

Surfaces for sports areas — Procedure for accelerated ageing by immersion in hot water

The European Standard EN 13744:2004 has the status of a
British Standard

ICS 97.150; 97.220.10

National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 5 and a back cover.

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Amendments issued since publication

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English version

Surfaces for sports areas - Procedure for accelerated ageing by immersion in hot water

Sols sportifs - Méthode de vieillissement accéléré par immersion dans l'eau chaude

Sportböden - Verfahren der beschleunigten Alterung durch Eintauchen in heißes Wasser

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword.....	3
1 Scope	4
2 Principle	4
3 Apparatus	4
4 Test pieces	4
5 Procedure	4
6 Comparison tests	5
7 Calculation and expression of results	5
8 Test report	5

Foreword

This document (EN 13744:2004) has been prepared by Technical Committee CEN/TC 217 “Surfaces for sports areas”, 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of an identical text or by endorsement, at the latest by April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

It is one of two standards for procedures for ageing surfaces for sports areas. The other standard in this series has the following title:

EN 13817, *Surfaces for sports areas — Procedures for accelerated ageing by exposure to hot air*

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1 Scope

This document describes a procedure for subjecting test pieces taken from surfaces for sports areas to accelerated ageing by immersion in hot water. Test pieces are aged to permit a comparison of their physical characteristics before and after ageing in accordance with European Standard test methods for surfaces for sports areas.

This method is suitable for ageing all types of sports surfaces, except for wooden surfaces, using test pieces in the laboratory, but is primarily intended for ageing polymeric surfaces. The procedure allows a measure of the effect on the physical characteristics of the sports surface due to exposure to water at elevated temperatures to be made.

NOTE Results from tests on materials which exhibit temporary changes in properties due to moisture should be interpreted with caution.

2 Principle

Test pieces are exposed to water at an elevated temperature to permit selected physical characteristics of the surface to be assessed before and after test.

3 Apparatus

3.1 **Water bath**, capable of being maintained at (70 ± 2) °C.

3.2 **Small weights**, to assist with immersion if necessary.

4 Test pieces

Select, prepare and condition the test piece(s) in accordance with the appropriate method of test.

Test pieces shall be such that no mechanical, chemical or heat treatment will be required after their removal from the water bath.

Any material used for marking test pieces shall not be applied in any critical area of the test piece and shall not damage the surface or be destroyed during ageing.

NOTE Wherever possible, marking should be carried out after ageing of the test piece.

5 Procedure

Immerse test pieces in the water bath (3.1) maintained at a temperature of (70 ± 2) °C, the test pieces being freely exposed to the ageing environment on all sides. If necessary, use the small weights (3.2) to submerge the test pieces in the water bath.

Leave the test pieces in the water bath for (336 ± 2) h.

Remove the test pieces from the water bath and condition them together with an un-aged sample for not less than 16 h and for no more than 6 d in a relaxed condition in accordance with the test method for the particular characteristic being assessed.

NOTE Simultaneous ageing of different test pieces in the same water bath should be avoided, to prevent migration of anti-degradants or plasticizers, etc.

6 Comparison tests

To compare properties before and after accelerated ageing, carry out tests on un-aged test pieces at the same time and under the same conditions as those on test pieces having been subjected to accelerated ageing. Only compare test pieces of similar dimensions and having approximately the same exposed areas.

7 Calculation and expression of results

Calculate the results as specified by the appropriate method of test. If required, calculate the percentage change in the property using the following expression:

$$C = \frac{A - O}{O} \times 100$$

where

- C is the percentage change in the property;
- A is the aged value of the property, e.g. % impact absorption;
- O is the un-aged value of the property.

8 Test report

The test report shall include the following:

- a) reference to this document, i.e. EN 13744:2004;
- b) reference to the procedure used to select the test pieces and determine their characteristics, e.g. a European Standard test method;
- c) complete identification of the surface tested including manufacturer's reference, type and depth of supporting layers, and method of attachment and previous history;
- d) physical characteristics determined, with their values before and after ageing, and, if required, their percentage change, calculated in accordance with Clause 7;
- e) individual test results, if required.

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