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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 4508-2025

Replacing GB/T 4508-2010

Test method for ductility of asphalt

沥青延度测定法

Issued on: October 5, 2025 **Implemented on: May 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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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 4508-2010 "Determination of Asphalt Ductility". Compared with GB/T 4508-2010, the only changes are structural adjustments and editing. Aside from the sexual alterations, the main technical changes are as follows:

a) The scope has been changed (see Chapter 1, Chapter 1 of the.2010 edition);

b) Added terms and definitions (see Chapter 3);

c) The instructions regarding test conditions and test result recording have been changed (see Chapter 4, Chapter 3 of the.2010 edition);

d) Increased requirements for mold surface roughness (see 5.1);

e) The requirements for water bath depth and temperature control accuracy have been changed (see 5.2,

4.2 in the.2010 version);

f) The description of the ductility meter has been revised (see 5.3,

4.3 in the.2010 edition);

g) Added descriptions of the drying oven and heating equipment for dehydration (see 5.4, 5.5);

h) The thermometer scale division requirements have been changed (see 5.6,

4.4 of the.2010 edition);

i) The instructions for preparing the release agent have been revised (see 5.7,

1 Scope

GB/T 4508-2025 is the Chinese national standard covering the ductility test - a briquette of bitumen pulled apart in a water bath at a fixed temperature and rate until the thread breaks, with the length recorded, which is the oldest and still the most used measure of how a bitumen will crack in service. Issued on 5 October 2025, it has been in force since 1 May 2026, replacing GB/T 4508-2010.

This document describes a test method for determining the ductility of asphalt using a ductility meter. This document applies to the determination of ductility in asphalt materials.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 5304 Oven Test Method for Thin Film of Petroleum Asphalt SH/T 0099.4 Determination of Evaporation Residue Content in Emulsified Asphalt SH/T 0099.16 Determination of Residual Content in Emulsified Asphalt (Low Temperature Vacuum Distillation Method) SH/T 0099.17 Determination of Emulsified Asphalt Residue and Distillate Oil Content by Distillation SH/T 0736 Asphalt Rotating Thin Film Oven Test Method NB/SH/T 0890 Test method for low-temperature recovery of emulsified asphalt evaporation residue

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Method Overview The molten sample is poured into a special mold, cooled at room temperature, and then placed in a water bath maintained at the test temperature for further cooling, using a hot knife. Remove the portion of the sample that protrudes above the mold, return the mold to the water bath, and after a certain period of time, transfer it to the ductility tester for testing. Record the asphalt test results. The length at which a specimen breaks when stretched at a certain temperature and speed, or the length at which a specimen reaches the limit of the ductility tester without breaking. The specimen should... The dimensions must conform to those specified in 5.1.Test temperatures may be 25°C, 15°C, 10°C, or 5°C, etc. Unless otherwise specified, the tensile speed is 5 cm/min. min ± 0.25 cm/min.

5 Instruments and Materials

5.1 Mold. The mold shall be designed according to the style given in Figure

1.The specimen mold shall be made of brass and shall consist of two curved end molds and two side mold assemblies. The surface roughness of the inner and outer surfaces of the trial mold is Ra0.63, and the dimensional variation range of the assembly mold is shown in Figure 1.

5.2 Water Bath. The water bath should maintain a temperature change of no more than 0.1°C during static conditions and no more than 0.5°C during tensile testing, with a capacity of up to The minimum water bath capacity is 10L. A shelf is provided in the water bath to support the specimen. The distance between the upper surface of the specimen and the minimum water level mark in the water bath, and the distance between the lower surface of the specimen and the water bath level...