BS EN 13399:2017

BSI Standards Publication

Bitumen and bituminous binders - Determination of storage stability of modified bitumen

National foreword

This British Standard is the UK implementation of EN 13399:2017. It supersedes BS EN 13399:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/13, Petroleum Testing and Terminology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Bitumen and bituminous binders - Determination of storage stability of modified bitumen

Bitumes et liants bitumineux - Détermination de la stabilité au stockage des bitumes modifiés

Bitumen und bitumenhaltige Bindemittel - Bestimmung der Lagerbeständigkeit von modifiziertem Bitumen

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European foreword

This document (EN 13399:2017) has been prepared by Technical Committee CEN/TC 336 “Bituminous binders”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13399:2010.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Significant changes in this edition are:

— Closing the filled tube with forceps is described.

— Recovery of the sample by cutting off top and bottom section of the cooled aluminium tube with a knife is introduced.

— Melting temperature for the top and bottom parts after storage is given.

— More test methods to indicate separation are included.

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1 Scope

This European Standard specifies a method for measuring the storage stability of modified bitumen at high temperatures.

NOTE Modified bitumen and, in particular, polymer-modified bitumen, which consist of mainly bitumen and at least one additional agent, are known to display phase separation under certain conditions.

WARNING — The use of this European Standard can involve hazardous materials, operations and equipment. This European Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this European Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 58, *Bitumen and bituminous binders — Sampling bituminous binders*

EN 12594, *Bitumen and bituminous binders — Preparation of test samples*

3 Principle

A homogeneous sample of modified bitumen is maintained in a vertical vessel at 180 °C, or at a temperature specified by the producer, for 3 days. After the sample has cooled down, it is cut into three equal parts. The two ends (top and bottom) are analysed further to evaluate possible differences in characteristics.

If the chosen temperature differs from 180 °C, it shall be mentioned in the test report.

4 Apparatus

Usual laboratory apparatus and glassware, together with the following:

4.1 Tube, of thin unvarnished aluminium, of height 160 mm minimum and of diameter between 25 mm and 40 mm, closed at one end (bottom end) and typically “toothpaste tube”.

4.2 Oven, maintained at a temperature of (180 ± 5) °C or other chosen test temperature ± 5 °C for three consecutive days.

4.3 Tins, one to be marked “top” and one to be marked “bottom” (see 5.5), each of sufficient capacity to contain the combined upper and lower parts of different tubes.

4.4 Forceps or pliers, of steel, (e.g. forceps: straight and of length 200 mm - 250 mm), for closing the aluminium tube filled with sample.

4.5 Cutting tool, a broad-bladed knife or sharpened filling knife, for cutting the aluminium tube containing the sample at a low temperature.

4.6 Heating tool, gas flame, heating plate or similar for heating the cutting tool