

# Bitumen og bituminøse bindemidler – Bestemmelse af bitumenemulsioners klæbeevne ved vandlagring

Bitumen and bituminous binders – Determination of adhesivity  
of bituminous emulsions by water immersion test

A large, thin, black curved line that starts at the bottom left, rises to a peak in the middle, and then descends towards the bottom right, spanning across the lower half of the page.

**DANSK STANDARD**  
Danish Standards Association

Göteborg Plads 1  
DK-2150 Nordhavn  
Tel: +45 39 96 61 01  
dansk.standard@ds.dk  
www.ds.dk

# DS/EN 13614:2021

København

DS projekt: M336549

ICS: 75.140; 91.100.50

**Første del af denne publikations betegnelse er:**

**DS/EN, hvilket betyder, at det er en europæisk standard, der har status som dansk standard.**

**Denne publikations overensstemmelse er:**

**IDT med: EN 13614:2021**

**DS-publikationen er på engelsk.**

**Denne publikation erstatter: [DS/EN 13614:2011](#)**

---

## **DS-publikationstyper**

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

### **Dansk standard**

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

### **DS-information**

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

### **DS-håndbog**

- samling af standarder, eventuelt suppleret med informativt materiale

### **DS-hæfte**

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

## **DS-publikationsform**

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldtekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

## **DS-betegnelse**

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

## **Overensstemmelse med anden publikation:**

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

EUROPEAN STANDARD

EN 13614

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2021

ICS 75.140; 91.100.50

Supersedes EN 13614:2011

English Version

## Bitumen and bituminous binders - Determination of adhesivity of bituminous emulsions by water immersion test

Bitumes et liants bitumineux - Détermination de l'adhésivité des émulsions bitumineuses par l'essai d'immersion dans l'eau

Bitumen und bitumenhaltige Bindemittel - Bestimmung des Haftverhaltens von Bitumenemulsionen bei Wasserlagerung

This European Standard was approved by CEN on 1 March 2021.

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: Avenue Marnix 17, B-1000 Brussels

## Contents

Page

European foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Principle .....	5
5 Reagents and materials .....	5
6 Apparatus .....	5
7 Sampling .....	6
8 Procedure .....	6
8.1 General .....	6
8.2 Determination of immediate adhesivity .....	6
8.3 Water effect on binder adhesion .....	7
8.3.1 General .....	7
9 Expression of results .....	7
10 Precision .....	8
11 Test report .....	8
Annex A (informative) Guidance for the marking of coated surface area .....	9

## European foreword

This document ([EN 13614:2021](#)) 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 September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

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 13614:2011](#).

The main changes with respect to the previous edition are listed below:

- curing and conditioning the coated aggregates within a heat resistant glass dish in the form of a monolayer of materials instead of placing them into a beaker ([8.2.4](#) and [8.3.5](#));
- making the assessment under water, which can be replaced if dirty, with the help of an appropriate desk lamp ([8.2.5](#) and [8.3.7](#));
- no requirements for a specific thermometer (6.9) since room temperature can be checked with ordinary means. After drying, aggregates are to be left to cool down to room temperature before starting the test procedure ([8.1](#) and [8.3.1](#));
- acceptable tolerance on conditioning time ([8.3.6](#)) is reduced from  $\pm 4$  h to  $\pm 2$  h;
- guidance for the marking of covered surface area ([Annex A](#)) is improved by complementing the sketches with actual pictures.

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.

# Bitumen and bituminous binders – Determination of adhesivity of bituminous emulsions by water immersion test

## 1 Scope

This document specifies a method for determining the adhesion of a bituminous emulsion coated onto aggregate when immersed in water.

The method considers two different aspects of adhesivity, i.e. immediate adhesivity and water effect on binder adhesion.

The method may be used with a reference aggregate. In that case, it measures the intrinsic adhesion behaviour of a bituminous emulsion. The method may also be used with a specific aggregate as used on a job site.

**WARNING — — The use of this document may involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to 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*

[EN 13043](#), *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas*

[EN 13808](#), *Bitumen and bituminous binders — Framework for specifying cationic bituminous emulsions*

[EN 1428](#), *Bitumen and bituminous binders — Determination of water content in bituminous emulsions — Azeotropic distillation method*

[EN 1431](#), *Bitumen and bituminous binders — Determination of residual binder and oil distillate from bitumen emulsions by distillation*

[EN 16849](#), *Bitumen and bituminous binders — Determination of water content in bituminous emulsions — Method using a drying balance*

[EN ISO 3696](#), *Water for analytical laboratory use — Specification and test methods (ISO 3696)*