

# Mortar admixtures —

## Part 2: Specification for set retarding admixtures

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## Foreword

This Part of BS 4887 has been prepared under the direction of the Cement, Gypsum, Aggregates and Quarry Products Standards Committee. BS 4887-1 specifies requirements for air-entraining (plasticizing) mortar admixtures. It is intended to prepare, under the general title “Mortar admixtures”, further Parts to cover other admixtures now in use in building mortars.

This Part specifies the requirements for set retarding admixtures for use, both with and without lime, in mortars for bedding masonry units, for plastering and for rendering. Requirements for set retarding admixtures for use in screeding mortars are specified in BS 5075-1.

Mortar admixtures are used in building mortars in small quantities to improve specific properties of the mortar. Those covered by this Part of BS 4887 are designed to extend the working life of fresh mortar. They may also affect other properties so it is necessary to demonstrate that these effects are not adverse. The test methods included cover those properties of mortars likely to be important when they are used in bedding masonry units, plastering and rendering. All test methods have been taken from BS 4551; details of procedures are given in Appendix B and Appendix C.

The set retarding admixture is tested in a mortar containing entrained air. The air-entraining admixture used to produce this is required to comply with BS 4887-1. To reduce the effects of different raw materials on test results, most test methods use a control mix and a mix containing the admixture. In this Part of BS 4887, only mortar complying with designation iii of BS 4721 has been included but both lime and non-lime mortar types are required to be tested to qualify for universal use.

It is known that the properties of different constituent materials as well as the use of different mortar mixes can change the required dosage of an admixture. It is important that the user checks the properties of the mixes to be used on site. 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.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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.

## 1 Scope

This Part of BS 4887 specifies the requirements for performance and uniformity and methods of test for set retarding mortar admixtures added to extend the working life of building mortars. These are prepared both with and without lime for use in bedding masonry units, plastering and rendering but not normally for use in screeding.

NOTE The titles of the publications referred to in this Part of BS 4887 are listed on the inside back cover.

## 2 Definitions

For the purposes of this Part of BS 4887 the definitions given in BS 4049 and BS 6100-6.4 apply.

## 3 Performance requirements

The admixture shall enable a test mortar to comply with the performance requirements given in Table 1 when test mixes of the mortar, containing representative samples of the admixture taken as described in Appendix A, are prepared as described in Appendix B and subjected to the acceptance tests described in Appendix C.

A test mix mortar of standard consistence, i.e. complying with the requirement given in Table 1 when tested as described in C.2, containing the admixture under test shall be compared with a control mix mortar of standard consistence made on the same day under the same conditions and the mean results obtained from two comparisons, not necessarily on the same day, shall be used to assess compliance with the performance requirements for air content and 28 day compressive strength. Part of the test mix mortar shall be stored for 28 h and then tested for consistence, air content and specimens made for testing 28 day compressive strength. The sample to be used to test resistance to penetration shall be stored for a further 24 h and then checked to determine whether the mortar has set.

Batches of the admixture that have the same formulation, as described in 5.1 c) and k) need not be tested individually for acceptance if they have been shown by the uniformity tests in clause 4 to have the same composition as that of the admixture tested for acceptance and complying with the performance requirements.

## 4 Uniformity requirements

Any batch of admixture shall have the same composition, as given in 5.1 k), as that of the admixture tested for acceptance. To check this uniformity of composition, a sample of the batch, taken as described in Appendix A, shall be tested in accordance with Appendixes D and E of BS 5075-1:1982 and shall comply with the requirements given in Table 2.

**Table 1 — Performance requirements and acceptance tests**

| Characteristic                                                                             | Test reference | Requirement (mean of two batches)                                                                                   |
|--------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Consistence after:<br>a) standard mixing<br>b) 28 h standing                               | C.2<br>C.5     | Mean dropping ball penetration of $10 \pm 0.5$ mm<br>Not more than 4.0 mm less than the value after standard mixing |
| Air content after:<br>a) standard mixing<br>b) 28 h standing                               | C.3<br>C.7     | 14.0 % to 20.0 %<br>Not less than 70 % of the value after standard mixing                                           |
| Resistance to penetration after:<br>52 h standing                                          | C.6            | Not less than 5 N/mm <sup>2</sup>                                                                                   |
| 28 day compressive strength on cubes made after:<br>a) standard mixing<br>b) 28 h standing | C.4<br>C.8     | Not less than that of the control mix<br>Not less than that of the control mix                                      |