
**Glass-reinforced thermosetting
plastics (GRP) pipes and fittings —
Test methods to prove the design
of locked socket-and-spigot joints,
including double-socket joints, with
elastomeric seals**

*Tubes et raccords en plastiques thermodurcissables renforcés de
verre (PRV) — Méthodes d'essai pour confirmer la conception des
assemblages mâle-femelle verrouillés, y compris ceux à double
emboîture avec joints d'étanchéité en élastomère*



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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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 6, *Reinforced plastics pipes and fittings for all applications*.

This third edition cancels and replaces the second edition (ISO 7432:2018), which has been technically revised.

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

- addition of the bending test (Method A), which was already included in ISO 7432:2002.

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

In a pipework system, pipes and fittings of different nominal pressures and nominal stiffnesses may be used. A joint may be made between pipes and/or fittings and should be designed such that its performance is equal to or better than the requirements for the pipeline, but not necessarily for the components being joined.

The requirements for the assembly of the joint are not included in this document, but they should be in accordance with the manufacturer's recommendations.

Material-dependent parameters and/or performance requirements are stated in the relevant standard.

Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Test methods to prove the design of locked socket-and-spigot joints, including double-socket joints, with elastomeric seals

1 Scope

This document specifies methods of test for joints with a locked socket and spigot, including double-socket joints, and with elastomeric seals, for buried and above-ground glass-reinforced thermosetting plastics (GRP) piping systems.

It covers methods of testing for leaktightness and resistance to damage of the joint only, when subjected to specified combinations of angular movement, compression (deformation) perpendicular to the pipe axis and internal pressure. It assumes that the joint will be exposed to the effects of hydrostatic end thrust.

The tests detailed in 9.2, 9.3, 9.4 and 9.6 are applicable to joints with a locked socket and spigot, including double-socket joints, and with elastomeric seals intended to be used in buried or above-ground applications.

The bending tests detailed in 9.5 can be used to prove the design where joints are either intended to be used in buried applications or are intended to be used in particular above-ground situations, where the tests can be considered appropriate.

With the exception of the procedure detailed in 9.5, these test procedures are applicable to joints for pipes and fittings of all nominal sizes. The tests detailed in 9.5 are applicable to joints for pipes and fittings up to and including DN 600. The tests are applicable for evaluating joints intended for applications conveying liquids at temperatures specified in the referring standards.

The test procedures in this document are damaging to the test piece, which will not be suitable for reuse after these tests. The test procedure is intended for type testing purposes.

This document is applicable only to the joint and specifies methods of testing to prove its design.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1

pressure

hydrostatic gauge pressure

Note 1 to entry: Expressed in bar.