

Test method for

Glass-fibre reinforced cement —

Part 8: Cyclic weathering type test

ICS 91.100.10

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Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted to Technical Committee B/524, Precast concrete products, upon which the following bodies were represented:

- British Cement Association
- British Precast Concrete Federation Ltd.
- Concrete Society
- Department of the Environment (Construction Sponsorship Directorate)
- Federation of Civil Engineering Contractors
- Institution of Civil Engineers
- Institution of Structural Engineers
- Water Services Association of England and Wales

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National foreword

This Draft for Development has been prepared by Technical Committee B/524 and is the English language version of ENV 1170-8:1996 *Test method for glass-fibre reinforced cement — Part 8: Cyclic weathering type test*, published by the European Committee for Standardization (CEN).

ENV 1170-8 complements the test methods given in the following standards, prepared by the task group TC 229/WG 3/TG 2 and published by CEN. Some of these tests are necessary in the application of ENV 1170-8.

- prEN 1170-1:1996, *Test method for glass-fibre reinforced cement — Part 1: Measuring the plasticity of the mortar — “Slump test” method.*
- prEN 1170-2:1996, *Test method for glass-fibre reinforced cement — Part 2: Measuring the quantity of fibre in fresh GRC — “Wash out test” method.*
- prEN 1170-3:1996, *Test method for glass-fibre reinforced cement — Part 3: Measuring the rate of sprayed fibres.*
- prEN 1170-4:1996, *Test method for glass-fibre reinforced cement — Part 4: Measuring bending strength — “Simplified bending test” method.*
- prEN 1170-5:1996, *Test method for glass-fibre reinforced cement — Part 5: Measuring bending strength — “Complete bending test” method.*
- prEN 1170-6:1996, *Test method for glass-fibre reinforced cement — Part 6: Measuring the absorption of water by immersion and measuring the dry density.*
- prEN 1170-7:1996, *Test method for glass-fibre reinforced cement — Part 7: Measurement for dimensional variations in accordance with the water content.*

Reference to the following standard, published by CEN, may also be useful.

- prEN 1169-1:1996, *Performance criteria for glass-fibre reinforced cement — Manufacture control plan.*

The document DD ENV 1170-8 has the status of a prestandard because some of the technical content is only agreed provisionally. Further consideration will be given by the CEN Technical Committee TC 229 during the 3-year period of validity, in order to refine and confirm the requirements so that the document can be transformed into a full European Standard.

The provisional status of the document is consequent on both the general concept of the test method and the detailed technical requirements. Hitherto the method most widely practised for accelerated weathering of the material glass-fibre reinforced cement (GRC) has been hot water immersion, and subsequent testing. This document describes an alternative test involving the repeated application of a cycle of wetting, drying, heating and cooling to the test samples. The test method, which is an adaptation of an existing French norm NFB 51-263 for the testing of wood and fibre cement products, is thought to offer a more realistic simulation of the effect of age on the mechanical properties of GRC. However, the method is relatively new in its application to GRC and has only been employed on a limited scale to date. During the development period, reliance should be placed on existing and established methods of test.

There is therefore a need to gain further experience and await a more general usage before confirming the test in the form of a definitive standard. The test relies on specialist equipment which presently exists in a very limited number of laboratories; it is to be hoped that a wider availability will follow. There is also a need to ensure consistency of the test between laboratories, where subtle differences in the purpose-made test equipment could introduce variations. There will also be a need to validate the procedures in the detailed execution of the test, in terms of practicality and accuracy.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature because some of its requirements are not fully agreed. It should be applied on a provisional basis so that information and experience of its practical application may be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the European organization responsible for its conversion to a European Standard. A review of this publication will be initiated 2 years after its publication by the European organization so that a decision can be taken on its 3-year life. The commencement of this review period will be notified by an announcement in *BSI Update*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into a European Standard, to extend the life of the prestandard or to withdraw it. Comments should be sent in writing to the Secretary of BSI Technical Committee B/524 at BSI, 389 Chiswick High Road, London W4 4AL, giving the document reference and clause number and proposing, where possible, an appropriate revision of the text.

Summary of pages

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

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.