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Replacing GB/T 32373-2015

Test methods for reverse osmosis membranes

反渗透膜测试方法

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting.

This document replaces GB/T 32373-2015 "Test Methods for Reverse Osmosis Membranes". Compared with GB/T 32373-2015, the main differences are structural adjustments and...

Aside from editorial changes, the main technical changes are as follows.

a) The wording of "Test Procedures for Desalination Rate and Water Flux" has been revised (see 5.4, 2015 version 5.4);

b) The wording of "Conductivity method for calculating desalination rate" has been revised (see 5.5.1, 2015 version 5.5.1);

c) A new method for calculating desalination rate, the "chloride ion concentration method" (see 5.5.1), has been added;

d) The test procedure for the integrity of the desalination layer has been modified (see 6.3, 2015 version of 6.3);

e) The test procedure for pressure resistance has been modified (see 7.3, 2015 version 7.3);

f) Improved resistance to colloidal contamination (see Chapter 8);

g) Improved resistance to inorganic scaling and fouling (see Chapter 9);

h) Increased resistance to organic contamination (see Chapter 10).

Please note that some content in this document may involve patents. The issuing

organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Separation Membranes (SAC/TC382).

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This document was first published in 2015, and this is its first revision.

1 Scope

This document describes the reverse osmosis membrane thickness and thickness uniformity, desalination rate, water flux, desalination layer integrity, pressure resistance, and resistance to colloidal fouling.

Test methods for performance, resistance to inorganic scaling and fouling, and resistance to organic fouling.

This document applies to the testing of flat-sheet reverse osmosis membranes.

2 Normative references

GB/T 5750.4

GB/T 6672

GB/T 6908

GB/T 15453

GB/T 20103-2006

3 Terms and Definitions

The terms and definitions defined in GB/T 20103-2006, as well as the following terms and definitions, apply to this document.

3.1 flat membrane

A membrane in the form of a flat plate or a sheet of paper.

Note. Sheet membranes typically have a support layer (such as nonwoven fabric) and are used to prepare plate-and-frame, folded, and spiral-wound membrane elements.

[Source. GB/T 20103-2006, 2.1.27]

3.2 Salt removal rate

This indicates the ability to remove salt from the feed solution.

Note. Expressed as a percentage.

[Source. GB/T 20103-2006, 2.2.11, with modifications]

3.3 water fluxwaterflux

Under certain operating conditions, the amount of water that permeates per unit area per unit time.

3.4 [Source. GB/T 20103-2006, 2.3.7]

The substances remaining after filtration and evaporation of water under specified conditions (i.e., the total amount of dissolved salts, organic matter, and colloidal substances in the water).