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Plastics welding personnel - Qualification of welders -  
Thermoplastics welded assemblies

## EESTI STANDARDI EESSÕNA

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ICS 03.100.30, 25.160.10

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EUROPEAN STANDARD

**EN 13067**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 03.100.30; 25.160.10

Supersedes EN 13067:2012

English Version

## Plastics welding personnel - Qualification of welders - Thermoplastics welded assemblies

Personnel en soudage des plastiques - Épreuve de  
qualification des soudeurs - Assemblages soudés  
thermoplastiques

Kunststoffschweißpersonal - Qualifizierung von  
Schweißern - Thermoplastische Schweißverbindungen

This European Standard was approved by CEN on 26 July 2020.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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

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## European foreword

This document (EN 13067:2020) 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.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 13067:2012.

In comparison with the previous edition EN 13067:2012, the following technical modifications have been made:

- in Clause 1 Scope for the different group of materials in a) for sheets, pipes and fittings, group 1 includes also ABS; b) is for lining membranes and flooring. In c) for pipes and fittings, the group 10 is for PA-U 11 or PA-U 12;
- subclause 5.3 has been redrafted with subclause 5.3.1 General, making reference to Table 3 - Welding processes for the theoretical test and Table 4 - Minimum number of questions for the theoretical test, and with subclause 5.3.2 Questions;
- in Table 1, the group of material 10 PA-U has been added;
- in Table 2 for the group of material 6 PVC-P the range of  $e_n$  has been modified from  $e_n = 2$  to  $1 \leq e_n \leq 3$  and the sub-groups 6.5, 6.6 have been added; for the group of material 7 PE, the sub-groups 7.6, 7.7 and 7.8, have been added and the range of the nominal wall thickness is:  $0,75 \leq e_n \leq 1$ ;
- Figure 9 — Test piece for lining membranes – Butt weld with V preparation, has been added and the numbering of the other ones has been changed;
- in 10.3.4 indications have been added for the tensile test of test specimens of PE pipes with wall thicknesses greater than 30 mm;
- subclause 10.4 Non-destructive tests on the high voltage test, has been added;
- Clause 11 is only for test result, there is no more reference to qualification test certificate.

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.

## Introduction

This document covers the principles to be observed in the qualification testing of welder performance for the welding of thermoplastic materials.

The ability of the welder to follow verbal or written instructions and testing of his skill are important factors in ensuring the quality of the welded product.

This document is intended to provide the basis for the mutual recognition by examining bodies for qualification relating to welders competence in the various fields of application.

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## 1 Scope

This document specifies the method of testing the knowledge and skill of a welder who is required to carry out welds on thermoplastics in new constructions and repair work.

The skill examination of a welder is an essential condition for the assurance of the quality of the welding work.

The application of this document guarantees that the examination is carried out according to a uniform test procedure.

This document applies when the contractor or the authorities responsible for the application require it. Gas and water utility network industries with alternative qualification programmes are excluded from this document.

This document applies to the following welding processes:

- hot gas welding: round nozzle, speed, wedge;
- extrusion welding;
- heated tool welding: butt, saddle, socket, wedge;
- electrofusion welding: socket, saddle;
- solvent welding: socket.

This document applies to the welding of the following products:

- sheet;
- pipe (unreinforced, solid wall only);
- fittings (unreinforced only);
- lining membrane.

This document covers the welding of the following groups of materials:

a) for sheets, pipes and fittings:

- group 1: PVC (including all kinds of PVC-U, PVC-C) or ABS;
- group 2: PP (including all kinds of PP);
- group 3: PE (including all kinds of PE);
- group 4: PVDF;
- group 5: ECTFE or PFA or FEP;

b) for lining membranes and flooring:

- group 6: PVC-P;
- group 7: PE (including all kinds of PE);

- group 8: ECB;
  - group 9: PP;
- c) for pipes and fittings only:
- group 10: PA-U 11 or PA-U 12.

## 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 12814-2:2000, *Testing of welded joints of thermoplastics semi-finished products - Part 2: Tensile test*

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

EN 12814-8, *Testing of welded joints of thermoplastics semi-finished products - Part 8: Requirements*

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

EN 13100-4, *Non destructive testing of welded joints of thermoplastics semifinished products - Part 4: High voltage testing*

EN 14728, *Imperfections in thermoplastic welds - Classification*

EN ISO 6947, *Welding and allied processes - Welding positions (ISO 6947)*

CEN/TS 16892, *Plastics - Welding of thermoplastics - Specification of welding procedures*

ISO 13955, *Plastics pipes and fittings - Crushing decohesion test for polyethylene (PE) electrofusion assemblies*

## 3 Terms and definitions

For the purposes of this document, the following term and definition 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 <https://www.iso.org/obp>

### 3.1

#### **AD-WLD break**

failure mode in an extrusion welded membrane peel test specimen where the failure is through the weld material