
**Plastics piping systems for renovation
of underground water supply
networks —**

**Part 4:
Lining with cured-in-place pipes**

*Systèmes de canalisation en plastique pour la rénovation des réseaux
enterrés d'alimentation en eau —*

Partie 4: Tubage continu par tubes polymérisés sur place

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Published in Switzerland

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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).

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).

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For an explanation of the voluntary nature of 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 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 8, *Rehabilitation of pipelines systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 155, *Plastics piping systems and ducting systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 11298 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is a part of a system standard for plastics piping systems of various materials used for renovation of existing pipelines in a specified application area. System standards for renovation dealing with the following applications are either available or under preparation:

- the ISO 11296 series, *Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks*;
- the ISO 11297 series, *Plastics piping systems for renovation of underground drainage and sewerage networks under pressure*;
- the ISO 11298 series, *Plastics piping systems for renovation of underground water supply networks* (including this document);
- the ISO 11299 series, *Plastics piping systems for renovation of underground gas supply networks*.

These system standards are distinguished from those for conventionally installed plastics piping systems by the requirement to verify certain characteristics in the “as-installed” condition, after site processing. This is in addition to specifying requirements for plastics piping systems components “as manufactured”.

Each of the system standards comprises a:

- *Part 1: General*

and all applicable renovation technique family-related parts, which for water supply networks include or potentially include the following:

- *Part 2: Lining with continuous pipes*;
- *Part 3: Lining with close-fit pipes*;
- *Part 4: Lining with cured-in-place pipes* (this document);
- *Part 5: Lining with discrete pipes*;

- *Part 6: Lining with adhesive-backed hoses*;
- *Part 10: Lining with sprayed polymeric materials*;
- *Part 11: Lining with inserted hoses*.

The requirements for any given renovation technique family are specified in Part 1, applied in conjunction with the other relevant part. For example, ISO 11298-1 and this document together specify the requirements relating to lining with cured-in-place pipes. For complementary information, see ISO 11295. Not all technique families are pertinent to every area of application and this is reflected in the part numbers included in each System Standard.

A consistent structure of clause headings has been adopted for all parts of ISO 11298 to facilitate direct comparisons across renovation technique families.

[Figure 1](#) shows the common part and clause structure and the relationship between the ISO 11298 series and the system standards for other application areas.