BS EN 14694:2017

BSI Standards Publication

Flexible sheets for waterproofing — Waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles — Determination of resistance to dynamic water pressure after damage by pre-treatment

bsi.

National foreword

This British Standard is the UK implementation of EN 14694:2017. It supersedes BS EN 14694:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/546, Flexible sheets for waterproofing and water vapour control.

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.

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English Version

Flexible sheets for waterproofing - Waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles - Determination of resistance to dynamic water pressure after damage by pre-treatment

Feuilles souples d'étanchéité - Étanchéité des tabliers de ponts en béton et autres surfaces en béton circulables par les véhicules - Détermination de la résistance à la pression hydraulique dynamique après dégradation par prétraitement

Abdichtungsbahnen - Abdichtung von Betonbrücken und anderen Verkehrsflächen auf Beton - Bestimmung des Widerstandes gegenüber dynamischem Wasserdruck nach Schäden infolge Vorbeanspruchung

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European foreword

This document (EN 14694:2017) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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 14694:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

The significant technical changes are the new reference to prEN 17048 in Clause 2, Normative references, and further information about test specimens in Clause 4.3, Preparation of test specimens.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The purpose of this test is to determine the resistance to pre-treatment by impact puncturing followed by dynamic water pressure testing for sheets in the waterproofing system.

The test is normally performed for single sheets but may also be performed for double sheet systems.

1 Scope

This European Standard specifies a test method for the evaluation of the resistance to impact puncturing of a sheet or sheet system.

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 13375, *Flexible sheets for waterproofing - Waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles - Specimen preparation*

EN 13416, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Rules for sampling*

EN 14695, *Flexible sheets for waterproofing - Reinforced bitumen sheets for waterproofing of concrete bridge decks and other trafficked areas of concrete - Definitions and characteristics*

prEN 17048, *Flexible sheets for waterproofing - Plastic and rubber sheets for waterproofing of concrete bridge decks and other trafficked areas of concrete - Definitions and characteristics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13416, EN 14695 and prEN 17048 apply.

4 Test methods

4.1 Principle

Pre-treatment impact puncturing is carried out at room temperature, where a conical weight is allowed to fall freely on to the waterproofing sheet. The degree of penetration is then assessed with the aid of dynamic water pressure testing.

4.2 Apparatus and materials

Equipment for impact puncturing, with a puncturing tool consisting of (1,0 ± 0,01) kg of steel with a 90° conical point (see Figures 2 and 3).

Concrete slab, according to EN 13375 for supporting the test specimen during impact puncturing.

Suitable frame, for holding the test specimen firmly to the concrete slab.

Equipment for the water pressure test, with a dynamic water pressure applied (see Figures 4 and 5).

4.3 Preparation of test specimens

Take test samples and test pieces in accordance with EN 13416.

Select one test specimen of 400 mm × 200 mm for testing.

In the case of a double sheet system, weld or glue the two sheets together according to manufacturer instructions. Ensure that the sheet or sheet system thickness is within the limits of the equipment used.

Condition the test specimen for at least 24 h at a temperature of (23 ± 2) °C.