
Water aggressiveness evaluation and optimized lining choice

*Évaluation de l'agressivité de l'eau et choix optimal des revêtements
intérieurs*



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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 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 5, *Ferrous metal pipes and metallic fittings*, Subcommittee SC 2, *Cast iron pipes, fittings and their joints*.

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.

Water aggressiveness evaluation and optimized lining choice

1 Scope

This document provides details about the aggressiveness factors, evaluation indicators of raw water, or inlet water of ductile iron pipe system and relevant lining information applicable to ductile iron pipes, fittings and accessories used in water mains and distribution system.

This document is intended to serve as a tool for estimating the properties of certain water and their effect on internal linings of ductile iron pipes, fittings and accessories used in water mains and distribution system which are specified in ISO 2531, ISO 16631 and can be used to decide the most appropriate protective measures to ensure long term durability of pipeline.

It is not always possible to definitively determine the aggressive parameters of certain water, and fully considered by limited test and evaluation. Therefore, the history information of the evaluated water, experiences of local water works can be taken for reference.

The aggressiveness evaluation of water can be carried out before determining the internal lining materials of certain pipeline, and the evaluation and relevant tests can be done by qualified laboratories and engineers.

Water that leads to high-level scaling in the pipeline is believed aggressive.

Drainage and waste water are not in the scope of this document, the internal protection of drainage and waste water can be recommended by pipe suppliers.

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 2531, *Ductile iron pipes, fittings, accessories and their joints for water applications*

ISO 16631, *Ductile iron pipes, fittings, accessories and their joints compatible with plastic (PVC or PE) piping systems, for water applications and for plastic pipeline connections, repair and replacement*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2531 and ISO 16631 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>