मानकः पथप्रदर्शकः

COMPENDIUM OF INDIAN STANDARDS ON

PAVING BLOCKS, PAVING FLAGS AND GRID AND GRASS PAVERS

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PREFACE

Paving materials and their application techniques have a significant impact on the performance, longevity, and environmental footprint of surface infrastructure. With increasing urbanization and the need for resilient infrastructure, the use of precast concrete products for paving has gained prominence due to their efficiency, versatility, and ease of installation.

The construction industry in India has witnessed a paradigm shift towards sustainable, durable, and aesthetically appealing pavement solutions. Recognizing the evolving needs of urban and rural infrastructure, the Bureau of Indian Standards (BIS) has developed and revised a series of Indian Standards that cater to various paving materials and practices. This compendium presents a consolidated reference to the key Indian Standards pertaining to concrete paving blocks, paving flags, and grid and grass pavers. It aims to provide engineers, architects, urban planners, and other stakeholders with accessible, up-to-date guidance that facilitates quality construction, promotes sustainability, and ensures safety in paving applications across diverse environments. By compiling the essential standards and specifications, this document supports the broader goal of harmonizing construction practices and promoting the use of standardized materials and methods in paving works.

1. Current Standards and Code Provisions for Paver blocks, Paving flags and Grid and Grass Pavers

1.1. The Indian Standards IS 15658, IS 16777, IS 18889, and IS 18894 collectively provide comprehensive guidance on precast concrete paving solutions.

1.2. IS 15658:2021 specifies the requirements for concrete paving blocks used in pedestrian and vehicular pavements, including materials, grades, and physical properties.

1.3. IS 16777:2019 serves as a code of practice for the proper laying of interlocking concrete paving blocks, detailing construction techniques, patterns, drainage, and maintenance.

1.4. IS 18889:2024 focuses on precast concrete paving flags, outlining specifications for their manufacture, performance, and testing to ensure durability and functionality.

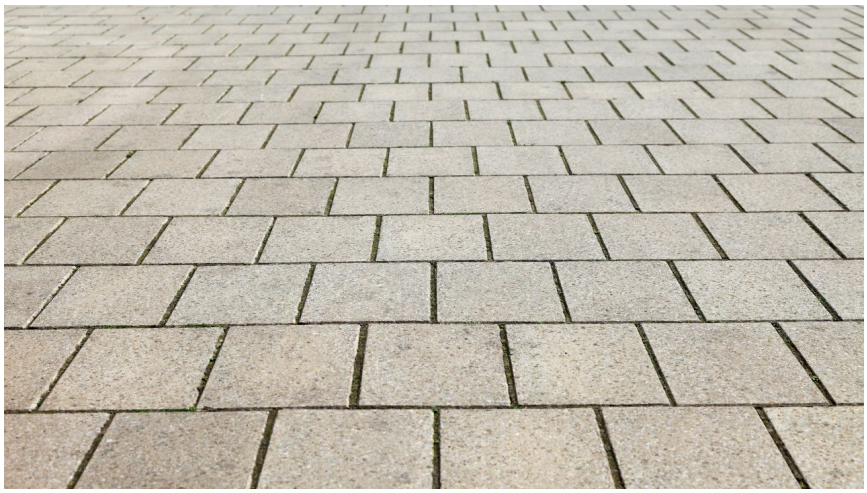
1.5. IS 18894:2024 addresses precast concrete paving grids and grass pavers, emphasizing water permeability, load-bearing capacity, vegetation support, and sustainable urban infrastructure practices.

1.6. Together, these standards support quality construction, environmental responsibility, and long-term pavement performance.

2. IS 15658 : 2021 - Concrete Paving Blocks — Specification (First Revision)

2.1. This standard specifies requirements and test methods for solid un-reinforced precast cement concrete blocks and complementary blocks used for paving applications.

2.2. The standard does not cover concrete masonry units, cellular (hollow) concrete blocks, fly ash masonry blocks, permeable concrete blocks, grid blocks, grass stones and cement concrete flooring tiles.



2.3. The grades of paving blocks to be used for construction of pavements having different traffic categories has been specified in the standards.

2.4. Specifications for different types of raw materials used such as Cement, Mineral Admixtures, Chemical Admixtures, Coarse and Fine Aggregate, Pigments, Water etc are given.

2.5. Specifications are also given for Manufacturing, requirements (General quality and finish, Physical requirements), Sampling, acceptance criteria, marking for paving blocks.

3. IS 16777 : 2019 - Laying of paver blocks — Code of practice

3.1. Interlocking concrete block pavement has been extensively used in a number of countries for quite some time. This standard gives recommendations for the laying of interlocking concrete paving blocks intended for roads, industrial areas and other paved surfaces subjected to all categories of static and vehicular loading and pedestrian traffic.

3.2. This standard provides recommendations for laying practices and patterns suitable for different requirements and application situations. This includes guidance on construction practices to ensure the durability and performance of the paver blocks.

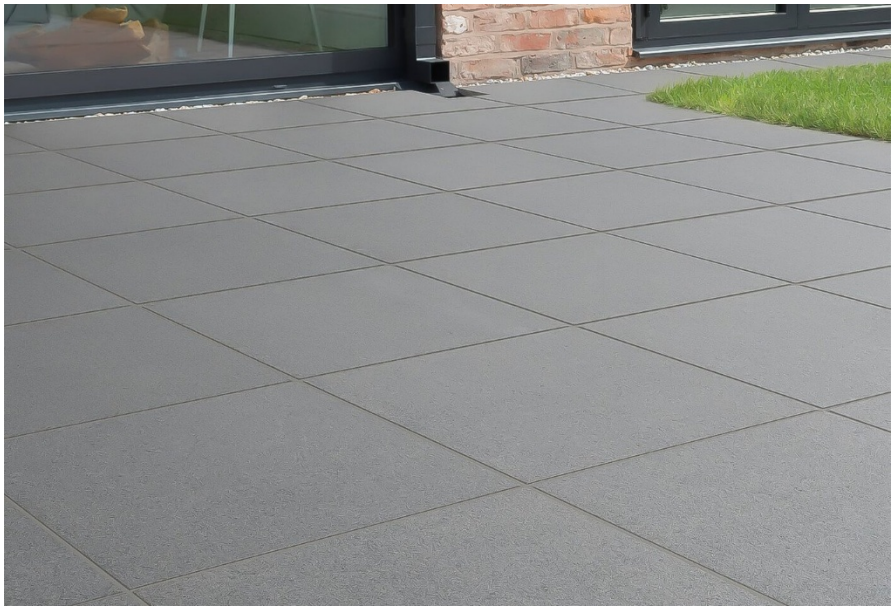
3.3. The standard includes recommendations for the drainage and maintenance of pavements constructed with interlocking concrete paver blocks to ensure their longevity and functionality.

3.4. This standard aims to ensure the proper installation and performance of interlocking concrete paver blocks, promoting best practices in construction and maintenance for various applications.

4. IS 18889: 2024 - Precast Concrete Paving Flags — Specification

4.1. This standard aims to provide manufacturers, engineers, and construction professionals with clear and consistent guidelines for producing paving flags that meet specified criteria. It addresses key aspects such as raw materials, dimensional tolerances, physical and mechanical properties, and testing procedures, ensuring that the paving flags are both reliable and fit for purpose.

4.2. This standard specifies the requirements for the materials, properties, and testing methodologies necessary to ensure the quality and performance of cement-bound unreinforced concrete paving flags.



4.3. Concrete paving flags play a vital role in various applications, from pedestrian walkways to vehicular pavements. Their performance and durability are crucial for maintaining the safety, aesthetic appeal, and functionality of surface areas subjected to diverse environmental conditions and usage patterns.

4.4. The standard provides requirements for different raw materials used, dimensional and physical requirements, durability and performance criteria, testing and quality assurance, sustainability and environmental considerations etc.

5. IS 18894: 2024 - Precast Concrete Paving Grids and Grass Pavers — Specification

5.1. The standard covers requirements for precast concrete paving grids and grass pavers for use in construction of walkways/footpath, parking areas, soil stabilization, embankments, and revetments.

5.2. These units are designed to be durable, load-bearing, and water-permeable, supporting both functional and environmental needs.

5.3. The standard emphasizes dimensional accuracy, surface durability, and the ability to facilitate vegetation growth in grass pavers, contributing to sustainable urban infrastructure by aiding groundwater recharge and reducing surface runoff.

5.4. It also outlines testing methods for compressive strength, water absorption, and durability, ensuring performance under varied environmental conditions.

5.5. Each unit must be properly marked with the manufacturer's identification, date of manufacture, and relevant classification.