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

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 12814-7:2002 sisaldab Euroopa standardi EN 12814-7:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 15.11.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12814-7:2002 consists of the English text of the European standard EN 12814-7:2002. This document is endorsed on 15.11.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard 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	**Scope:** This standard 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

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Võtmesõnad: bulking paper index, defin, definitions, determination, determination procedures, dimensional stability, emptying, gravimetric analysis, nominal capacity, overflows, plastic containers, plastic countainers, plastics, volume, volume measurement, volume when brimful

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EUROPEAN STANDARD

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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 aus thermoplastischen Kunststoffen - Teil 7: Zugversuch an Probekörpern mit Rundkerbe

This European Standard was approved by CEN on 19 August 2002.

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Foreword

This document EN 12814-7:2002 has been prepared by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

Annex A is informative.

This standard includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard 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 may be used in conjunction with other tests (e.g. bend, tensile, tensile creep, macro...) to assess the performance of welded assemblies, made from thermoplastics materials.

The test is applicable to co-axial or co-planar welded assemblies made from thermoplastics materials filled or unfilled, but not reinforced, irrespective of the welding process used. It is not applicable to tubular assemblies with a nominal outside diameter less than 90 mm.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1:1993).*

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

3 Symbols and designations

Symbols and designations are given in Table 1.

Table 1 — Symbols and designations

Symbols and abbreviations	Designations	Units
f_e	The tensile energy welding factor	—
E_w	The value of energy to break of the welded test specimen used in the calculation of f_e [a]	Joule
E_r	The value of energy to break of the unwelded test specimens taken from the same test piece, used in the calculation of f_e [b]	Joule
a_n	Nominal thickness of the test piece	millimetre
D_n	Nominal outside diameter of the tube	millimetre

[a] Area under the load/extension curve of the welded test specimen.

[b] Area under the load/extension curve of the unwelded test specimen.

4 Principle of the test

The test specimen is extended along its major longitudinal axis at constant speed until the test specimen fractures. During this procedure the load and extension sustained by the test specimen is measured and the energy to break is calculated.

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