INTERNATIONAL STANDARD

Second edition 2020-04

Thermoplastics valves — Fatigue strength — Test method

<text> Robinets en matériaux thermoplastiques — Résistance à la fatigue



Reference number ISO 8659:2020(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).

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 7, *Valves and auxiliary equipment of plastics materials*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 69, *Industrial valves*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 8659:1989), which has been technically revised.

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

- updating of the normative references and terms and definitions clauses;
- specification of the type of valve in the test report and explanation note for the opening torque.

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 <u>www.iso.org/members.html</u>.

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Introduction

The aim of this document is to establish certain basic requirements for the endurance testing of plastics th drams. s valves to ensure that uniform test methods are adopted. This document is intended to be considered in conjunction with any specific requirements, in particular product standards applicable to the individual types of valves.

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Thermoplastics valves — Fatigue strength - Test method

1 Scope

This document specifies the endurance test necessary to confirm the ability of hand-operated plastics valves to withstand prolonged use, with repeated opening and closure. It does not specify the ability of valves to withstand adverse conditions, in particular those of chemically aggressive fluid media and/or environments, or excessive fluid velocities and cavitation.

NOTE Concerning the chemical aggression of the materials, a classification table is reported in $ISO/TR 10358^{[1]}$.

This document includes values of the parameters necessary for the proper performance of the endurance test, with the reservation that the parameters are different in particular product standards (see 5.1).

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 161-1, Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series

ISO 16135, Industrial valves — Ball valves of thermoplastics materials

ISO 16136, Industrial valves — Butterfly valves of thermoplastics materials

ISO 16138, Industrial valves — Diaphragm valves of thermoplastics materials

ISO 16139, Industrial valves — Gate valves of thermoplastics materials

ISO 21787, Industrial valves — Globe valves of thermoplastics materials

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 161-1 and the following apply.

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

— ISO Online browsing platform: available at <u>https://www.iso.org/obp</u>

— IEC Electropedia: available at <u>http://www.electropedia.org/</u>

3.1 nominal pressure PN

alphanumerical designation of pressure, used for reference purposes, which is related to the mechanical strength of the valve

Note 1 to entry: Usually nominal pressure (PN), measured in bar, corresponds to water pressure at 20 °C water temperature. See also ISO 161-1.