

Method of test for

Curing compounds for concrete

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Technical Sector Board for Building and Civil Engineering (B/-) to Technical Committee CAB/3, upon which the following bodies were represented:

- Brick Development Association
- British Aggregate Construction Materials Industries
- British Cement Association
- British Ceramic Research Ltd.
- British Precast Concrete Federation
- British Ready Mixed Concrete Association
- Building Employers Confederation
- Cement Admixtures Association
- Concrete Society
- County Surveyors' Society
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Property Services Agency)
- Department of Transport
- Electricity Industry in United Kingdom
- Federation of Civil Engineering Contractors
- Institute of Concrete Technology
- Institution of Civil Engineers
- Institution of Structural Engineers
- Mortar Producers Association
- Plasterers' Craft Guild
- Society of Chemical Industry

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Association of Consulting Engineers
- Association of Consulting Scientists
- Department of Transport (Transport and Road Research Laboratory)
- Institution of Highways and Transportation

This British Standard, having been prepared under the direction of the Technical Sector Board for Building and Civil Engineering was published under the authority of the Standards Board and comes into effect on 31 January 1992

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The following BSI references relate to the work on this standard:
Committee references CAB/3
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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Principle	1
4 Materials	1
5 Apparatus	1
6 Preparation of mortar	2
7 Procedure	4
8 Calculation of results	5
9 Report	6
Figure 1 — Mortar mould for specimens	2
Figure 2 — Metal screed	3
Figure 3 — Metal tray	4
Table 1 — Grading of sand	1
Publication(s) referred to	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Technical Sector Board for Building and Civil Engineering and supersedes DD 147:1987 which is withdrawn.

Concrete has to be prevented from drying out after placing so that the cement can hydrate and form a dense structure that will be strong and impermeable. Moisture loss from concrete cast into moulds or formwork can be controlled by delaying demoulding or stripping, but this practice cannot be applied to large horizontal surfaces such as those of roads. These surfaces have to be covered as soon as possible and one method is to apply a curing membrane.

Curing compounds are materials sprayed in solution onto the surface of freshly placed concrete from which the solvent evaporates to leave a membrane which prevents loss of water. This membrane has to form on a wet and rough surface and yet be continuous and impermeable. A test to assess the effectiveness of curing compounds by simulating their performance in use was introduced a few years ago. The reproducibility of test results was found to be poor resulting in contractual problems for both the supplier and the user.

The original test has now been refined following considerable development work by the Cement Admixtures Association, which included investigating other test methods. The method applies specifically to curing compounds dissolved in organic solvents. It enables comparative tests to be made under standardized conditions to obtain good repeatability and reproducibility. The curing compound is therefore applied to a particular mortar having a finely brushed and level surface. The performance of curing compounds applied to a concrete may, in practice, be expected to be significantly affected by the concrete's constituents, composition, properties in the fresh state, texture and slope. The time of application of the curing compound and the prevailing ambient conditions will also be significant. In addition to laboratory tests, trials under site conditions are therefore essential to determine the application rate and subsequent performance of curing compounds for each intended use.

For water-based emulsions, a modification of this method has been suggested, involving a short period of pre-drying before application of the curing compound. Insufficient test data currently exist for its inclusion in this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 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.