
**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

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12176-2 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 second edition cancels and replaces the first edition (ISO 12176-2:2000), which has been technically revised.

ISO 12176 consists of the following parts, under the general title *Plastics pipes and fittings — Equipment for fusion jointing polyethylene systems*:

- *Part 1: Butt fusion*
- *Part 2: Electrofusion*
- *Part 3: Operator's badge*
- *Part 4: Traceability coding*

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

Part 2: Electrofusion

1 Scope

This part of ISO 12176 specifies performance requirements for electrofusion control units for use with polyethylene (PE) electrofusion fittings for the supply of gaseous fuels or for the conveyance of water for human consumption, including raw water prior to treatment, and for the conveyance of water for general purpose or other fluids.

The control units are divided into three input voltage classes: SVLV [safety, very low voltage (up to 50 V)], LV [low voltage (50 V to 250 V)] and HV [higher voltage (250 V to 400 V)].

This part of ISO 12176 is applicable to electrofusion control units designed for use in the construction of joints between PE pipes and fittings conforming to International Standards for the supply of gaseous fuels or for the conveyance of water, where the normal operating temperature of the control unit is in the range $-10\text{ }^{\circ}\text{C}$ to $+40\text{ }^{\circ}\text{C}$. If temperatures outside this range are expected, suitable operating limits are subject to agreement between manufacturer and purchaser.

This part of ISO 12176 is applicable to control units with current or voltage control for fitting systems based on standard resistance wire heating technology.

2 Normative references

The following referenced documents are indispensable for the application 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 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*

IEC 60335-1, *Household and similar electrical appliances — Safety — Part 1: General requirements*

IEC 60335-2-45, *Household and similar electrical appliances — Safety — Part 2-45: Particular requirements for portable heating tools and similar appliances*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61558-1, *Safety of power transformers, power supplies, reactors and similar products — Part 1: General requirements and tests*

IEC 61558-2-6, *Safety of power transformers, power supply units and similar — Part 2: Particular requirements for safety isolating transformers for general use*