भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

Draft For Comments Only

भारतीय मानक मसौदा

वस्त्र कांच — कटी हुई लड़ एवं सतत तंतुओं की चटाई — औसत मोटाई, भार के नीचे मोटाई एवं दबाव के बाद रिकवरी का निर्धारण

(आई एस 17596 का *पहला पुनरीक्षण)*

Draft Indian Standard

TEXTILE GLASS — CHOPPED-STRAND AND CONTINUOUS-FILAMENT MATS — DETERMINATION OF AVERAGE THICKNESS, THICKNESS UNDER LOAD AND RECOVERY AFTER COMPRESSION

(First Revision of IS 17596 *)*

ICS : 59.100.10

High Performance Fibres, Fibrous Structure and Textile Components of Composites Sectional Committee, TXD 40	Last date for receipt of comments is 19 November 2025

NATIONAL FOREWORD

(*Formal clauses will be added later*)

This Indian Standard intended to be adopted is identical with ISO 3616 : 2022 'Textile glass — Chopped-strand and continuous-filament mats — Determination of average thickness, thickness under load and recovery after compression' issued by the International Organization for Standardization (ISO).

This standard was originally published in 2021. The present revision has been undertaken to align it with the latest version of ISO 3616 : 2022.

The conditioning temperature of (20 ± 2) °C as specified in International Standards is not suitable for tropical countries like India where the atmospheric temperature is normally much

higher than 20 °C. It is almost impossible to maintain this temperature specially during summer when the atmospheric temperature rises even up to 50 °C. In view of the above, IS 6359 : 2023 'Method for conditioning of textiles (*first revision*)' which specifies a temperature of (27 ± 2) °C for conditioning of the test specimens for the tropical countries like India shall be referred.

Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In the standard intended to be adopted, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their respective places are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 291, Plastics — Standard atmospheres for conditioning and testing	IS 13360 (Part 1) : 2025 Plastics — Methods of testing: Part 1 Introduction (*first revision*)	Technically equivalent
ISO 3374, Reinforcement products — Mats and fabrics — Determination of mass per unit area	IS 17309 : 2019/ISO 3374 : 2000 Reinforcement products — Mats and fabrics — Determination of mass per unit area	Identical

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'.

1 INTRODUCTION

Chopped-strand and continuous-filament mats are mainly used as reinforcement materials for polymer matrix composites. The average thickness, thickness under load and recovery after compression of the mat are the most basic parameters provided for the composites process design and the final product structure and size design.

2 SCOPE

This document specifies a method for the determination of the average thickness, the thickness under load and the recovery after compression of chopped-strand and continuous-filament textile-glass mats.

3 TERMS AND DEFINITIONS

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Average Thickness

Thickness of a mat, in millimetres, measured in accordance with the specified method, under a specified nominal light pressure.

Note — The average thickness determined by this method does not necessarily bear a direct relation to the thickness of a single layer. The regularity of thickness of a mat must be measured on a single layer and with apparatus with a much smaller contact area than that specified in this document.

3.2 Thickness under Load

Thickness of a mat, measured in accordance with the specified method, under a specified heavy pressure applied for a specified time, expressed as a percentage of the initial average thickness (3.1).

3.3 Recovery after Compression

Thickness to which the mat recovers after a specified interval following removal of the specified heavy pressure, expressed as a percentage of the initial average thickness (3.1).

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A4 size sheet of paper only and type within fields indicated. Comments on each clause/sub clause/table/fig etc. be started on a fresh box. Information in column 3 should include reasons for the comments and suggestions for modified working of the clauses when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work)

Please e-mail your comments to txd@bis.gov.in

NAME OF THE COMMENTATOR/ORGANIZATION:

DOCUMENT NO: TXD 40 (28722) WC

BIS LETTER REFERENCE NO. : TXD 40 (28722)

Item, Clause Sub-Clause No. Commented upon (Use Separate Box afresh)	**Comments**	**Specific Proposal (Draft clause to be add/amended)**	**Remarks**	**Technical References and justification on which (2), (3), (4) are based**
(1)	**(2)**	**(3)**	**(4)**	**(5)**