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**Preskus zvarjenih spojev plastomernih polizdelkov - 3. del: Preskus lezenja pri natezni obremenitvi**

Testing of welded joints in thermoplastics semi-finished products - Part 3: Tensile creep test

Prüfen von Schweißverbindungen aus thermoplastischen Kunststoffen - Teil 3:  
Zeitstand-Zugversuch

Essais des assemblages soudés sur produits semi-finis en thermoplastiques - Partie 3:  
Essai de fluage en traction

**Ta slovenski standard je istoveten z: prEN 12814-3**

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**ICS:**

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**DRAFT**  
**prEN 12814-3**

October 2026

ICS 25.160.40

Will supersede EN 12814-3:2014

English Version

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

Essais des assemblages soudés sur produits semi-finis  
en thermoplastiques - Partie 3: Essai de fluage en  
traction

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thermoplastischen Kunststoffen - Teil 3: Zeitstand-  
Zugversuch

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Ref. No. prEN 12814-3:2026 E

| <b>Contents</b>                                                                                                                                              | <b>Page</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Foreword</b> .....                                                                                                                                        | <b>3</b>    |
| <b>Introduction</b> .....                                                                                                                                    | <b>4</b>    |
| <b>1 Scope</b> .....                                                                                                                                         | <b>5</b>    |
| <b>2 Normative references</b> .....                                                                                                                          | <b>5</b>    |
| <b>3 Terms and definitions</b> .....                                                                                                                         | <b>5</b>    |
| <b>4 Symbols and designations</b> .....                                                                                                                      | <b>5</b>    |
| <b>5 Principle of the test</b> .....                                                                                                                         | <b>6</b>    |
| <b>6 Sampling procedures</b> .....                                                                                                                           | <b>7</b>    |
| <b>7 Dimensions of test specimens</b> .....                                                                                                                  | <b>7</b>    |
| <b>8 Cutting and preparation of test specimens</b> .....                                                                                                     | <b>9</b>    |
| <b>9 Mechanical testing</b> .....                                                                                                                            | <b>10</b>   |
| <b>10 Test equipment</b> .....                                                                                                                               | <b>10</b>   |
| <b>11 Determination of the long-term welding factor</b> .....                                                                                                | <b>11</b>   |
| <b>12 Test report</b> .....                                                                                                                                  | <b>13</b>   |
| <b>Annex A (informative) Resistance to slow crack growth</b> .....                                                                                           | <b>14</b>   |
| <b>Annex B (informative) Whole pipe tensile creep rupture test</b> .....                                                                                     | <b>17</b>   |
| <b>Annex C (informative) Minimum creep rupture time of the parent material (<math>t_{tm}</math>) for applicability of the long-term welding factor</b> ..... | <b>20</b>   |
| <b>Annex D (informative) Testing of socket joints</b> .....                                                                                                  | <b>21</b>   |
| <b>Bibliography</b> .....                                                                                                                                    | <b>24</b>   |

## Foreword

This document (prEN 12814-3:2026) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by SIS.

This document is currently submitted to the CEN enquiry

This document will supersede EN 12814-3:2014.

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

- the minimum test specimen lengths have been revised;

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## Introduction

The design of welded thermoplastics constructions under static load is based on the long-term creep rupture with behaviour, specifically the resistance to slow crack growth of the thermoplastics material and the welds.

For design purposes, the relevant characteristic values for the welded joints are the “long-term tensile welding factors” to which this document provides the test method.

The long-term tensile welding factors are normally used in conjunction with the creep rupture curve of the parent material, given for example in EN 1778, when designing welded semi-finished products under static load.

The long-term tensile welding factor(s), the crack behaviour and the appearance of the fracture surface provide information on the quality of the weld.

**NOTE** The behaviour of the failure obtained during the tensile creep test can be related to the notch sensitivity of the parent material. An example of a test to provide information about the notch sensitivity of parent material is given in Annex A.

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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 creep test perpendicular to the weld in order to determine the long-term tensile welding factor.

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

The test is applicable to welded assemblies made from thermoplastics materials, filled or unfilled such as tubes and fittings, sheets, plates and profiles, 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 ISO 291, *Plastics — Standard atmospheres for conditioning and testing (ISO 291)*

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

EN ISO 899-1, *Plastics — Determination of creep behaviour — Part 1: Tensile creep (ISO 899-1)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **test temperature**

temperature of the medium surrounding the test specimen during the test

### 3.2

#### **test stress**

test load divided by the minimum cross sectional area of the test specimen

### 3.3

#### **creep rupture curve**

regression curve through the geometric mean values of failure times

### 3.4

#### **minimum failure time**

$t_{tm}$

creep rupture time of the parent material to ensure that the test method is applicable

### 3.5

#### **ductile fracture**

large scale deformation of material from fracture surfaces

### 3.6

#### **brittle fracture**

little or no deformation of material from fracture surfaces

## 4 Symbols and designations

Symbols and designations are given in Table 1.