

Specification for

Metallic zinc-rich priming paint —

(Organic media)

Co-operating organizations

The Pigments, Paints and Varnishes Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Board of Trade
- British Colour Makers' Association
- British Railways Board*
- Chemical Industries Association
- Crown Agents for Oversea Governments and Administrations
- Greater London Council*
- London Transport Board
- Ministry of Defence, Army Department*
- Ministry of Defence, Navy Department*
- Ministry of Public Building and Works
- Ministry of Public Building and Works — Building Research Station
- Ministry of Technology
- Ministry of Technology — Laboratory of the Government Chemist
- National Federation of Builders' and Plumbers' Merchants
- Oil and Colour Chemists' Association*
- Paintmakers' Association of Great Britain Ltd.*
- Paint Manufacturers' and Allied Trades Association*
- Post Office*
- Research Association of British Paint, Colour and Varnish Manufacturers*
- Royal Institute of British Architects
- Royal Institute of Public Health and Hygiene
- Titanium Pigment Manufacturers' Technical Committee
- White Lead Manufacturers' Association
- Zinc Development Association*
- Zinc Pigment Development Association

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Association of Metal Sprayers
- British Steel Industry

This British Standard, having been approved by the Pigments, Paints and Varnishes Industry Standards Committee, was published under the authority of the Executive Board on 14 July 1971

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Foreword

This standard makes reference to the following British Standards and Code of Practice:

BS 410, *Test sieves*.

BS 1940, *Butanone (methyl ethyl ketone)*.

BS 2451, *Chilled iron shot and grit*.

BS 3761, *Non-flammable solvent-based paint remover*.

BS 3900, *Methods of test for paints — Part A1: Sampling — Part A3: Standard panels for paint testing — Part C3: Hard-drying time — Part E1: Bend test (cylindrical mandrel) — Part F4: Resistance to continuous salt spray*.

BS 3982, *Zinc dust pigment*.

BS 4232, *Surface finish of blast-cleaned steel for painting*.

CP 2008, *Protection of iron and steel structures from corrosion*.

This British Standard has been prepared to meet the requirements of British Standard Code of Practice CP 2008, “*Protection of iron and steel structures from corrosion*”, but it does not cover the requirements relating to the use of thin films for short-term protection, as in prefabrication shop primers, nor those for inorganic zinc silicate primers.

CP 2008 defines zinc-rich paints as “Paints, particularly primers, containing a sufficiently high percentage of finely divided metallic zinc to ensure electrical conductivity through the dry paint film to the steel”.

It should be noted, firstly, that galvanic protection of the substrate diminishes when the film is exposed to normal atmospheric conditions, but should revive at any site of damage to the film, and secondly, that in practice the degree of protection provided by the film is usually assessed directly instead of by testing the electrical conductivity.

This standard has accordingly been prepared with the aim of providing a standard of quality for zinc-rich paints based on organic media appropriate to the requirements of CP 2008, i.e. for materials which would normally be used as part of a long-term protective system, giving a minimum dry film thickness of 50 µm.

The satisfactory performance of zinc-rich paints depends largely on the attainment of close electrical contact between the metallic zinc particles and the steel surface to be protected. This close electrical contact permits the development of cathodic protection of the steel substrate by the metallic zinc particles, particularly at such coating imperfections as scratches or damaged areas, thus preventing corrosive attack and rust creep.

To ensure close electrical contact, it is essential for rust and mill scale to be removed from the steel surface to be painted, and CP 2008 emphasizes that zinc-rich paints should be applied only to carefully prepared steel, preferably to blast-cleaned surfaces. Care should be taken to ensure that the surface roughness obtained is kept to reasonable limits, which is mainly achieved by correct selection of grit or shot size. If the peak to trough height is too great, then “peaks” may protrude through the paint film, which may cause premature rusting.

In this connection it is recommended that reference should be made to BS 4232, “*Surface finish of blast-cleaned steel for painting*”, and that not less than second quality blast-cleaning, as defined in that standard, should be specified.

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 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.