

Testing of welded joints of thermoplastics
semi-finished products - Part 2: Tensile test

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12814-2:2021 sisaldab Euroopa standardi EN 12814-2:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 12814-2:2021 consists of the English text of the European standard EN 12814-2:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.01.2021.	Date of Availability of the European standard is 27.01.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 25.160.40

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis-ja Akrediteerimiskeskuse kirjaliku loata on keelatud

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Testing of welded joints of thermoplastics semi-finished products - Part 2: Tensile test

Essais des assemblages soudés sur produits semi-finis
en thermoplastiques - Partie 2 : Essai de traction

Prüfen von Schweißverbindungen aus
thermoplastischen Kunststoffen - Teil 2: Zugversuch

This European Standard was approved by CEN on 20 December 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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

Contents

Page

European foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms, definitions, symbols and abbreviated terms	4
3.1 Terms and definitions.....	4
3.2 Symbols and abbreviated terms.....	4
4 Principle of the test.....	5
5 Sampling procedures.....	5
6 Dimensions of test specimens.....	6
7 Cutting of test specimens	8
8 Mechanical testing.....	8
9 Test equipment.....	8
10 Determination of the short-term tensile welding factor	8
11 Test report.....	9
Annex A (informative) Tensile test specimen for overlap joints	11
Annex B (informative) Recommended test speeds for some thermoplastics materials	12
Annex C (normative) Notched tensile test specimen.....	13
Bibliography.....	14

European foreword

This document (EN 12814-2:2021) has been prepared by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by NBN.

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 July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

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 12814-2:2000.

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

- the reference standards ISO 5893 and ISO 13953 have been changed to undated;
- a new annex (Annex A), describing the tensile test specimen geometry for overlap joints, has been added.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 in order to determine the short-term tensile welding factor.

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

The test is applicable to welded semi-finished products made from thermoplastics materials filled or unfilled, but not reinforced, irrespective of the welding process used.

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*

ISO 13953, *Polyethylene (PE) pipes and fittings - Determination of the tensile strength of test specimens from a butt-fused joint*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.2 Symbols and abbreviated terms

For the purposes of this document, the symbols and abbreviated terms given in Table 1 apply.