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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Thermoplastics valves - Fatigue strength - Test method

热塑性塑料阀门 疲劳强度 试验方法

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document is modified to adopt ISO 8659:2020 "Fatigue strength test method for thermoplastic valves".

Compared with ISO 8659:2020, this document has many structural adjustments. See the table for the structural number changes between the two documents.

Appendix A.

This document has more technical differences than ISO 8659:2020.

The technical differences and their causes are listed in Appendix B.

1 Scope

This document describes the fatigue strength test method for thermoplastic valves (hereinafter referred to as "valves").

This document is applicable to the durability assessment of valves under non-erosive conditions.

This document is not intended for use in evaluating valve performance under adverse conditions such as chemically aggressive media and/or environments, high velocity flows and cavitation.

NOTE: See ISO/TR 10358 for a table of material classifications according to their resistance to chemical attack.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies.

in this document.

GB/T 19278 General terms and definitions for thermoplastic pipes, fittings and valves

3 Terms and definitions

The terms and definitions defined in GB/T 19278 and the following apply to this document.

fluid velocity

The flow rate of the fluid in the pipe with the nominal diameter corresponding to the nominal diameter of the valve.

Nominal size

The nominal value of a dimension specification is usually a rounded value for ease of use.

NOTE 1 When quoting or identifying a number, the letters DN are followed by a dimensionless integer to form a complete alphanumeric identifier. The value of the number is approximately equal to the manufacturing dimensions of a component connection in millimeters. For example, a thermoplastic valve can be represented by the nominal outside diameter (dn) of the tubular connection.

Nominal diameter of the door.

Note 2: The "nominal diameter" in valve products is related to the nominal value of the inner diameter of the valve connecting pipe, that is, the inlet cross-sectional diameter of the valve port.

4 Equipment

4.1

The valve can be tested as a whole, and the test can be carried out in steps or

automatically and continuously.

4.2

When securing the valve assembly, the equipment shall not exert any axial force on either end of the valve, nor lateral force on the valve stem.

4.3

The cyclic test should be interrupted under pressure and the pressure at the time of interruption should be maintained.

4.4

It shall be able to provide the pressure required for the test. During the test, the pressure deviation shall be maintained within $\pm 1\%$ of the required value.

4.5

It can provide the temperature required for the test, with a maximum deviation of $\pm 2\text{ }^{\circ}\text{C}$.

4.6

It can provide the flow rate required for the test, with a maximum deviation of $\pm 2\%$.