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

GB/T 27880-2025

Replacing GB/T 27880-2011

Thermoprobe and pipe supports with thermoprobe

热棒及热棒式管架

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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 supersedes GB/T 27880-2011 "Heat Rods" and GB/T 31259-2014 "Heat Rod Pipe Supports". This document is based on GB/T 27880- Primarily based on 2011, it integrates some content from GB/T 31259-2014. Compared with GB/T 27880-2011, aside from structural adjustments and editorial changes...

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

- a) Added terms and definitions for hot-rod tube supports, tube shells, and tube lumens (see 3.2, 3.4, 3.5);
- b) The terminology and definition of non-condensable gases have been removed (see 3.7 in the 2011 edition);
- c) The terminology for rated power has been changed to rated maximum power (see 3.11, 3.10 of the 2011 edition);
- d) The composition, classification, and models of heat pipe supports have been added (see 4.1.2, 4.2.2, and 4.2.3.2);
- e) The specifications and dimensions of the heat pipes, heat pipe fins, and toothed openings have been changed (see 4.2.4.1 and 4.2.4.2, and 5.4.1 and 5.4.2 in the 2011 edition);

- f) The specifications and dimensions of pipe supports and pipe hangers, as well as the load-bearing capacity of pipe supports, have been increased (see 4.2.4.3~4.2.4.5);
- g) Added technical requirements for heat pipe supports (see 5.1.3~5.1.7, 5.2.2, 5.3.2, 5.4.1 and 5.5.3);
- h) The requirements for the appearance quality and welding quality of the heat pipe, as well as the test methods for the general requirements, start-up characteristics, and isothermal characteristics of the heat pipe have been changed (see h).
- 5.3.1, 5.5.1, 5.5.2, 6.1.1, 6.7 and 6.8 (5.3, 5.5.1, 6.1, 6.7 and 6.8 in the 2011 edition);
- i) General requirements for hot-roller pipe supports and test methods for welding quality have been added (see 6.1.2~6.1.4, 6.1.6 and 6.5.2);
- j) A test method for measuring the depth of a heat pipe inserted into a frozen soil foundation has been added (see 6.1.5);
- k) The helium mass spectrometry leak detection method in the hot rod airtightness test method has been removed (see 6.6.2.1 in the 2011 version);
- l) The rules for type testing and factory inspection of heat pipes have been changed (see 7.2 and 7.3.1, and 7.2 and 7.3 in the 2011 version);
- m) Added factory inspection rules for hot rod tube racks, as well as requirements for marking, packaging, transportation, and storage (see 7.3.2 and Chapter 8).

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 Transportation Engineering Facilities (Highway) (SAC/TC223).

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The release history of this document and the document it replaces is as follows.

- First published in 2011 as GB/T 27880-2011;
- This is the first revision. The revision incorporates content from GB/T 31259-2014 "Heat Rod Type Tube Racks".

1 Scope

This document specifies the composition and classification, technical requirements, test methods, inspection rules, marking, packaging, and transportation of heat pipes and heat pipe racks.

Requirements for transportation and storage.

This document applies to the production and inspection of heat pipes and heat pipe supports for cold region engineering projects.

2 Normative references

GB/T 150.1

GB/T 150.3-2024

GB/T 536

GB/T 1231

GB/T 1804-2000

GB/T 2650

GB/T 2651

GB/T 2652

GB/T 2653

GB/T 2654

GB/T 3087

GB/T 3098.1

GB/T 3098.2

GB/T 3098.6

GB/T 3274

GB/T 3280

GB/T 6052

GB/T 10006

GB/T 13237

GB/T 13296

GB/T 13912

GB/T 17116.1

GB/T 17116.2

GB/T 17116.3

GB/T 18851.1

GB/T 25146

GB 50017