



BSI Standards Publication

Testing of welded joints of thermoplastics semi-finished products

Part 7: Tensile test with waisted test specimens

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National foreword

This British Standard is the UK implementation of EN 12814-7:2024. It supersedes BS EN 12814-7:2002, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/3, Welding of thermoplastic moulded components.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

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English Version

Testing of welded joints of thermoplastics semi-finished products - Part 7: Tensile test with waisted test specimens

Essais des assemblages soudés sur produits semi-finis en thermoplastiques - Partie 7 : Essai de traction avec éprouvettes entaillées en U

Prüfen von Schweißverbindungen an Halbzeugen aus thermoplastischen Kunststoffen - Teil 7: Zugversuch an Probekörpern mit Rundkerbe

This European Standard was approved by CEN on 15 January 2024.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 12814-7:2024) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12814-7:2002.

In comparison with the previous edition, the following technical modifications have been made:

- the symbols in “Figure 1 — Waisted tensile test specimen” have been added to “Table 1 — Symbols and designations”;
- modification in Clause 6 following dimensions of test specimens;
- “Table 2 — Dimensions of test specimens” has been added;
- in Table B.1, the test speed for PA-U materials has been added.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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1 Scope

This document specifies the dimensions, the method of sampling, the preparation of the test specimens and the conditions for performing the tensile test with waisted test specimens in order to determine the tensile energy welding factor.

A tensile test with waisted specimens can be used in conjunction with other tests (e.g. bend, tensile, tensile creep, macro, etc.) to assess the performance of welded assemblies, made from thermoplastics materials.

The test is applicable to co-axial or co-planar heated tool butt welded assemblies made from thermoplastics materials filled or unfilled, but not reinforced. It is not applicable to tubular assemblies with a nominal outside diameter less than 90 mm.

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 13100-1, *Non-destructive testing of welded joints of thermoplastics semi-finished products — Part 1: Visual examination*

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1)*

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification*

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/>