



COMPENDIUM OF
INDIAN STANDARDS
ON

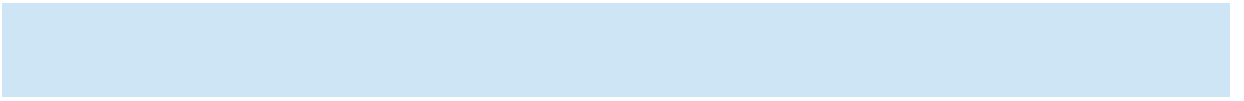
TEXTILE FLOOR COVERINGS

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INTRODUCTION

Carpets and textile floor coverings provide comfort, style, and even a sense of warmth to homes, offices, hotels, and public places. Whether it's a soft hand-knotted silk carpet, durable carpet tiles in a commercial space, or artificial grass for landscape, each type of flooring serves a unique purpose. With so many options now available, it is important that there are clear, reliable standards in place to ensure these products are safe, long-lasting, and easy to care for.

This compendium brings together all the key Indian Standards related to textile floor coverings, including how they are made, how they should perform, and how to maintain them. It's meant to be a practical, go-to guide for anyone working with carpets, whether you're a manufacturer, designer, installer, or someone simply looking to make informed choices.

A. LIST OF PRODUCT STANDARDS ON TEXTILE FLOOR COVERINGS

1) IS 17479 : 2023 Carpet Tiles Made of Synthetic Yarn — Specification (First Revision)

This standard specifies the constructional particulars and performance requirements of following types of carpet tiles:

- a) Type I — Polypropylene or polyester (solution dyed/dope dyed) filament yarn or their blends shall be used as pile yarn
- b) Type II — Nylon (polyamide) (solution dyed/dope dyed) filament yarn shall be used as pile yarn.

2) IS 17478 : 2020 Wall-to-Wall Carpets Made of Polyamide (Nylon) Yarn — Specification

This standard outlines the construction and performance requirements for tufted wall-to-wall carpets made from polyamide (nylon) filament yarns via BCF or POY routes. The product may include different type of pile constructions like multi-level cut loop, all cut, all loop, tip shear in design.

3) IS 18158 : 2023 Artificial Grass Carpet Made of Synthetic Yarn for Landscape — Specification

This standard specifies the constructional particulars and performance requirements of tufted artificial grass made from polypropylene fibrillated yarn, polyethylene combination of both. This standard does not specify the general appearance, design, size, etc. of artificial grass.

4) IS 14566 : 2023 Textile Floor Covering — Hand-Knotted Silk Carpets — Specification

This standard specifies the constructional and performance requirements for hand-knotted silk carpets and rugs made of 99 percent natural silk pile yarn with different knot types (single, double, Tibetan) and minimum knot density (50 knots/cm²).

5) IS 4392:2024 Hand-Made Namdhas — Specification (Second Revision)

This standard specifies requirements for three grades of hand-made Namdhas: All Wool, Wool Blends (50:50), and Cotton Rich (30:70) made of clean, well-carded wool and cotton, with hand-spun and mill-spun wool yarn used for embroidery.

6) IS 5884 : 2020 Textile Floor Covering — Hand Tufted Carpets — Specification (Third Revision)

This standard prescribes the construction particulars and performance requirement of hand tufted carpet made from wool or man-made fibres or their blends. This standard does not specify color, design effect, general appearance of the carpet.

B. LIST OF TEST METHOD STANDARDS ON TEXTILE FLOOR COVERINGS

1) IS 17858:2022 / ISO 1763:2020 – Determination of Number of Tufts/Loops per Unit Area

This standard specifies a method for determining the number of tufts and/or loops in textile floor coverings per unit length (S and G values) and area. It applies to all tufted or looped textile carpets and artificial turf. The test involves counting at least 41 complete tufts/loops over a minimum length of 100 mm in both warp and weft directions, using a ruler. Calculations yield stitch rate and gauge (S and G), which may be multiplied to get tufts/loops per unit area.

2) IS 17657:2021 / ISO 8543:2020 – Methods for Determination of Mass of Textile Floor Coverings

This standard specifies methods for determining the mass characteristics of textile floor coverings, including total mass per unit area, total pile mass, and pile mass above the substrate. The standard applies to a wide range of textile flooring types, including carpets and artificial grass, and outlines specimen preparation, procedures to calculate surface pile density and fibre volume ratio important indicators of durability and comfort.

3) IS 17260 : 2019 Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler tester

This standard specifies test methods to simulate and assess changes in the surface appearance of textile floor coverings using mechanical action from either a Vettermann drum (steel ball with rubber studs) or a hexapod tumbler. The tests simulate wear and fatigue to evaluate long- and short-term visual durability. The method applies to all textile floor coverings and can include testing with or without underlay.

4) IS 17474 : 2020 Textile Floor Coverings — Determination of Resistance to Damage at Cut Edges Using the Modified Vettermann Drum Test

This standard outlines a method to evaluate the resistance of textile floor coverings both sheet and tile types to mechanical damage at cut edges. Using a Vettermann drum with a steel ball

fitted with rubber studs, specimens are subjected to 11,000 cycles of rotation. The test simulates stress at seams or cuts, assessing defects like fraying, tuft pull-out, sprouting, delamination, and loop loss.

5) IS 17488:2020 Textile Floor Coverings — Determination of Resistance to Delamination

This standard outlines a method for determining the resistance to delamination of textile floor coverings, particularly those with a secondary or foam backing. The test measures the force required to separate the plies of such materials.

6) IS 17489:2020 Textile Floor Coverings — Determination of Resistance to Staining by Acid Food Colours

This standard outlines a method to determine how well textile floor coverings resist staining from acid food colours, such as Red 40. The test involves applying a standard acidic dye solution to the fabric, conditioning it under controlled conditions, rinsing, and then evaluating the level of residual stain. The stain resistance is assessed either visually using the AATCC Red 40 stain scale or instrumentally through colour difference measurement (ΔE). The method helps manufacturers assess the performance of textile flooring in environments where food stains are common.

7) IS 17490 : 2020 Textile and Laminate Floor Coverings — Assessment of Static Electrical Propensity — Walking Test

This standard specifies a method for evaluating the static electrical propensity of textile and laminate floor coverings. It uses a walking test under controlled environmental conditions to measure the electrical voltage generated by a person walking on the flooring while wearing standardized sandals. The test helps determine whether a floor covering may cause electrostatic shock in real-world use.

8) IS 16201:2014 Carpets — Determination of Tuft Withdrawal Force

The standard specifies a method for determining the tuft withdrawal force in carpets with cut or loop pile yarn structures. It uses tensile testing to measure the force needed to withdraw tufts or loops, ensuring only one tuft is tested at a time.

9) IS 7877 (Part 1 to 4) : 2023 Methods of Sampling and Tests for Hand-Made Carpets

This standard outlines procedures for sampling, testing, and analyzing hand-made carpets. Part 1 deals with sampling methods and selection of test areas for physical and chemical testing. Part 2 describes six types of knots used in carpets, including the Tibetan knot, and provides visual identification methods. Part 3 specifies the procedure for determining pile height using metal gauges. Part 4 covers measurement of carpet dimensions including length, width, diagonals, and diameters for various shapes.

C. LIST OF CODE OF PRACTICE STANDARDS ON TEXTILE FLOOR COVERINGS

1) IS 18551:2024 Textile Floor Coverings — Installation and Use on Stairs — Guidelines

This standard provides guidelines for installing and using textile floor coverings on stairs in both residential and commercial settings. It covers various carpet types (pile, loop, needled, and non-pile) and evaluates their suitability based on wear, appearance, and tuft loss. Recommendations include design considerations, direction of pile, and use of protective stair nosings. Installation methods such as carpet gripper and direct stick are detailed.

2) IS 18553:2024 Textile Floor Coverings — Installation Practices General

This standard provides comprehensive guidelines for the installation of textile floor coverings (e.g., carpets) over various subfloors. It includes requirements for materials like adhesives, underlays, and carpet grippers, and outlines pre-installation inspections and environmental conditioning. The document details multiple installation methods, such as direct-stick, double-bond, and hook-and-loop systems, along with specific procedures for stair installation.

3) IS/ISO 6347:2019 Textile floor coverings — Consumer information (first revision)

This standard provides guidelines for the essential and optional information that manufacturers must supply to consumers regarding textile floor coverings. It applies to all types of such coverings and ensures transparency at the point of sale. Required details include supplier identity, product type, fibre content, dimensions, thickness, and mass per unit area. Optional information includes construction type, pile characteristics, color fastness, electrical properties, flammability, and intended usage areas.