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Second edition  
2017-10

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## **Plastics piping systems for pressure and non-pressure water supply — Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin**

*Systèmes de canalisation en matières plastiques pour l'alimentation en eau avec ou sans pression — Systèmes en plastiques thermodurcissables renforcés de verre (PRV) à base de résine de polyester non saturé (UP)*



Reference number  
ISO 10639:2017(E)

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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](http://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](http://www.iso.org/patents)).

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For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://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 6, *Reinforced plastics pipes and fittings for all applications*.

This second edition cancels and replaces the first edition (ISO 10639:2004), which has been technically revised. It also incorporates the Amendment ISO 10639:2004/Amd. 1:2011.

The main changes compared to the previous edition are as follows:

- inclusion of a guidance for the harmonization of design practices which are based on a partial safety factor concept and risk management engineering, as well as inclusion of the probability of failure and possible consequences of failures;
- addition of references to the general principle for the reliability of structures detailed in ISO 2394 and EN 1990;
- addition of a new safety factor concept for the hydrostatic pressure design;
- addition of a clear reference for assessment of conformity;
- changes in [Clause 6](#), including pressure tests requirements for fittings;
- changes in [Clause 7](#);
- changes in [Annex A](#) for the establishment of the design requirements.