

## MECHANICAL TESTING

| I. | BUILDING MATERIALS |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1. | Bituminus Mix | Marshall Stability | ASTM D 6927 | 200 kg to 2000 Kg |
|  |  | Marshall Flow test | ASTM D 6927 | 1.00 mm to 6.2 mm |
| 2. | Concrete Cube | Compressive strength | IS 516 | $10 \mathrm{~N} / \mathrm{mm}^{2}$ to $70 \mathrm{~N} / \mathrm{mm}^{2}$ |
|  |  | Slump | IS 1199 | 1 mm to 300 mm |
| 3. | Aggregate: |  |  |  |
| a. | Coarse Aggregate | Grading of Aggregates | IS 2386 (Part-1) | 4.75 mm to 90 mm (0.1\% to $100 \%$ ) |
|  |  | Specific Gravity | IS 2386 (Part-3) | 1.50 to 3.50 |
|  |  | Water Absorption | IS 2386 (Part-3) | 0.5\% to 5\% |
|  |  | Flakiness Index | IS 2386 (Part-1) | 5\% to 40\% |
|  |  | Elongation Index | IS 2386 (Part-1) | 5\% to 40\% |
|  |  | Impact value | IS 2386 (Part-4) | 5\% to 50\% |
|  |  | Crushing Value | IS 2386 (Part-4) | 1\% to 60\% |
|  |  | Abrasion value | IS 2386 (Part-4) | 5\% to 50\% |
| b. | Fine Aggregate | Sieve analysis | IS 2386 (Part-1) | 150 microns to 10 mm (0.1\% to 100\%) |
|  |  | Specific gravity | IS 2388 (Part-3) | 1.50 to 3.50 |
|  |  | Water Absorption | IS 2386 (Part-3) | 0.5\% to 5\% |
|  |  | Material Finer than 75 micron | IS 2386 (Part-2) | 0.1\% to 3\% |
| 4. | Paver Block | Compressive strength | IS 15658 (Annex-D) | $5 \mathrm{~N} / \mathrm{mm}^{2}$ to $60 \mathrm{~N} / \mathrm{mm}^{2}$ |
|  |  | Water absorption | IS 15658 (Annex-C) | 1\% to 15\% |
| 5. | Bricks | Dimension | IS 1077 | $\mathrm{L}=4500 \mathrm{~mm}$ to 4700 mm $\mathrm{W}=2100 \mathrm{~mm}$ to 2300 mm $\mathrm{H}=1300 \mathrm{~mm}$ to 1500 mm |
|  |  | Water absorption | IS 3495 (Part-2) | 2\% to 25\% |
|  |  | Compressive strength | IS 3495 (Part-1) | $2.5 \mathrm{~N} / \mathrm{mm}^{2}$ to $20 \mathrm{~N} / \mathrm{mm}^{2}$ |
|  |  | Efflorescence | IS 3495 (Part-3) | Qualitative |


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| Validity | 30.10 .2017 to 29.10.2019 | Last Amended on -- |


| SI. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
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| II. | SOIL \& ROCK |  |  |  |
| 1. | Soil | Grain size analysis | IS 2720 (Part-4) | $\begin{aligned} & 75 \text { microns to } 40 \mathrm{~mm} \\ & (1 \% \text { to } 100 \%) \end{aligned}$ |
|  |  | Plastic Limit | IS 2720 (Part-5) | 5\% to 120\% |
|  |  | Liquid Limit | IS 2720 (Part-5) | 15\% to 40\% |
|  |  | Light Compaction | IS 2720 (Part-7) | MDD : $1 \mathrm{~g} / \mathrm{cc}$ to $2.10 \mathrm{~g} / \mathrm{cc}$ OMC:5\% to 40\% |
|  |  | Heavy Compaction | IS 2720 (Part-8) | MDD : $1 \mathrm{~g} / \mathrm{cc}$ to $2.10 \mathrm{~g} / \mathrm{cc}$ OMC: $2 \%$ to $30 \%$ |
|  |  | C.B.R. Test | IS 2720 (Part-16) | 1\% to 60\% |
|  |  | \# Direct shear Test | IS 2720 (Part 13) | $\begin{aligned} & \mathrm{C}=\mathrm{Up} \text { to } 3 \mathrm{~kg} / \mathrm{cm}^{2} \\ & \Phi=1^{\circ} \text { to } 45^{\circ} \end{aligned}$ |

