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

GB/T 4507-2014

Replacing GB/T 4507-1999

**Standard test method for softening point of bitumen --
Ring-and-ball apparatus**

沥青软化点测定法 环球法

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 4507-1999 "Determination of softening point Universal Law", and GB/T 4507-1999 compared to the main technical Changes are as follows.

--- Increased warnings about security.

--- Scope different. GB/T 4507-1999 applies only to the petroleum asphalt, tar; increase the scope of this standard is applicable

Note bituminous material (see Chapter 1).

--- Increase "the thermometer in place does not allow the use of other thermometers may be used to meet the same precision, the data show the minimum temperature and error Other temperature measuring device instead of the required "(see 5.1.8.1).

--- Preparations increase asphalt emulsion residue or polymer modified asphalt emulsion residue (see 7.2).

--- Remove standard sieve and related content.

--- Precision, the present standard is determined in accordance with precision bituminous materials, heating medium and the softening point range (see 11.2).

This standard uses redrafted law revision adopted ASTM D36-09 "softening point determination." This standard ASTM D36-09 the main technical differences are as follows.

--- Accordance with the standards of the standard form of expression statements.

--- Applicable scope to increase the standard bituminous material injection (see Chapter 1).

--- From the upper surface of the support frame of the present Standard shoulder ring from

the bottom by the lower support plate in 25.4mm ASTM D36-09 the rounded to 25mm (see 5.1.6).

--- Softening point of this standard thermometers used in line GB/T 514 in GB -42 thermometer (see 5.1.8.1).

--- Preparations increase asphalt emulsion residue or polymer modified asphalt emulsion residue (see 7.2).

--- Precision, the present standard is determined in accordance with precision bituminous materials, heating medium and the softening point range (see 11.2).

This standard by the National Standardization Technical Committee on products and lubricant oil (SAC/TC280) proposed.

This standard by the National Petroleum Products and Lubricants Standardization Technical Committee asphalt Technical Committee (SAC/TC280/SC4) Technical focal point.

1 Scope

This standard specifies the method for determination of softening point by ring and ball method.

This standard applies to the determination of asphalt material softening point (softening point range of the assay is 30 °C ~ -157 °C) to the ring and ball method.

NOTE: This standard applies to bituminous materials include petroleum asphalt, coal tar pitch, emulsified asphalt or modified asphalt emulsion residues, asphalt, heating and do not change by varying the nature of the case may melt into fluid natural asphalt, special asphalt and asphalt recycling materials obtained.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 514 Petroleum products test glass liquid thermometer technical conditions
GB/T 11147 bitumen sampling method
SH/T 0099.4 asphalt emulsion evaporation residue content determination
SH/T 0099.16 emulsified asphalt residue assay (low temperature vacuum distillation)
NB/SH/T 0890 Emulsified Asphalt recycling low temperature evaporation residue test method

3 Method Summary

Placed on the shoulder or cone brass ring in two horizontal pitch wafer, the heating medium is heated at a constant speed, each block has a set piece of asphalt Ball. It reported a

softening point when the sample softened to make two balls on the pitch when the average temperature drops 25mm distance.

4 Significance and application

4.1

Bitumen is not strictly a melting point of goo. As the temperature increases, which gradually softened, a reduction in viscosity. Therefore, the softening point should be strictly Accordance with the test method to determine, in order to make the results better repeatability.

4.2

softening point asphalt material classification, asphalt product standards is an important technical indicators.

5.1.1 Ring

Two brass ring shoulder or cone, its dimensions see Figure 1a) and Figure 1b).