



BSI Standards Publication

Bituminous mixtures – Test methods

Part 1: Soluble binder content

bsi.

This is a preview. Click [here](#) to purchase the full publication.

National foreword

This British Standard is the UK implementation of EN 12697-1:2020. It supersedes BS EN 12697-1:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/510/1, Asphalt products.

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

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

© The British Standards Institution 2020
Published by BSI Standards Limited 2020

ISBN 978 0 539 02217 9

ICS 93.080.20

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2020.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12697-1

March 2020

ICS 93.080.20

Supersedes EN 12697-1:2012

English Version

**Bituminous mixtures - Test methods - Part 1: Soluble
binder content**

Mélanges bitumineux - Méthodes d'essai - Partie 1 :
Teneur en liant soluble

Asphalt - Prüfverfahren - Teil 1: Löslicher
Bindemittelgehalt

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

	Page
Contents	
European foreword.....	5
Introduction	7
1 Scope.....	8
2 Normative references.....	8
3 Terms and definitions	8
4 Preparation of laboratory samples	10
5 Determination of binder content	10
5.1 General principles of test	10
5.2 Binder extraction	10
5.2.1 Solvent.....	10
5.2.2 Apparatus.....	11
5.2.3 Procedure.....	11
5.3 Separation of mineral matter	11
5.3.1 Apparatus.....	11
5.3.2 Procedure.....	11
5.4 Binder quantity.....	12
5.4.1 Apparatus.....	12
5.4.2 Procedure.....	12
5.5 Calculation and expression of results.....	12
5.5.1 General.....	12
5.5.2 Binder content determined by difference.....	12
5.5.3 Binder content by total recovery.....	12
5.5.4 Binder content by recovery from portion (volume calculation)	13
5.5.5 Binder content by recovery from portion (mass calculation)	13
6 Drying to constant mass	14
6.1 General.....	14
6.2 Apparatus.....	14
6.3 Procedure.....	14
7 Reporting of results.....	14
7.1 Results.....	14
7.2 Test report.....	15
8 Precision data.....	15
8.1 General.....	15
8.2 Precision — Experiment 1	15
8.3 Precision — Experiment 2	16
8.4 Precision — Experiment 3	17
8.5 Precision — Experiment 4	17
8.6 Precision — Experiment 5	17
Annex A (informative) Guidance on the determination of binder content	18
A.1 Evaluation of the results.....	18
A.2 Effect of water content	19
A.3 Choice of test equipment and the sequence of operations.....	19

A.4	Determination of total binder content.....	19
Annex B (normative) Use of equipment for the determination of binder content		21
B.1	Binder extraction.....	21
B.1.1	Hot extractor (paper filter) method	21
B.1.2	Hot extractor (wire mesh filter) method	26
B.1.3	Soxhlet extractor method	27
B.1.4	Bottle rotation machine method.....	29
B.1.5	Centrifuge extractor method.....	32
B.1.6	Cold mix dissolution of bitumen by agitation.....	34
B.1.7	Automatic extractor method	35
B.2	Separation of mineral matter.....	36
B.2.1	Continuous flow centrifuge.....	36
B.2.2	Pressure filter	38
B.2.3	Bucket type centrifuge — Type 1	39
B.2.4	Bucket type centrifuge — Type 2	41
B.3	Soluble binder content	41
B.3.1	Method by recovery from a portion using a volume calculation.....	41
B.3.2	Method by recovery from a portion using a mass calculation.....	44
Annex C (normative) Determination of residual mineral matter in the binder extract by incineration		45
C.1	General	45
C.2	Method 1	45
C.2.1	Apparatus	45
C.2.2	Reagent.....	45
C.2.3	Procedure	45
C.3	Method 2	46
C.3.1	Apparatus	46
C.3.2	Procedure	46
Annex D (informative) Guidance on determination of soluble binder content of mixtures with polymer-modified binders		48
D.1	General	48
D.2	Preparatory treatment of laboratory samples of bituminous mixtures	48
D.3	Determination of binder content.....	48
D.3.1	General principles of test.....	48
D.3.2	Binder extraction.....	48
D.3.3	Separation of mineral matter.....	50
D.3.4	Binder quantity	51

D.3.5 Calculation and expression of results.....	51
D.4 Drying to constant mass	51
D.5 Reporting of results.....	51
D.6 Precision data.....	51
Bibliography.....	52