strength | IS 516 | 10 N/mm ² to 80 N/mm ² |
| 2. | Fresh Concrete | Slump Test | IS 1199 | 10 mm to 250 mm |
| 3. | Paver Block | Compressive strength | IS 15658 | 10 N/mm ² to 50 N/mm ² |
| | | Water Absorption | IS 15658 | 0.5 % to 30 % |
| 3. | Bricks (Burnt clay) | Compressive strength | IS 3495 (Part 1) | 3.0 N/mm ² to 30.0 N/mm ² |
| | | Water absorption | IS 3495 (Part 2) | 1% to 30% |
| | | Efflorescence | IS 3495 (Part 3) | Qualitative |
| | | Dimension Length Width Height | IS 1077 | 100 mm to 5000 mm 50 mm to 2500 mm 40 mm to 2000 mm |
| 4. | Bitumen | Softening Point | IS 1205 | 40°C to 100°C |
| | | Penetration | IS 1203 | 10 to 100(1/10 th) |
| | | Ductility | IS 1208 | 10 cm to 100 cm |
| | | Absolute Viscosity | IS 1206 (Part 2) | 360 Poise to 4000 Poise |
| | | Kinematic viscosity | IS 1206 (Part 3) | 60 cSt to 600 cSt |
| 5. | Bituminous Mix | Specific Gravity | IS 1202 | 0.5 to 1.5 |
| | | Marshal Stability | ASTM D 6927-05 | 1 kN to 25 kN |
| | | Flow Value | ASTM D 6927-05 | 1 mm to 20.0 mm |
| | | Binder Content | ASTM D 2172 | 1 % to 10 % |
| 6. | Coarse Aggregate | Density | ASTM D 2014 | 1.5 g/cc to 3.5 g/cc |
| | | Sieve Analysis | IS 2386 (Part 1) | 1 % to 100 % (2.36 mm to 90 mm) |
| | | Specific Gravity | IS 2386 (Part 3) | 2.0 to 4.0 |
| | | Water absorption | IS 2386 (Part 3) | 1 % to 10 % |
| | | Flakiness Index | IS 2386 (Part 1) | 5 % to 70 % |

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| | | Elongation Index | IS 2386 (Part 1) | 5 % to 70 % |
| | | Impact Value | IS 2386 (Part 4) | 5 % to 50 % |
| | | Crushing Value | IS 2386 (Part 4) | 5 % to 50 % |
| | | Bulk Density | IS:2386 (Part 3) | 1 kg/L to 3 kg/L |
| 7. | Fine Aggregate | Sieve Analysis | IS2386 (Part 1) | 1 % to 100 % (75 Micron to 10 mm) |
| | | Specific Gravity | IS 2386 (Part 3) | 2.0 to 4.0 |
| | | Water absorption | IS2386 (Part 3) | 1% to 10% |
| | | Bulk Density | IS: 2386 (Part 3) | 1 kg/L to 3kg/L |
| 8. | Cement (OPC/PPC) | Consistency | IS 4031 (Part 4) | 25 % to 40 % |
| | | Initial Setting Time | IS 4031 (Part 5) | 30 min to 300 min |
| | | Final Setting time | IS 4031 (Part 5) | 100 min to 600 min |
| | | Compressive strength | IS 4031 (Part 6) | 10 N/mm ² to 80 N/mm ² |
| | | Soundness (Le-Chattalier method) | IS 4031 (Part 3) | 0.5 mm to 10 mm |
| | | Blain air permeability | IS 4031(Part 2) | 100 m ² /kg to 600 m ² /kg |
| | | Density | IS 4031 (Part 11) | 2.0 g/cc to 2.7 g/cc |
| II. | SOIL & ROCK | | | |
| 1. | Soil | Grain Size analysis | IS 2720 ((Part 4) | 75 µm to 40 mm |
| | | Liquid limit | IS 2720 ((Part 5) | 25 % to 80 % |
| | | Plastic Limit | IS 2720 (Part 5) | 5 % to 50% |
| | | Specific Gravity | IS 2720 (Part 3) | 2.0 to 3.0 |
| | | Light Compaction | IS 2720 (Part 7) MDD OMC | 1 g/cc to 3 g/cc 5 % to 40 % |
| | | Heavy Compaction | IS 2720 (Part 8) MDD OMC | 1.4 g/cc to 3 g/cc 5 % to 40 % |
| | | California Bearing Ratio | IS 2720 (Part 16) | 1 % to 60 % |