

Aerospace series - Carbon, glass and aramid fibre preimpregnates - Determination of the resin and fibre content and the mass of fibre per unit area

EESTI STANDARDI EESSÕNA

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EUROPEAN STANDARD

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NORME EUROPÉENNE

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Supersedes EN 2559:1997

English Version

**Aerospace series - Carbon, glass and aramid fibre
preimpregnates - Determination of the resin and fibre
content and the mass of fibre per unit area**

Série aérospatiale - Préimprégnés de fibres de carbone,
de verre et d'aramide - Détermination des teneurs en
résine et en fibres et de la masse surfacique de la fibre

Luft- und Raumfahrt - Carbon-, Glas- und Aramidfaser-
Prepregs - Bestimmung des Harz- und
Fasermasseanteils und der flächenbezogenen
Fasermasse

This European Standard was approved by CEN on 1 August 2022.

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European foreword

This document (EN 2559:2022) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

This document supersedes EN 2559:1997.

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1 Scope

This document specifies methods for determining the resin content, fibre content and mass of fibre per unit area of fibre preimpregnates for aerospace use.

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.

EN 2558, *Aerospace series — Carbon fibre preimpregnates — Determination of the volatile content*

EN 2743, *Aerospace series — Fibre reinforced plastics — Standard procedures for conditioning prior to testing unaged materials*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology 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/>

4 Principle

4.1 Wet extraction (Method A)

Determination of the difference in mass by means of weighing to constant mass before and after extraction of the resin by acid digestion. Use a solution of concentrated sulfuric acid and hydrogen peroxide. Nitric or other suitable acids can be used depending on the matrix that is to be dissolved.

4.2 Soxhlet extraction (Method B)

Determination of the difference in mass by means of weighing to constant mass before and after extraction of the resin with methyl-ethyl-ketone or other suitable solvent agreed between the user and manufacturer.

4.3 Extraction by soaking and decantation (Method C)

Similar to 4.2 but faster. In case of dispute, 4.2 shall be applied.

4.4 Information on the use of the methods

4.4.1 Method A

If the preimpregnate contains only fibre and a resin which is completely “digestible”, the resin content is equal to the loss on wet digestion.

The fibre used as a reinforcement may be coated with a resin size, which is normally removed during wet digestion. The size is therefore included in the resin content.

Where undissolved fillers are lost by filtering, they are thus included in the resin content.

NOTE There can be a partial loss of undissolved fillers, one part being counted with the resin and the rest being counted with the fibres.