

Specification for

Water-borne priming paints for woodwork

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- British Decorators' Association
- British Railways Board
- Consumer Policy Committee of BSI
- Department of Education and Science
- Department of the Environment (Building Research Establishment)
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- European Resin Manufacturers' Association
- Furniture Industry Research Association
- Ministry of Defence
- Oil and Colour Chemists' Association
- Paint Research Association
- Paintmakers' Association of Great Britain Ltd.
- Society of Chemical Industry
- Titanium Pigment Manufacturers' Technical Committee

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Foreword

This British Standard has been prepared under the direction of the Pigments, Paints and Varnishes Standards Policy Committee. It supersedes BS 5082:1986 which is withdrawn.

This edition introduces technical changes to bring the standard up to date but it does not reflect a full review of the standard, which will be undertaken in due course. The main technical changes are:

- a) the updating of references to lead in **5.3**;
- b) the inclusion of additional information on driers in Table 2.

The first edition of BS 5082 was prepared as the result of a generally expressed need to use low-lead materials in paints and primers. That edition specified a single type of product which was considered suitable for application to soft woods exposed to both exterior and interior use. That standard was revised in 1986 principally to institute a test for resistance to natural weathering, which was more reliable and relevant to current practice, and also to align it in this and other respects with the concurrent revision of BS 5358.

Concern over the presence of toxic materials in the environment has increased the desirability of avoiding paints and primers that contain significant quantities of lead, particularly where children could chew paintwork or detached paint flakes. Therefore British Standards for lead-based wood primers have already been withdrawn. For external painting, it is important to use an alternative type of primer with as good a performance as possible since the use of unsatisfactory low-lead primers has caused much premature failure of exterior paintwork. This standard is intended to specify wood primers that are suitable for both interior and exterior use and which will give a performance on exterior woodwork comparable to that of the former British Standard lead-based primers.

Even though it is bad practice and cannot be condoned, primed joinery is liable to be left on a building site for several months, exposed to the weather without the protection of a finishing paint system. The weathering characteristics of the primer, and its permeability to water and water vapour, are therefore of importance. Artificial weathering tests have been found to be unsatisfactory for assessing the durability of these primers. This specification, therefore, relies on a period of natural weathering to evaluate durability by direct comparison with a reference primer.

Joinery to be painted is generally treated with some form of preservative which not only reduces the risk of decay but, if it contains a resin, may improve the performance of the primer. When applied correctly to normal wood and allowed sufficient time to dry, preservatives do not generally have adverse effects on the adhesion and other properties of primers, but it is desirable to confirm with the primer manufacturer that any particular combination of primer and preservative is compatible. The weathering test described in this standard is specified to be carried out on preservative treated wood. It should be noted, however, that even if satisfactory compatibility between primer and preservative has been shown, some of the timber used may be found to be abnormally permeable causing an excessive uptake of preservative which can seriously affect the paint films obtained from water-thinned or any other type of primer.

Water-borne primers have the advantages of being quick-drying, non-flammable and non-toxic. Because they are generally more moisture permeable than solvent-borne primers, they allow more rapid uptake and release of moisture in wood. This can lead to greater movements of joints during exposure, and possibly to surface splitting, if the joinery is left unprotected for extended periods. Care should be taken that finishing coats are not applied when the moisture content of the wood exceeds 18 %. Water-thinned primers allow drying out of the wood to occur fairly quickly. In the 1986 edition of BS 5082, two types of water-borne priming paint were specified; type A being for general use (mainly brush applied) and type B for industrial applications. Because the latter may be supplied in a form requiring thinning before use (e.g. in a spray gun), the volatile content (see 5.2) and the hard-drying time (see 9.1) were only specified for the type A product. The low temperature drying characteristics (see clause 15), although specified for both type A and type B, were not required for type B primers intended for force-drying. Other differences between the types of primer were reflected in the requirements for the initial condition in the container (see 7.1), application properties (see clause 8) and recoating time (see 9.2).

The 1986 revision of this standard omitted the requirements for colours and viscosity given in the 1974 edition. The former was considered to be no longer needed, and the latter would be controlled by the application properties specified in clause 8.

The tests for natural weathering and recoatability after natural weathering were carried out at a relative humidity of 65 ± 5 %. In addition, to minimize splitting of the timber for the test panels for the blister resistance test (Appendix F), test panels for this test should be conditioned and tested at a relative humidity of 65 ± 5 %.

Attention is drawn to the need, when carrying out the tests specified in 9.2, clause 13 and Appendix C and Appendix F, to apply either an undercoat or a top coat that is preferably one recommended by the manufacturer of the primer. These subsequent paints should be compatible with and suitable for application to the primer after the appropriate drying period.

It has been assumed in the drafting of this standard that the execution of its provisions is entrusted to those who are appropriately qualified and experienced.

WARNING NOTE. This standard calls for the use of substances and test procedures that may be injurious to health if adequate precautions are not taken. The standard refers only to technical suitability and in no way absolves either the supplier or the user from statutory obligations relating to health and safety at any stage of manufacture or use.

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 to iv, pages 1 to 10, 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.

