

# Product Performance Testing Methodology

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## Specification for Precast Concrete Paving Blocks

### Description:

The materials and minimum performance levels for precast concrete blocks are selected and determined in accordance with Dubai Municipality Standard (DMS) 1: Part 4: 2016.

Paving blocks as defined by Dubai Municipality Standard shall be of any size and shape and shall have an exposed face area less than or equal to  $90,000 \text{ mm}^2$ , and the maximum overall dimension divided by thickness shall be less than or equal to 5. The paving blocks shall have a work size thickness not less than 60 mm.

### Performance Requirements:

- **Dimensions and Maximum Tolerances:**  
The maximum average dimensional deviations from the declared sizes when measured in accordance with "Annex A" shall be within the values Length  $\pm 3 \text{ mm}$ ; Width  $\pm 3 \text{ mm}$  and Thickness  $\pm 3 \text{ mm}$ .
- **Compressive Strength:**  
When a sample of ten blocks are tested as per "Annex B", the average compressive strength shall not be less than  $49 \text{ N/mm}^2$  and crushing strength of any individual block shall not be less than  $40 \text{ N/mm}^2$ .
- **Water Absorption:**  
When a sample of three blocks is tested as per "Annex C", the average water absorption shall not be greater than 5 % with no individual unit greater than 7 %.
- **Abrasion Resistance:**  
When a sample of three blocks is tested as per BS EN 1338:2003 – Annex G, no individual test result shall be greater than 20 mm.
- **Chloride and Sulphate Content:**  
When a sample of one block is tested in accordance with BS 1881: Part 124 the acid soluble chloride content (Cl) and the acid soluble sulphate content ( $\text{SO}_3$ ) shall not exceed 0.05 % and 0.7 % by mass of concrete respectively.
- **Solar Reflective Index:**  
When used as hardscapes in building projects, 50 % of hardscapes materials shall demonstrate a Solar Reflective Index (SRI) of at least 29.