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Fine ceramics (advanced ceramics, advanced technical ceramics) - Reinforcement of ceramic composites - Determination of distribution of tensile strength and tensile strain to failure of filaments within a multifilament tow at ambient temperature (ISO 22459:2024)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/24

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Fine ceramics (advanced ceramics, advanced technical ceramics) - Reinforcement of ceramic composites -Determination of distribution of tensile strength and tensile strain to failure of filaments within a multifilament tow at ambient temperature (ISO 22459:2024)

Céramiques techniques - Renfort de céramiques composites - Détermination de la distribution de la résistance en traction et de la déformation à la rupture en traction de filaments dans un fil multifilamentaire à température ambiante (ISO 22459:2024) Hochleistungskeramik - Faserverstärkungen von keramischen Verbundwerkstoffen - Bestimmung der Verteilung von Zugfestigkeit und Zugdehnung bis zum Versagen von Filamenten innerhalb eines Multifilamentkabels bei Raumtemperatur (ISO 22459:2024)

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EN ISO 22459:2024 (E)

Contents	Page
European foreword	

European foreword

This document (EN ISO 22459:2024) has been prepared by Technical Committee ISO/TC 206 "Fine ceramics" in collaboration with Technical Committee CEN/TC 184 "Advanced technical ceramics" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2025, and conflicting national standards shall be withdrawn at the latest by February 2025.

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Endorsement notice

The text of ISO 22459:2024 has been approved by CEN as EN ISO 22459:2024 without any modification.



International Standard

ISO 22459

Second edition 2024-08

Fine ceramics (advanced ceramics, advanced technical ceramics) — Reinforcement of ceramic composites — Determination of distribution of tensile strength and tensile strain to failure of filaments within a multifilament tow at ambient temperature

Céramiques techniques — Renfort de céramiques composites — Détermination de la distribution de la résistance en traction et de la déformation à la rupture en traction de filaments dans un fil multifilamentaire à température ambiante ISO 22459:2024(en)



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Contents

Forew	vord		iv
1	Scope	e	1
2	Normative references		
3	Terms and definitions		
4		ziple	
-	•		
5	Significance and use		
6	Appa 6.1 6.2	ratus Tensile testing equipment Data recording	3
7	Test specimen		4
	7.1	General	4
	7.2	Window type specimen	
	7.3	Cylindrical end type specimen	
8		specimen preparation	
	8.1 8.2	General Window type specimen	
	8.3	Cylindrical end type specimen	
	8.4	Number of test specimens	
9	Test	procedure	6
	9.1	Determination of the initial cross-section area	
	9.2	Determination of the gauge length	
	9.3	Gripping.	
	9.4 9.5	Selection of strain rate Test procedure	
	9.6	Determination of load train compliance	
	9.7	Test validity	
10	Calcu	llation of results	8
	10.1	Calculation of the load train compliance C ₁	
	10.2	Calculation of probability of filament rupture P _i from the tests on specimens with a	
		gauge length of 200 mm	
		10.2.1 Determination of the true origin10.2.2 Construction of envelope curve and determination of instantaneous compliance	10
		$C_{\rm t,i}$	10
		10.2.3 Probability of filament rupture	11
	10.3	Distribution of filament rupture strain	
		10.3.1 Calculation of filament rupture strain	
	10.4	10.3.2 Filament rupture strain distribution	
	10.4	10.4.1 Initial cross-section area	
		10.4.2 Calculation of filament strength	
		10.4.3 Filament strength distribution	13
		10.4.4 Average filament strengths	
		10.4.5 Mean filament strength	
11	Test	report	14
Anne	Annex A (informative) Abstract of the handbook of mathematical functions		
Biblio	ograph	y	16

ISO 22459:2024(en)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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This document was prepared by Technical Committee ISO/TC 206, *Fine ceramics,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 184, *Advanced technical ceramics,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 22459:2020), of which it constitutes a minor revision.

The changes are as follows:

- <u>Figure 2</u> has been updated;
- <u>Figure 3</u> has been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <u>www.iso.org/members.html</u>.

Fine ceramics (advanced ceramics, advanced technical ceramics) — Reinforcement of ceramic composites — Determination of distribution of tensile strength and tensile strain to failure of filaments within a multifilament tow at ambient temperature

1 Scope

This document specifies the conditions for the determination of the distribution of strength and rupture strain of ceramic filaments within a multifilament tow at room temperature by performing a tensile test on a multifilament tow.

This document applies to dry tows of continuous ceramic filaments that are assumed to act freely and independently under loading and exhibit linear elastic behaviour up to failure. The outputs of this method are not to be mixed up with the strengths of embedded tows determined by using ISO 24046.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7500-1, Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system

ISO 10119, Carbon fibre — Determination of density

EN 1007-2, Advanced technical ceramics — Ceramic composites — Methods of test for reinforcements — Part 2: Determination of linear density

koniec náhľadu – text ďalej pokračuje v platenej verzii STN