Irish Standard
I.S. EN 12697-20:2020

Bituminous mixtures - Test methods - Part 20: Indentation using cube or Marshall specimens

I.S. EN 12697-20:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 12697-20:2020 is the adopted Irish version of the European Document EN 12697-20:2020, Bituminous mixtures - Test methods - Part 20: Indentation using cube or Marshall specimens

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12697-20

February 2020

ICS 93.080.20

Supersedes EN 12697-20:2012

English Version

Bituminous mixtures - Test methods - Part 20: Indentation using cube or Marshall specimens

Mélanges bitumineux - Méthodes d'essai - Partie 20 : Essai d'indentation de cubes ou éprouvettes Marshall

Asphalt - Prüfverfahren - Teil 20: Eindringversuch an Würfeln oder Marshall-Probekörpern

This European Standard was approved by CEN on 18 November 2019.

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European foreword

This document (EN 12697-20:2020) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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 12697-20:2012.

The following is a list of significant technical changes since the previous edition:

— the title no longer makes the method exclusively for hot mix asphalt;

— [ge] editorial update according to current standard template;

— [Clause 2] references deleted to EN 13108−1, −2, −3, −4, −5 and −7 since they are not referred to, ISO 48, Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD) replaced by: ISO 48-2, Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD;

— [Clause 3] new clause: 3 Terms and definitions introduced according to ISO/IEC Directives – Part 2. Following clauses renumbered accordingly;

— for the following changes the new clause number is given within [ ] and the corresponding clause number in previous version is given within ( );

— [4.1.8] (3.1.8) Silicone oil added as an example of release agent;

— [4.1.9] (3.1.9) Figure 1: correction of tolerances of metal mould to (± 0,5) in accordance with [4.1.1] (3.1.1);

— [4.2.1.1] (3.2.1.1) accuracy of ± 0,1 mm for dial gauge introduced;

— [4.2.5] ISO 48 replaced by: ISO 48-2;

— [5.3] (4.3) two NOTEs deleted;

— [6.3.1] (5.3.1) tolerance for edge and height of specimen unified to (70,7 ± 0,5) mm in accordance with [4.1.1] (3.1.1);

— [6.3.2.2] (5.3.2.2) Reference to “the temperature indicated by the producer” deleted since it is covered by EN 12697-35;

— [6.3.2.3] (5.3.2.3) Sentence regarding temperature limit of 240 °C deleted. Subclause [6.3.2.3] (5.3.2.2) is referring to EN 12697-35. Corresponding NOTE deleted;

— [6.3.3] (5.3.3) Temperature restriction to 240 °C deleted. Subclause is referring to EN 12697-35;

— [Clause 7] (Clause 6) Instruction for the repetition of a test introduced; EN 12697-35;

— [Clause 8] (Clause 7) Paragraph with permissible difference deleted.

A list of all parts in the EN 12697 series can be found on the CEN website.

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1 Scope

This document specifies a test method for determining the depth of indentation of mastic asphalt and other asphalt, when force is applied to them via a cylindrical indentor pin with a circular flat-ended base. This document applies to aggregates of maximum nominal size less than or equal to 16 mm.

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 12697-27, *Bituminous mixtures — Test methods — Part 27: Sampling*

EN 12697-30, *Bituminous mixtures — Test methods — Part 30: Specimen preparation by impact compactor*

EN 12697-35, *Bituminous mixtures — Test methods — Part 35: Laboratory mixing*

EN 12970, *Mastic asphalt for waterproofing — Definitions, requirements and test methods*

EN 13108-6, *Bituminous mixtures — Material specifications — Part 6: Mastic Asphalt*

ISO 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness —Part 2: Hardness between 10 IRHD and 100 IRHD*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp/ui

4 Apparatus

4.1 Moulding of test cubes of mastic asphalt

4.1.1 Cubic mould: composite metal mould with inside edges (70,7 ± 0,5) mm to mould the test cube (see Figure 1).

4.1.2 Oven capable of maintaining temperature of (250 ± 10) °C.

4.1.3 Hardwood tamper with a quadratic cross section, edge length about 30 mm.

4.1.4 Spatula about 30 mm wide.

4.1.5 Mixing bowl with spoon.

4.1.6 Thermometer capable to measure 300 °C accurate to 2 °C.

4.1.7 Thermometer capable to measure 40 °C accurate to 1 °C.