
Plastics piping systems for industrial applications — Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), polypropylene (PP) — Metric series for specifications for components and the system

Systèmes de canalisations en matières plastiques pour les applications industrielles — Polybutène (PB), polyéthylène (PE), polyéthylène de meilleure résistance à la température (PE-RT), polyéthylène réticulé (PE-X), polypropylène (PP) — Séries métriques pour les spécifications pour les composants et le système





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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is Technical Committee ISO/TC 138, *Plastics piping systems*, Subcommittee SC 3, *Plastics pipes and fittings for industrial applications*.

This second edition cancels and replaces the first edition (ISO 15494:2003), which has been technically revised.

Introduction

This International Standard specifies the characteristics and requirements for a piping system and its components made from polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), or polypropylene (PP), as applicable, intended to be used for industrial applications above ground or below ground by authorities, design engineers, certification bodies, inspection bodies, testing laboratories, manufacturers, and users.

At the date of publication of this International Standard, standards for piping systems of other plastics used for industrial applications are the following:

ISO 10931, *Plastics piping systems for industrial applications — Poly(vinylidene fluoride) (PVDF) — Specifications for components and the system*

ISO 15493, *Plastics piping systems for industrial applications — Acrylonitrile-butadiene-styrene (ABS), unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C) — Specifications for components and the system — Metric series*

Plastics piping systems for industrial applications — Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), polypropylene (PP) — Metric series for specifications for components and the system

1 Scope

This International Standard specifies the characteristics and requirements for components such as pipes, fittings, and valves made from one of the following materials intended to be used for thermoplastics piping systems in the field of industrial applications above and below ground:

- polybutene (PB);
- polyethylene (PE);
- polyethylene of raised temperature resistance (PE-RT);
- crosslinked polyethylene (PE-X);
- polypropylene (PP).

NOTE 1 Requirements for industrial valves are given in this International Standard and/or in other standards. Valves are to be used with components conforming to this International Standard provided that they conform additionally to the relevant requirements of this International Standard.

This International Standard is applicable to either PB, PE, PE-RT, PE-X, or PP pipes, fittings, valves, and their joints and to joints with components of other plastics and non-plastic materials, depending on their suitability, intended to be used for the conveyance of liquid and gaseous fluids as well as solid matter in fluids for industrial applications such as the following:

- chemical plants;
- industrial sewerage engineering;
- power engineering (cooling and general purpose water);
- mining;
- electroplating and pickling plants;
- semiconductor industry;
- agricultural production plants;
- fire fighting;
- water treatment;
- geothermal.

NOTE 2 Where relevant, national regulations (e.g. water treatment) are applicable.

Other application areas are permitted if the requirements of this International Standard and/or applicable national requirements are fulfilled.

National regulations in respect of fire behaviour and explosion risk are applicable.