BRITISH STANDARD

BS EN
1937:1999

Test method for hydraulic setting floor smoothing and/or levelling compounds — Standard mixing procedures

The European Standard EN 1937:1999 has the status of a British Standard

ICS 91.100.99

National foreword

This British Standard is the English language version of EN 1937:1999.

The UK participation in its preparation was entrusted to Technical Committee PRI/52, Adhesives, which has the responsibility to:

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— present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 6, an inside back cover and a back cover.

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English version

Test method for hydraulic setting floor smoothing and/or levelling compounds - Standard mixing procedures

Méthode d'essai pour les mortiers de lissage et/ou de nivellement à prise hydraulique - Préparation des mélanges

Prüfverfahren für hydraulisch erhärtende Boden-Spachtelmassen - Standardmischverfahren

This European Standard was approved by CEN on 9 August 1999.

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 193 "Adhesives", the Secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by March 2000, and conflicting national standards shall be withdrawn at the latest by March 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the procedure for mixing hydraulic setting smoothing and/or levelling compounds with water and/or a liquid component as supplied by the manufacturer.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and, the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment of revision. For undated references the latest edition of the publication referred to applies.

EN 196-1 *Methods of testing cement - Determination of strength.*

EN 1066 *Adhesives - Sampling.*

EN 1067 *Adhesives - Examination and preparation of samples for testing.*

ISO 554 *Standard atmospheres for conditioning and/or testing - Specifications.3*

3 Definitions

For the purpose of this standard the following definition applies:

3.1 hydraulic setting smoothing and/or levelling compound, referred to in this standard as "smoothing and/or levelling compound", is a material based on hydraulic setting binders designed to provide smooth even surfaces ready to receive floor cover-ings.

The compound is supplied in powder form which is mixed with a liquid component. The liquid can be water and/or a separate liquid component provided by the manufacturer. Levelling compounds are normally applied in higher thickness than smoothing compounds.

4 Safety

Persons using this standard shall be familiar with normal laboratory practice.

This standard does not purport to address all the safety problems, if any, associated with its use.

It is the responsibility of the user to establish health and safety practices and to ensure compliance with any European and national regulatory conditions.

5 Apparatus

5.1 Mixing equipment in accordance with EN 196-1 (as shown in figure 1).

The mixer shall consist essentially of:

a) a stainless steel bowl with a capacity of about 5 l and of the general shape and size shown in figure 1. It shall be provided with means by which it can be fixed securely to the mixer frame during mixing and by which the height of the bowl in relation to the blade and, to some extent, the gap between blade and bowl can be finely adjusted and fixed;

b) a stainless steel blade of the general shape, size and tolerances shown in figure 1, revolving about its own axis as it is driven in a planetary movement around the axis of the bowl by an electric motor at controlled speeds. The two directions of rotation shall be opposite and the ratio between the two speeds shall not be a whole number.

Where more than one mixer is used, blades and bowls shall form sets which are always used together.

The gap between blade and bowl shown in figure 1 shall be checked every month and adjusted if necessary.

Dimensions in millimetres

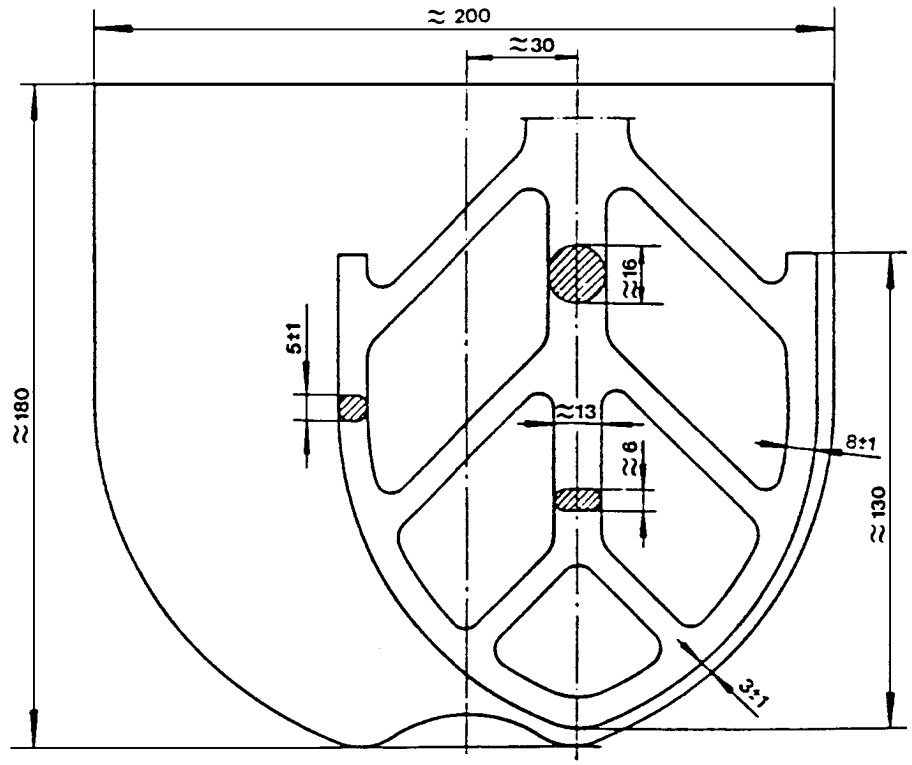

Figure 1: Bowl and blade

NOTE: The gap indicated in figure 1 (3,0 ± 1,0) mm refers to the situation when the blade in the empty bowl is brought as close as possible to the wall. Simple tolerances gauges ("feeler gauges") are useful where direct measurement is difficult.

The mixer shall operate at the speeds given in Table 1.

Table 1: Speeds of mixer blades

	Rotation min^{-1}	Planetary move-ment min^{-1}
low speed	140 ± 5	62 ± 5
high speed	285 ±10	125 ± 10

5.2 **Timer,** with an accuracy of 1 s.

6 Materials

6.1 Powder component, for smoothing and/or levelling compound.

Take a sample in accordance with EN 1066 of the powder component to be tested and prepare it for testing in accordance with EN 1067. Keep the sample in a dry sealed container until use.

NOTE: Physical characteristics of the powder component may change with age. Therefore, the date of manufacture or the batch number should be recorded.

6.2 Liquid component, for smoothing and/or levelling compound.

The liquid component shall be water and/or a separate liquid component as supplied by the manufacturer. The water shall be distilled or deionized. Other water may be used if it can be shown to give the same results.

7 Mixing conditions

All test materials (apparatus, product, gauging and/or separate liquid component) shall be stored under the standard conditions (23 ± 2) °C and (50 ± 5) % relative humidity in accordance with ISO 554 for at least 24 h before the test.

The tests shall be carried out under the above mentioned standard conditions in a room where the air circulation speed is not greater than 0,2 m/s.

8 Mixing procedures

The smoothing and/or levelling compound mixture is obtained by mechanical mixing using the standard mixer defined in 5.1 as follows:

a) Mixing procedure without waiting time:

Measure the water and/or the amount of liquid component (6.2) specified by the manufacturer for 2 kg of powder component (6.1) (or the mean amount where a range is specified) and pour into the mixing vessel. Add 2 kg powder component and mix for 1 min at low speed (in accordance with table 1).

Scrape the blades and sides of the mixing vessel. Mix for a further one minute at high speed (in accordance with table 1).

The total mixing time shall not exceed 3 min and the mixture shall be free from air bubbles. If it is not, wait one more minute to allow de-aeration and then use the mixture immediately.

b) Mixing procedure with waiting time:

Some compounds can require a waiting time and further mixing before use in which case this will be specified by the manufacturer. If a waiting time is required, but not specified exactly, wait 5 min followed by further mixing at high speed for 15 s. Wait a further 1 min to allow for de-aeration and then use the mixture immediately.

9 Test report

The mixing procedure precedes further testing. The mixing procedure used (a) or b)) and the total time elapsed to the end of the mixing procedure shall be specified in the test report of the subsequent test.

The same mixing procedure should be used for all subsequent tests.

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