



NSAI
Standards

Irish Standard
I.S. EN 12697-45:2020

Bituminous mixtures - Test methods - Part 45: Saturation Ageing Tensile Stiffness (SATS) conditioning test

I.S. EN 12697-45:2020

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 12697-45:2020

Published:

2020-02-26

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

2020-03-15

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 12697-45:2020 is the adopted Irish version of the European Document EN 12697-45:2020, Bituminous mixtures - Test methods - Part 45: Saturation Ageing Tensile Stiffness (SATS) conditioning test

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

For relationships with other publications refer to the NSAI web store.

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
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12697-45

February 2020

ICS 93.080.20

Supersedes EN 12697-45:2012

English Version

**Bituminous mixtures - Test methods - Part 45: Saturation
Ageing Tensile Stiffness (SATS) conditioning test**

Mélanges bitumineux - Méthodes d'essai - Partie 45 :
Essai de module en traction après saturation
conditionnée (SATS)

Asphalt - Prüfverfahren - Teil 45: Alterungsprüfung an
gesättigten Asphalt-Probekörpern (SATS-Prüfung)

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

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Principle	5
5 Apparatus.....	5
5.1 Sample manufacture	5
5.2 Conditioning regime.....	5
5.3 Comparative test	9
6 Solvent and other materials	9
7 Sample preparation.....	9
8 Conditioning procedure.....	11
9 Comparative test procedure	12
10 Calculation	12
10.1 Bulk density and air voids content	12
10.2 Saturation before conditioning.....	13
10.3 Saturation after conditioning	13
10.4 Stiffness ratio	13
11 Test report.....	14
12 Precision.....	15
Bibliography	16

European foreword

This document (EN 12697-45:2020) 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 12697-45:2012.

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;
- [ge] dated references for test methods deleted in relevant places;
- [ge] NOTES modified and adjusted to normal text and vice versa where appropriate according to ISO/IEC Directives – Part 2:2016, 24.5;
- [Clause 1] irrelevant NOTE deleted, indicating a future development of alternative conditions not covered by this document;
- [Clause 2] titles for test methods EN 12697-serie adjusted;
- [Bibliography] test methods referred to in normal text moved to Clause 2 Normative references.

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

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 12697-45:2020 (E)**1 Scope**

This document specifies a test method to assess the durability of adhesion in base and binder course asphalt mixtures. The Saturation Ageing Tensile Stiffness (SATS) conditioning regime is used to age the specimens in the presence of water. A comparative test for assessing their performance before and after conditioning is also conducted.

The applicability of this test method is limited to bituminous specimens with consistent air voids contents and hard binder, in particular, to asphalt concrete mixtures with a binder content between 3,5 % and 5,5 %, air voids contents between 6 % and 10 % and 10/20 pen hard paving grade bitumen.

The test is intended to be used as a screening test for the assessment of a combination of aggregate, filler and additives with respect to the retained adhesion properties after simulated ageing in a moist atmosphere for lean/stiff base and binder course mixtures.

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 12697-5, *Bituminous mixtures — Test methods — Part 5: Determination of the maximum density*

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

EN 12697-8, *Bituminous mixtures — Test methods — Part 8: Determination of void characteristics of bituminous specimens*

EN 12697-26:2018, *Bituminous mixtures — Test methods — Part 26: Stiffness*

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

EN 12697-31, *Bituminous mixtures — Test methods — Part 31: Specimen preparation by gyratory compactor*

EN 12697-33, *Bituminous mixtures — Test method — Part 33: Specimen prepared by roller compactor*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12697-5, EN 12697-6 and the following apply.

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>

3.1**saturation before conditioning**

saturation of the mixture, determined as the calculated proportion of air voids filled with water after partial vacuum saturation, prior to conditioning by storage under increased pressure and elevated temperature, in percent

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
-