Laboratory Team Infrastructures, House No. 184/16, Pratap Nagar, Jaipur,

Rajasthan

Accreditation Standard ISO/IEC 17025: 2005

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Validity 28.03.2018 to 27.03.2020 Last Amended on --

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

## MECHANICAL TESTING

| I.       | BUILDING MATERIA | ALS              |                                      |                      |
|----------|------------------|------------------|--------------------------------------|----------------------|
| 1.       | Fine Aggregate   | Sieve Analysis   | IS 2386 (Part 1)-1963,<br>(RA 2016)  | 4.75 mm to 150 μm    |
|          |                  | Bulk Density     | IS 2386 (Part 3)-1963,<br>(RA 2016)  | 1.2 g/cc to 3.5 g/cc |
|          |                  | Specific gravity | IS 2386 (Part 3)-1963,<br>(RA 2016)  | 1.2 to 3.5           |
|          |                  | Water absorption | IS 2386 (Part 3)-1963,<br>(RA 2016)  | 0.2% to 10%          |
| 2.       | Coarse Aggregate | Sieve Analysis   | IS 2386 ( Part-1)-1963,<br>(RA 2016) | 4.75 mm to 125 mm    |
|          |                  | Flakiness index  | IS 2386 (Part 1)-1963,<br>(RA 2016)  | 5% to 70%            |
|          |                  | Elongation index | IS 2386 (Part 1)-1963,<br>(RA 2016)  | 5% to 70%            |
|          |                  | Specific gravity | IS 2386 (Part 3)-1963,<br>(RA 2016)  | 1.2 to 3.5           |
|          |                  | Water absorption | IS 2386 (Part 1)-1963,<br>(RA 2016)  | 0.2% to 10%          |
|          |                  | Impact value     | IS 2386 (Part 4)-1963,<br>(RA2016)   | 1% to 50%            |
|          |                  | 10% Fine Value   | IS 2386 (Part 4)-1963,<br>(RA 2016)  | 1 Ton to 50 Ton      |
|          |                  | Crushing value   | IS 2386(Part 4)-1963,<br>(RA 2016)   | 1% to 50%            |
|          |                  | Bulk Density     | IS 2386 (Part 3)-1963,<br>(RA 2016)  | 1.2 g/cc to 3.5 g/cc |
| <u> </u> |                  | <u> </u>         |                                      |                      |

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| SI. | Product / Material of Test | Specific Test<br>Performed                           | Test Method Specification against which tests are performed | Range of Testing /<br>Limits of Detection                     |
|-----|----------------------------|--|---|---|
| 3.  | Concrete                   | Workability by Slump                                 | IS 1199-1959 (RA 2013)                                      | 10 mm to 250 mm   |
|     |                            | Workability by                                       | IS 1199-1959 (RA 2013)                                      | 0.75 to 1.00  |
|     |                            | Compaction Factor                                    |   |   |
|     |                            | Compressive strength                                 | IS 516-1959 (RA 2013)                                       | 3 N/mm <sup>2</sup> to 88 N/mm <sup>2</sup>                   |
| 4.  | Concrete paver             | Compressive strength                                 | IS 15658 : 2006 (RA 2017)                                   | 5 N/mm <sup>2</sup> to 88 N/mm <sup>2</sup>                   |
|     | block                      | Water absorption                                     | IS 15658 : 2006 (RA 2017)                                   | 1% to 20%   |
| 5.  | Brick                      | Dimension and tolerance<br>Length<br>Width<br>Height | IS 1077-1992 (RA 2011)                                      | 3000 mm to 6000 mm<br>1500 mm to 2500 mm<br>500 mm to 2000 mm |
|     |                            | Compressive strength                                 | IS 3495 (Part 1)-1992,<br>(RA 2016)                         | 2 N/mm <sup>2</sup> to 50 N/mm <sup>2</sup>                   |
|     |                            | Water absorption                                     | IS 3495 (Part 2)-1992,<br>(RA 2016)                         | 1% to 50%   |
|     |                            | Efflorescence  | IS 3495 (Part 3)-1992,<br>(RA 2016)                         | Qualitative   |
| 6.  | Cement                     | Consistency  | IS:4031 (Part 4)-1988,<br>(RA 2014)                         | 10% to 35%  |
|     |                            | Initial setting Time                                 | IS:4031 (Part 5)-1988,<br>(RA 2014)                         | 10 Min to 250 Min   |
|     |                            | Final setting Time                                   | IS:4031 (Part-5)-1988,<br>(RA 2014)                         | 30 Min to 600 Min   |
|     |                            | Fineness by Blains Air<br>Permeability Method        | IS:4031 (Part 2)-1999<br>(RA 2013)                          | 100 m <sup>2</sup> /kg to 500 m <sup>2</sup> /kg              |
|     |                            | Soundness by the Le-<br>Chatelier Method             | IS : 4031 (Part 3)-1988<br>(RA 2014)                        | 0.1 mm to 10 mm   |
|     |                            | Compressive strength                                 | IS : 4031 (Part 6)-1988,<br>(RA 2014)                       | 1 N/mm <sup>2</sup> to 80 N/mm <sup>2</sup>                   |
|     |                            | Fineness by dry sieving                              | IS: 4031(Part 1)-1996,<br>(RA 2016)                         | 1% to 10%   |
|     |                            | Density  | IS:4031(Part 11)-1988,<br>(RA 2014)                         | 2 g/cc to 4 g/cc  |

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|-----|----------------------------|---|---|---|
| II. | SOIL & ROCK                |   |   |   |
| 1.  | Soil                       | Specific Gravity  | IS 2720 (Part 3) Sec. 1 / 2-<br>1980, (RA 2016)                     | 1 to 3  |
|     |                            | Grain Size Analysis<br>Dry Sieve Analysis<br>Wet Sieve Analysis | IS 2720 (Part 4)-1985,<br>(RA 2015)<br>(Clause 3.0)<br>(Clause 4.3) | 75 mm to 4.75 mm<br>4.75 mm to 75 micron        |
|     |                            | Atterberg's Limit<br>Liquid Limit<br>Plastic Limit              | IS 2720 (Part 5)-1985,<br>(RA 2015),<br>(Clause 4.0)                | 15% to 60%<br>5% to 60%                         |
|     |                            | Light compaction OMC MDD  | IS 2720 (Part 7)-1980,<br>(RA 2016)                                 | 1% to 30%<br>1 g/cc to 4 g/cc                   |
|     |                            | Heavy compaction OMC MDD  | IS 2720 (Part 8)-1983,<br>(RA 2015)                                 | 1% to 30%<br>1 g/cc to 4 g/cc                   |
|     |                            | California Bearing Ratio (CBR)                                  | IS 2720 (Part 16)-1987,<br>(RA 2016)                                | 1% to 60%                                       |
|     |                            | Free Swell Index  | IS 2720 (Part 40)-1977,<br>(RA 2016)                                | 10% to 80%                                      |
|     |                            | Water Content   | IS 2720 (Part 2)-1973,<br>(RA 2015)                                 | 0.1% to 40%                                     |
|     |                            | Direct Shear  | IS-2720 (Part 13)-1986,<br>(RA 2016)                                | C: Upto 0.2 kg/cm <sup>2</sup><br>p: 15° to 50° |