
**Wrapped electrofoaming joints for
polyethylene (PE) piping systems with
smooth outer wall for gravity drains
and sewers**

*Enveloppes d'assemblage électro-expansibles pour les systèmes de
canalisations en polyéthylène (PE) à paroi extérieure lisse pour les
collecteurs et branchements d'assainissement gravitaire*

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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

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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 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.

The committee responsible for this document is ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage)*.

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Introduction

This document is the specification for electrofoaming plastic pipe joints used in non-pressure underground drainage and sewerage for polyethylene (PE) piping systems with smooth outer wall.

The wrapped electrofoaming joints may also be applied to pipes with diametrically deviated pipe ends.

The installation procedures specified in this document are intended to describe the proper joining method of electrofoaming joints.

An informative guidance for the joining procedure of products complying with this document is provided in [Annex A](#).

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Wrapped electrofoaming joints for polyethylene (PE) piping systems with smooth outer wall for gravity drains and sewers

1 Scope

This document specifies the definitions and requirements for wrapped electrofoaming joints for polyethylene (PE) piping systems with smooth outer wall for underground drains and sewer without pressure.

This document specifies product range, material characteristics, test methods and test parameters, dimension and characteristics of wrap.

This document is applicable to jointing pipes which have external wall thickness greater than 1,4 mm and a diameter up to DN/OD 2000, or DN/ID 2200.

NOTE 1 For dimensions larger than DN/OD 2000, or DN/ID 2200, this document can serve as a general guide regarding appearance, colour, physical and mechanical characteristics as well as performance requirements.

NOTE 2 Such products are intended to be used with pipes made from virgin and reworked materials.

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 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces*

ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 8772, *Plastics piping systems for non-pressure underground drainage and sewerage — Polyethylene (PE)*

ISO 12162, *Thermoplastics materials for pipes and fittings for pressure applications — Classification, designation and design coefficient*

ISO 13254, *Thermoplastics piping systems for non-pressure applications — Test method for watertightness*

ISO 13953, *Polyethylene (PE) pipes and fittings — Determination of the tensile strength and failure mode of test pieces from a butt-fused joint*

ISO 21138-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 1: Material specifications and performance criteria for pipes, fittings and system*

ISO 21138-2, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 2: Pipes and fittings with smooth external surface, Type A*