

This is a preview of "ISO 12176-1:2017". [Click here to purchase the full version from the ANSI store.](#)

Fourth edition
2017-06

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
ISO 12176-1:2017(E)

© ISO 2017

This is a preview of "ISO 12176-1:2017". Click [here](#) to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

This is a preview of "ISO 12176-1:2017". Click here to purchase the full version from the ANSI store.

Contents

	Page
Foreword	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Design configurations	2
4.1 General.....	2
4.2 Configurations.....	2
5 Chassis and clamps	3
5.1 General.....	3
5.2 Guide elements.....	3
5.2.1 General.....	3
5.2.2 Rigidity under pressure.....	4
5.2.3 Rigidity under bending.....	5
5.2.4 Re-rounding action.....	6
6 Interface force transmission	6
6.1 General.....	6
6.2 Manual systems.....	7
6.3 Hydraulic and pneumatic systems.....	7
6.4 Electric systems.....	7
6.5 Performance.....	7
7 Planing tool	7
7.1 General.....	7
7.2 Performance.....	8
8 Heating plate	8
8.1 General.....	8
8.2 Dimensions.....	8
8.3 Materials and surface finish.....	9
8.4 Heating system.....	9
8.5 Performance.....	10
9 Power supply	10
10 Test methods	10
10.1 Chassis and clamps.....	10
10.1.1 Effectiveness of re-rounding (see Figure 3).....	10
10.1.2 Clamp alignment.....	11
10.2 Planing tool and check of gap after planing.....	12
10.3 Heating plate.....	12
10.3.1 Roughness check.....	12
10.3.2 Temperature control system check.....	13
10.3.3 Heat transfer efficiency.....	14
10.3.4 Guide elements and work-holding fixtures.....	14
11 Auxiliary equipment	16
12 Maintenance	16
13 Marking on the butt fusion machine	17
14 Other information to be provided by the manufacturer	17
Annex A (normative) Additional performance requirements for butt fusion machines with automatic controllers	18
Annex B (informative) Type classification scheme	19

This is a preview of "ISO 12176-1:2017". [Click here to purchase the full version from the ANSI store.](#)

Bibliography	22
---------------------------	-----------

This is a preview of "ISO 12176-1:2017". [Click here to purchase the full version from the ANSI store.](#)

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.