TÜBİTAK
ULUSAL METROLOJİ ENSTİTÜSÜ

Certificate of the Reference Material

Name of the Material : Fabric

Material Code : UME CRM 1507

Issue Date : 26.06.2026

Revision Date : 26.06.2026 (Revision history can be found on the last page)

Validity Period of the Certificate : 12 months from the sales date

Certified Values :

Parameter [1]	**Certified Value** [2] (N)	**Uncertainty** [2,3] (N)
Tensile Strength-Grab Method Maximum Force-Warp Direction	603	70

[1] Calculated from the arithmetic mean of the results reported by 8 laboratories using the EN ISO 13934-2 method.
[2] The certified value and uncertainty are traceable to the International System of Units (SI).
[3] The expanded uncertainty of the certified value includes characterization, homogeneity, stability components and is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The standard uncertainty of measurement has been determined in accordance with GUM “Guide to the Expression of Uncertainty in Measurement”.

Sales Date

Assoc. Prof. Mustafa ÇETİNTAŞ
Director

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Informative Values

Parameter	Value	Standard Deviation [4]	Unit
Tensile Strength-Grab Method Maximum Force-Weft Direction [1]	364	16	N
Number of Threads per Unit Length-Warp Direction [2]	32	1	threads/cm
Number of Threads per Unit Length-Weft Direction [2]	21	1	threads/cm
Fabric Mass [3]	193.5	1.0	g/m^2

[1] Calculated from the arithmetic mean of the results reported by 8 laboratories using the EN ISO 13934-2 method.
[2] Calculated from the median of the results reported by 8 laboratories using the EN ISO 7211-2 method.
[3] Calculated from the arithmetic mean of the results reported by 8 laboratories using the EN 12127 method.
[4] Standard deviation value of the results reported by 8 laboratories.

Description

The material is a black woven fabric, 80 cm × 60 cm in size, packed in a transparent bag. Additional information about the content and preparation of the material is available in the certification report.

Intended Use

This material is intended for use in the verification of the grab test method for determining the tensile strength of textile products, as well as for ensuring quality control in related operations. Additionally, informative values for the number of threads per unit length and the mass of the fabric are available.

Instructions for Use

Sample preparation and testing must be carried out as specified in the relevant test standard.

The warp direction is indicated on the fabric sample.

For the tensile strength test, the specimen must be conditioned at a temperature of (20 ± 2) °C and a relative humidity of (65 ± 4) %rh; the test must be performed with a testing speed of 50 mm/min, a gauge length of 100 mm, and without the application of any pretension.

The material may be transported without additional cooling measures, provided that the temperature does not exceed +45 °C and the transport duration does not exceed 2 weeks.

Storage Conditions

This material should be stored at (+24 ± 3) °C in a dark, dry and clean environment.

TÜBİTAK UME cannot be held responsible for changes that might happen to the material at the customer's premises due to noncompliance with the instructions for use, and the storage conditions given in the certificate.

Safety Information

For laboratory use only. Standard laboratory safety precautions are applicable to similar fabric samples. When working with scissors or other sharp or pointed instruments, take necessary precautions to prevent injury and work with the utmost care. It is recommended that the material be handled and disposed of in accordance with applicable safety guidelines.

Participants

Information about the laboratories participated to the characterisation study is given in the table below, where laboratories are listed in alphabetical order.

Laboratory	Address
AZOLAB Laboratuvar Hizmetleri A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-1110-T)	Adnan Kahveci Mah. Çankaya Cad. Simay İş Merkezi No: 5-B Kat:1 No:34 Beylikdüzü/İstanbul/Türkiye
BUREAU VERITAS Consumer Products Services Türkiye (TS EN ISO/IEC 17025, TÜRKAK AB-0505-T)	Yalçın Koreş Cad. No:22 Erdinç Binaları A Blok 1.Kule 1.Kat 34209 Güneşli/İstanbul/Türkiye
EKOTEKS Laboratuvar ve Gözetim Hizmetleri A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-0583-T)	Esenyurt Firuzköy Bulvarı No:29 34325 Avcılar/İstanbul/Türkiye
EUROFINS Tüketici Ürünleri Test Hizmetleri A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-1356-T)	Mahmutbey Mahallesi 2538. Sokak No:6 Kısık Plaza Kat:5 No:11/12, 34218 Bağcılar/İstanbul/Türkiye
INTERTEK Test Hizmetleri A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-0716-T)	Yenibosna Merkez Mah. Sanayi Cad. Altındağ Plaza No.23 Yenibosna/ Bahçelievler/İstanbul/Türkiye
SGS Supervise Gözetme Etüd Kontrol Servisleri A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-0690-T)	Bağlar Mah. Osmanpaşa Cad. No:95, İş İstanbul Plaza E Girişi, 34209 Güneşli/İstanbul/Türkiye
TÜBİTAK BUTAL Bursa Test ve Analiz Laboratuvarı Müdürlüğü (TS EN ISO/IEC 17025, TÜRKAK AB-0494-T)	Gaziakdemir Mahallesi Stadyum Caddesi No:11 Osmangazi/Bursa/Türkiye
TÜV Rheinland Uluslararası Standartlar Sertifikasyon ve Denetim A.Ş. (TS EN ISO/IEC 17025, TÜRKAK AB-0342-T)	Saniye Ermutlu Sokak, Çolakoğlu Plaza B Blok D:12 34742 Kadıköy/İstanbul/Türkiye

Methods and/or Techniques Used for the Determination of Certified Values

The method used in the certification is given below.

Method/Technique	Parameter
EN ISO 13934-2	Tensile Strength-Grab Method Maximum Force-Warp Direction

Revision History

Date	Remarks
26.06.2026	First publication.