



**NSAI**  
Standards

Irish Standard  
I.S. EN 13108-20:2016

# Bituminous mixtures - Material specifications - Part 20: Type Testing

**I.S. EN 13108-20:2016**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN 13108-20:2016

*Published:*

2016-06-15

*This document was published under the authority of the NSAI and comes into effect on:*

2017-01-06

ICS number:

93.080.20

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN 13108-20:2016 is the adopted Irish version of the European Document EN 13108-20:2016, Bituminous mixtures - Material specifications - Part 20: Type Testing

I.S. EN 13108-20:2016 is one of a series of European standards for bituminous mixtures. I.S. EN 13108-20:2016 revises I.S. EN 13108-20:2006.

The current Standard Recommendation S.R. 28:2009 provides guidance on the use in Ireland of the I.S. EN 13108 series of standards.

S.R. 28 is currently being revised by the NSAI Roads Standards Consultative Committee, Asphalt working group to provide guidance in Ireland to the 2016 versions of the I.S. EN 13108 series of standards.

NSAI plans to publish the revised S.R. 28 in quarter 2 of 2017 and withdraw S.R. 28:2009 with its associated versions of the I.S. EN 13108 series of standards.

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

EUROPEAN STANDARD

**EN 13108-20**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2016

ICS 93.080.20

Supersedes EN 13108-20:2006

English Version

## Bituminous mixtures - Material specifications - Part 20: Type Testing

Mélanges bitumineux - Spécifications pour le matériau  
- Partie 20: Épreuve de formulation

Asphaltmischgut - Mischgutanforderungen - Teil 20:  
Typprüfung

This European Standard was approved by CEN on 27 February 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>	<b>Page</b>
European foreword.....	4
Introduction .....	6
1 Scope .....	7
2 Normative references .....	7
3 Terms and definitions .....	10
4 Requirements for Type Testing .....	10
4.1 General.....	10
4.2 Validity .....	11
4.2.1 Period of validity .....	11
4.2.2 Changes in aggregate .....	11
4.2.3 Change in bitumen .....	11
4.2.4 Change in Reclaimed Asphalt.....	12
4.2.5 Change in additive.....	12
5 Constituent materials .....	12
6 Bituminous Mixtures .....	12
6.1 General.....	12
6.2 Application .....	12
6.3 Sampling and testing.....	13
6.4 Composition .....	13
6.5 Specimen preparation.....	13
6.5.1 General.....	13
6.5.2 Laboratory validation.....	13
6.5.3 Production validation.....	13
7 Type Test Report.....	14
7.1 General.....	14
7.2 Constituents .....	14
7.3 Mix formulation .....	14
7.4 Temperatures.....	15
7.5 Test results .....	15
Annex A (normative) Properties and test methods for constituent materials .....	16
Annex B (normative) Summary of properties and test methods for bituminous mixtures.....	17
B.1 Asphalt Concrete (EN 13108-1) .....	17
B.2 Asphalt Concrete for Very Thin Layers, BBTM (EN 13108-2) .....	18
B.3 Soft Asphalt (EN 13108-3).....	19
B.4 Hot Rolled Asphalt (EN 13108-4) .....	19
B.5 Stone Mastic Asphalt (EN 13108-5) .....	20
B.6 Mastic asphalt (EN 13108-6).....	21
B.7 Porous Asphalt (EN 13108-7) .....	21
B.8 Asphalt for Ultra-Thin Layers, AUTL (EN 13108-9).....	22
Annex C (normative) Methods of specimen preparation.....	23
C.1 General.....	23

<b>C.2</b>	<b>Compaction energy .....</b>	<b>23</b>
<b>C.3</b>	<b>Reference density .....</b>	<b>23</b>
<b>C.4</b>	<b>Compaction degree .....</b>	<b>24</b>
<b>C.5</b>	<b>Void content.....</b>	<b>24</b>
<b>Annex D (normative)</b>	<b>Test procedures and conditions.....</b>	<b>26</b>
<b>D.1</b>	<b>Test procedures and conditions.....</b>	<b>26</b>
<b>D.2</b>	<b>Bulk density, maximum density, void content, voids filled with bitumen and voids in mineral aggregate.....</b>	<b>26</b>
<b>D.3</b>	<b>Water sensitivity.....</b>	<b>26</b>
<b>D.4</b>	<b>Resistance to abrasion by studded tyres .....</b>	<b>26</b>
<b>D.5</b>	<b>Bitumen aggregate affinity for application of porous asphalt.....</b>	<b>26</b>
<b>D.6</b>	<b>Resistance to permanent deformation by wheel-tracking test .....</b>	<b>27</b>
<b>D.7</b>	<b>Resistance to permanent deformation by tri-axial compression test.....</b>	<b>27</b>
<b>D.8</b>	<b>Stiffness .....</b>	<b>28</b>
<b>D.9</b>	<b>Fatigue .....</b>	<b>29</b>
<b>D.10</b>	<b>Marshall test for application on airfields.....</b>	<b>29</b>
<b>D.11</b>	<b>Resistance to fuel for application on airfields.....</b>	<b>29</b>
<b>D.12</b>	<b>Resistance to de-icing fluid for application on airfields.....</b>	<b>29</b>
<b>D.13</b>	<b>Binder drainage.....</b>	<b>29</b>
<b>D.14</b>	<b>Indentation and resistance to permanent deformation of mastic asphalt.....</b>	<b>29</b>
<b>D.15</b>	<b>Permeability .....</b>	<b>30</b>
<b>D.16</b>	<b>Particle loss of porous asphalt.....</b>	<b>30</b>
<b>D.17</b>	<b>Mixture SATS Durability index .....</b>	<b>30</b>
<b>D.18</b>	<b>Low temperature properties .....</b>	<b>30</b>
<b>D.19</b>	<b>Fracture toughness (potential for crack propagation) .....</b>	<b>30</b>
<b>D.20</b>	<b>Friction after polishing (FAP) .....</b>	<b>31</b>
<b>Annex E (informative)</b>	<b>Special requirements for airfields .....</b>	<b>32</b>

**EN 13108-20:2016 (E)****European foreword**

This document (EN 13108-20:2016) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by DIN.

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 December 2016, and conflicting national standards shall be withdrawn at the latest by March 2018.

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

This document supersedes EN 13108-20:2006.

Compared with EN 13108-20:2006, the following changes have been made:

- a) update to align with other parts of EN 13108 series, test methods and CPR requirements;
- b) enhanced guidance on period of validity of Type Test Report and triggers for review;
- c) requirement for retention of technical documentation under CPR.

This European Standard is one of a series as listed below:

- EN 13108-1, *Bituminous mixtures — Material specifications — Part 1: Asphalt Concrete*
- EN 13108-2, *Bituminous mixtures — Material specifications — Part 2: Asphalt Concrete for Very Thin Layers (BBTM)*
- EN 13108-3, *Bituminous mixtures — Material specifications — Part 3: Soft Asphalt*
- EN 13108-4, *Bituminous mixtures — Material specifications — Part 4: Hot Rolled Asphalt*
- EN 13108-5, *Bituminous mixtures — Material specifications — Part 5: Stone Mastic Asphalt*
- EN 13108-6, *Bituminous mixtures — Material specifications — Part 6: Mastic Asphalt*
- EN 13108-7, *Bituminous mixtures — Material specifications — Part 7: Porous Asphalt*
- EN 13108-8, *Bituminous mixtures — Material specifications — Part 8: Reclaimed Asphalt*
- EN 13108-9, *Bituminous mixtures — Material specifications — Part 9: Asphalt for Ultra-Thin Layer (AUTL)*
- EN 13108-20, *Bituminous mixtures — Material specifications — Part 20: Type Testing*
- EN 13108-21, *Bituminous mixtures — Material specifications — Part 21: Factory Production Control*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta,



Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**EN 13108-20:2016 (E)****Introduction**

This European Standard for Type Testing has been written as part of the system for the Assessment and Verification of the Constancy of Performance (AVCP) of bituminous mixtures. It is designed to be used in conjunction with the product standards EN 13108-1 to -7 and EN 13108-9 and is called up by these standards as part of AVCP. The Type Testing procedure has the function of providing assurance that a particular mix formulation complies with requirements in the product standard. The Type Testing procedure is designed to be applied to all harmonized elements of harmonized European Standards for bituminous mixtures whether or not regulatory marking is to be applied. The system can also be extended to non-harmonized elements.

NOTE Products CE marked in accordance with appropriate harmonized European Standards might be presumed to have the performances stated with the CE marking. It is the responsibility of the manufacturer, under Factory Production Control, to ensure that the bituminous mixture continues to be produced in accordance with the declared mix formulation.

## 1 Scope

This European Standard specifies the Type Testing procedure for use in Assessment and Verification of the Constancy of Performance (AVCP) of bituminous mixtures for use in roads, airfields and other trafficked areas.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 932-3, *Tests for general properties of aggregates — Part 3: Procedure and terminology for simplified petrographic description*

EN 933-1, *Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution - Sieving method*

EN 933-10, *Tests for geometrical properties of aggregates — Part 10: Assessment of fines - Grading of filler aggregates (air jet sieving)*

EN 1097-6:2013, *Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption*

EN 1097-7, *Tests for mechanical and physical properties of aggregates — Part 7: Determination of the particle density of filler — Pycnometer method*

EN 1426, *Bitumen and bituminous binders — Determination of needle penetration*

EN 1427, *Bitumen and bituminous binders — Determination of the softening point — Ring and Ball method*

EN 12591, *Bitumen and bituminous binders — Specifications for paving grade bitumens*

EN 12595, *Bitumen and bituminous binders — Determination of kinematic viscosity*

EN 12596, *Bitumen and bituminous binders — Determination of dynamic viscosity by vacuum capillary*

EN 12697-1, *Bituminous mixtures — Test methods for hot mix asphalt — Part 1: Soluble binder content*

EN 12697-2, *Bituminous mixtures — Test methods — Part 2: Determination of particle size distribution*

EN 12697-3, *Bituminous mixtures — Test methods for hot mix asphalt — Part 3: Bitumen recovery: Rotary evaporator*

EN 12697-4, *Bituminous mixtures — Test methods — Part 4: Bitumen recovery: Fractionating column*

EN 12697-5, *Bituminous mixtures — Test methods for hot mix asphalt — Part 5: Determination of the maximum density*

EN 12697-6, *Bituminous mixtures — Test methods for hot mix asphalt — Part 6: Determination of bulk density of bituminous specimens*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-