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

Part 1: Butt fusion

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

Partie 1: Soudage bout à bout

Reference number
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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.

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 documents 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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For an explanation on the voluntary nature of the standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

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 fourth edition cancels and replaces the third edition (ISO 12176-1:2012), which has been technically revised so that it applies to larger pipe diameters.

The modifications are the following:

— increase of the wall thickness and diameter;

— various clarifications such as the guide elements and work-holding fixtures;

— editorial changes have been introduced.

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

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

Part 1: Butt fusion

1 Scope

This document specifies the general characteristics of, and performance requirements for, equipment for butt fusion jointing of polyethylene (PE) piping systems using electrically powered heater plates.

It is applicable to mechanical and pressure-activated equipment for butt fusion jointing of PE pipes and fittings either intended to be used for the supply of gaseous fuels, conforming to ISO 4437-2[1] and ISO 4437-3[2], or intended for the conveyance of water for human consumption (including raw water prior to treatment) and for the conveyance of water for general purposes, conforming to ISO 4427-2[3] and ISO 4427-3[4].

Butt fusion machines with an automatic controller are subject to additional requirements as given in Annex A.

NOTE This document is also applicable to butt fusion machines for larger nominal pipe diameters and nominal wall thicknesses than given in 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 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 11414, *Plastics pipes and fittings — Preparation of polyethylene (PE) pipe/pipe or pipe/fitting test piece assemblies by butt fusion*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 http://www.iso.org/obp

3.1
base framework
self-supporting entity composed of two or more guides and pipe clamps

Note 1 to entry: It provides the mechanism for heating and fusing the pipes and/or fittings.