SLOVENSKI STANDARD
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Preskušanje zvarjenih spojev plastomernih polizdelkov - 8. del: Zahteve

Testing of welded joints of thermoplastics semi-finished products - Part 8: Requirements

Prüfen von Schweißverbindungen aus thermoplastischen Kunststoffen - Teil 8: Anforderungen

Essais des assemblages soudés sur produits semi-finis en thermoplastiques - Partie 8 : Exigences

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 249.

If this draft becomes a European Standard, 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.

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

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European foreword

This document (prEN 12814-8:2019) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12814-8:2001 and EN 12814-8:2001/AC:2003.

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

— PVC-RI has been removed because it is no longer used in the designation;

— bend angle data for PVC-NI has been replaced by PVC-U;

— ram displacement requirements for PP-B and PP-H have been added;

— minimum short-term tensile welding factor for extrusion welding PVC-U has been added.

1 Scope

This document provides the requirements for the tests made on welded thermoplastics semi-finished products.

The selection of the appropriate test method(s) should be made in accordance with the particular type and application of welded product.

The test results depend on the conditions of manufacture for the test specimen and on the test conditions. They can therefore only be related to the behaviour of the product or can only be used for designing a structure, if the test conditions can be related to the service conditions.

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 12814-1, *Testing of welded joints of thermoplastics semi-finished products — Part 1: Bend test*

EN 12814-2, *Testing of welded joints of thermoplastics semi-finished products — Part 2: Tensile test*

EN 12814-3, *Testing of welded joints in thermoplastics semi-finished products — Part 3: Tensile creep test*

EN 12814-4, *Testing of welded joints of thermoplastics semi-finished products — Part 4: Peel test*

EN 12814-5, *Testing of welded joints of thermoplastics semi-finished products — Part 5: Macroscopic examination*

EN 12814-6, *Testing of welded joints of thermoplastics semi-finished products — Part 6: Low temperature tensile test*

EN 12814-7, *Testing of welded joints of thermoplastics semi-finished products — Part 7: Tensile test with waisted test specimens*

3 Symbols and abbreviations

For the purposes of this document, the following symbols and abbreviations apply.

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 http://www.iso.org/obp

HT Heated tool welding

HG Hot gas welding

EX Extrusion welding (continuous)

4 Materials and properties

This standard is applicable to the thermoplastic materials listed in Table 1.

Table 1 — Materials and symbols

Symbol	Material
PE	Polyethylene
PP [a]	Polypropylene
PP-B	Polypropylene block copolymer
PP-H	Polypropylene homopolymer
PP-R	Polypropylene random copolymer
PVC-C	Polyvinyl chloride chlorinated
PVC-U	Polyvinyl chloride unplasticised
PVDF	Polyvinylidene fluoride
[a] PP includes PP-B, PP-H and PP-R.	

5 Destructive test methods

The dimensions and the methods for sampling and preparing test specimens, together with the conditions for carrying out destructive tests shall be as given in the standards shown in Table 2.

Table 2 — Destructive test methods for welded joints

Test method	Standard reference
Bend test	EN 12814-1
Tensile test	EN 12814-2
Tensile creep test	EN 12814-3
Peel test	EN 12814-4
Macroscopic examination	EN 12814-5
Low temperature tensile test	EN 12814-6
Tensile test with waisted test specimen	EN 12814-7

6 Requirements

6.1 General

The semi-finished products used for the welded joints shall comply with the relevant standards. The welded joints shall meet the requirements specified hereafter.

6.2 Bend test

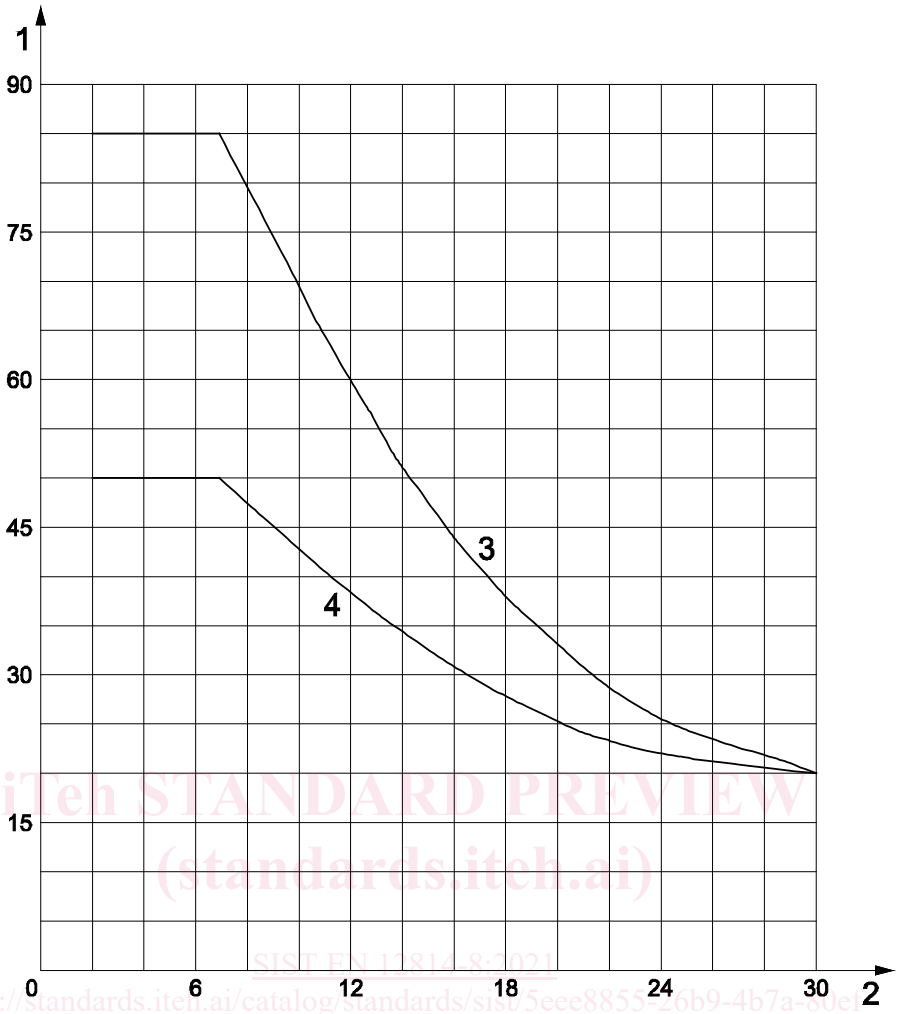
6.2.1 Bend angle

The individual measure value of the bend angle shall be greater than or equal to the values given in Figures 1 to 5. For PVC-C, the requirements shall be agreed between the contracting parties.

Key

1 bend angle in °
2 test specimen thickness in mm
3 HT
4 EX, HG

Figure 1 — Minimum bend angle for PE (density ≥ 0,94)



Key

1 bend angle in °
2 test specimen thickness in mm
3 HT
4 EX, HG

Figure 2 — Minimum bend angle for PP-B and PP-H

Key

1 bend angle in °
2 test specimen thickness in mm
3 HT
4 EX, HG

Figure 3 — Minimum bend angle for PP-R