International Standard

ISO 12176-2

Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems —

Part 2: Electrofusion

Tubes et raccords en matières plastiques — Appareillage pour l'assemblage par soudage des systèmes en polyéthylène —

Partie 2: Électrosoudage

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 4, *Plastics pipes and fittings for the supply of gaseous fuels*.

This third edition cancels and replaces the second edition (ISO 12176-2:2008), which has been technically revised. It also incorporates the Amendment ISO 12176-2:2008/Amd. 1:2001.

The main changes are as follows:

— the whole document has been redrafted in order to adapt it to current electronic technologies;

— all clauses previously referring to health and safety have been removed, leaving manufacturers free to decide which level of electrical safety they want to provide to the users, in respect of applicable regional rules;

— a new annex has been added providing information on applicable IEC safety standards.

A list of all parts in the ISO 12176 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems —

Part 2: Electrofusion

1 Scope

This document specifies performance requirements for electrofusion control unit (ECU) for use with polyethylene (PE) electrofusion fittings conforming to ISO 4437-3,[1]ISO 4427-3[2] and ISO 15494.[3]

NOTE 1 Electrofusion fittings conforming to other documents, e.g. EN 1555-3[4] and EN 12201-3,[5] can also be within the scope of this document.

The system designed to manage the transfer of data collected during the fusion process is out of the scope of this document.

NOTE 2 Data format and retrieval system are specified in ISO 12176-5.

NOTE 3 Parameters for the electrofusion cycle are defined in ISO 13950 and ISO 12176-5. Data for traceability purposes are given in ISO 12176-3, ISO 12176-4 and ISO 12176-5.

Electrical safety is out of the scope of this document.

NOTE 4 The manufacturer of ECU is informed that different safety regulations are in force in different countries or regional area, e.g.: U.S.A., Europe, etc.

ECU designed for only one brand of fittings is out of the scope of this document.

Excluding any of the requirements specified in this document is not acceptable when an organization claims conformity to this document.

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.

ISO 12176-3, *Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems — Part 3: Operator's badge*

ISO 12176-4, *Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems — Part 4: Traceability coding*

ISO 12176-5:2021, *Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems — Part 5: Two-dimensional data coding of components and data exchange format for PE piping systems*

ISO 13950, *Plastics pipes and fittings — Automatic recognition systems for electrofusion joints*

IEC 60068-2-27, *Environmental testing — Part 2-27: Tests — Test Ea and guidance: Shock*

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