

Testing of welded joints of thermoplastics semi-finished products —

Part 1: Bend tests

The European Standard EN 12814-1:1999 has the status of a British Standard

ICS 25.160.40

National foreword

This British Standard is the official English language version of EN 12814-1:1999, including Corrigendum September 2003.

The UK participation in its preparation was entrusted to Technical Committee PRI/80, Welding thermoplastics, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

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This British Standard, having been prepared under the direction of the Sector Committee Materials and Chemicals, was published under the authority of the Standards Committee and comes into effect on 15 January 2000

Summary of pages

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English version

Testing of welded joints of thermoplastics semi-finished products - Part 1: Blend test

Essai des assemblages soudés sur produits semi-finis
thermoplastiques - Partie 1: Essais de pliage

Prüfen von Schweißverbindungen aus thermoplastischen
Kunststoffen - Teil 1: Biegeversuch

This European Standard was approved by CEN on 30 September 1999.

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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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard 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 May 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies the dimensions and the method for sampling and preparing test specimens, together with the conditions for carrying out the bend test.

The result of the test is also influenced by the deformation behaviour of the tested material, the kind of welding process and the geometry of the sample.

The test is applicable to plate and tube butt jointed assemblies made from thermoplastic materials filled or unfilled, but not reinforced, irrespective of the welding process used. It is not applicable to assemblies with a wall thickness < 3 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.

ISO 2768-1	General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications
ISO 2818	Plastics - Preparation of test specimens by machining
ISO 5893	Rubber and plastics test equipment - Tensile, flexural and compression types (constant rate of traverse) - Description

3 Terms and definitions

For the purposes of this European Standard, the following definitions apply:

3.1 face bend

the face corresponding to the open side of the groove is subjected to extension.

3.2 root bend

the face corresponding to the root of the weld is subjected to extension.

3.3 side bend

one of the faces of the test specimen corresponding to the cross section of the weld is subjected to extension.

3.4 initial angle " α_i "

angle between the two sides of the test specimen above the rollers before the test.

3.5 final angle " α_f "

angle between the two sides of the test specimen above the rollers when the test is terminated.

3.6 bend angle " α "

angle calculated from the difference between the initial angle and final angle.

4 Symbols and designations

Symbols and designations are given in Table 1.