



PAVERS AND BLOCKS MANUFACTURERS ASSOCIATION

[Regd. Under Section 8 of Companies Act, 2013], CIN No. U74999MH2018NPL308583

IS 15658: 2021 CONCRETE PAVING BLOCKS — SPECIFICATION

Key Information

PAVING BLOCK (DEFINITION):

Solid un-reinforced precast cement concrete paving units used in the surface course of pavements, with minimum horizontal cross section of 50 mm from any edge in any direction, having aspect ratio not more than four, except for complementary blocks.

GRADES OF PAVING BLOCKS FOR DIFFERENT TRAFFIC CATEGORIES (Table 1)

#	Grade Designation	Compressive Strength at 28 days, f_{ck} MPa	Traffic Category	Thickness Min., mm	Traffic Examples of Application
1	M 30	30	Non-traffic	50	Building premises, monument premises, landscapes, public gardens/parks, domestic drives, paths and patios, embankment slopes, sand stabilization area, etc.
2	M 35	35	Light traffic	60	Pedestrian plazas, shopping complexes ramps, car parks, office driveways, housing colonies, office complexes, rural roads with low volume traffic, farmhouses, beach sites, tourist resorts, local authority footways, residential roads, etc.
3	M 40	40	Medium traffic	80	City streets, small and medium market roads, low volume roads, utility cuts on arterial roads, etc.
4	M 50	50	Heavy traffic	100	Bus terminals, industrial complexes, mandi houses, roads on expansive soils, factory floor, service stations, industrial pavements, etc.
5	M 55	55	Very Heavy Traffic	100	Container terminals, ports, docks yards, mine access roads, bulk cargo handling areas, airport pavements, etc.

DIMENSIONS AND TOLERANCES (Table 2)

#	Dimensions	Requirement	Tolerances	
			Thickness < 100 mm	Thickness ≥ 100 mm
1	Width, W , mm	(Note 1)	+/- 2 mm	+/- 3 mm
2	Length, L , mm	(Note 1)	+/- 2 mm	+/- 3 mm
3	Thickness, Th , mm	50-120 mm, (Notes 2 & 3)	+/- 3 mm	+/- 4 mm
4	Aspect Ratio, L/Th	Max. 4.0		
5	Arris / Chamfer, mm	Min. 5 mm, Max. 7 mm	+/- 1 mm	+/- 1 mm
6	Thickness of Wearing Layer, mm	Min. 6 mm		
7	Deviation from Squareness, mm	Nil	+/- 2 mm	+/- 3 mm

Notes:

1. The value shall be decided by mutual agreement between the manufacturer and purchaser.
2. The thickness shall also meet the requirements for various grades of paving blocks as given in Table 1.
3. When agreed between the manufacturer and the purchaser, blocks having thickness more than 120mm may also be manufactured. For such blocks, the tolerance on width and length shall be +/- 4 mm.



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PHYSICAL REQUIREMENTS FOR PAVING BLOCKS (Table 3):

#	Characteristic	Requirement	Method of Test
1	Water Absorption, Max a) Individual b) Average	7% 6%	Annex C
2	Compressive Strength, MPa, Min a) Individual b) Average	$f_{ck} - 3$ (Note 1) $f_{ck} + 0.825 \times$ established standard deviation (rounded off to nearest 0.5MPa) or $f_{ck} + 3$, whichever is greater (Note 2)	Annex D
3	Abrasion Resistance, Max a) Dry: i. Individual ii. Average b) Wet: i. Individual ii. Average	20,000 mm ³ per 5,000 mm ² 18,000 mm ³ per 5,000 mm ² 22,000 mm ³ per 5,000 mm ² 20,000 mm ³ per 5,000 mm ²	Annex E
4	Tensile Splitting Strength, MPa, Min a) Individual b) Average	0.08 f_{ck} (for grades < M40) 3.0 MPa (for grades \geq M40) 0.085 f_{ck} (for grades < M40) 3.6 MPa (for grades \geq M40)	Annex F
5	Flexural Strength, MPa, Min a) Individual b) Average	0.10 f_{ck} 0.11 f_{ck}	Annex G
6	Freeze Thaw Durability	Note 3	Annex H

Notes:

1. The value of f_{ck} is given in col 3 of Table 1.
2. In the absence of established value of standard deviation, it may be assumed as 5, and attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation.
3. The value shall be decided by mutual agreement between the manufacturer and purchaser.

(For further details please refer to the Standard)