



Zinga UK

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**Agrément
Certificate
No 03/4047**

Designated by Government
to issue
European Technical
Approvals

ZINGA

Enduit métallique à haute teneur en zinc avec propriétés galvaniques/cathodiques
Zinkbeschichtung

Product



• THIS CERTIFICATE RELATES TO ZINGA, A ZINC COATING APPLIED TO STRUCTURAL STEEL BY SUITABLY EQUIPPED AND EXPERIENCED STRUCTURAL ENGINEERING COMPANIES OR BLASTING/PAINTING APPLICATORS.

• The product is applied in one or two coats to give a minimum dry film thickness (dft) of 60 µm.

Regulations

1 The Building Regulations 2000 (as amended) (England and Wales)



In the opinion of the British Board of Agrément, the use of Zinga is not subject to these Regulations.

2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, the use of Zinga is not subject to these Regulations.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, the use of Zinga is not subject to these Regulations.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections:

6 Delivery and site handling, (6.2 and 6.3), 10 Welding (10.2 and 10.3) and 16 Application (16.5 and 16.6) of this Certificate.

Technical Specification

5 Description

5.1 Zinga is a single pack, zinc coating suitable for internal or external use as a primer and/or final corrosion protection for structural steel and as a repair for suitably prepared, eroded or damaged galvanized or zinc-coated steel.

5.2 The product is applied to surfaces previously prepared by abrasive blasting to grade Sa 2½, or to a rusted surface to grade C, both to BS 7079-A1 : 1989 and its supplement (or equivalent BS EN ISO 8501-1 : 2001).

5.3 Zinga contains zinc dust (milled using a specialised process), an organic binder and aromatic solvents.

5.4 Zingasolv is a mixture of aromatic solvents used for diluting Zinga prior to spray application and for cleaning equipment.

5.5 The product is manufactured by a batch blending process. Regular quality control is exercised over the raw materials and the finished product.

6 Delivery and site handling

6.1 The product is delivered in 1 kg, 2 kg, 5 kg, 10 kg, and 25 kg metal containers. Each container carries a label bearing the manufacturer's name, product name, batch code and the BBA identification mark incorporating the number of this Certificate.

6.2 Zinga and Zingasolv are flammable, with a flashpoint above 32°C, and must be stored and used in a cool place, away from sources of ignition.

6.3 Operators should wear gloves and facial protection. A suitable HSE approved respirator should be worn for spray applications or when using the product in confined places.

6.4 The shelf-life of the product exceeds one year under normal conditions.

Design Data

7 General

7.1 The Zinga zinc coating is satisfactory for internal or external use as anti-corrosive protection for structural steel, and as a repair system for suitably prepared, damaged, galvanized or zinc-coated steel.

7.2 The product is applied in one or two coats, to give a minimum total dry film thickness of 60 µm.

7.3 In certain circumstances (eg in areas of high abrasion) it may be necessary to apply a topcoat over Zinga. In such cases precautions should be taken to minimise exposure of the Zinga to any solvent contained in the topcoat (or any tie coats which may be used) by typically applying a very thin first coat and leaving to thoroughly dry before further applications. The Certificate holder can give guidance on the selection and application of suitable topcoats. The use of topcoats over Zinga is not covered by this Certificate.

8 Effect on water quality

The product meets the requirements of BS 6920-1 : 2000, and may be used in contact with potable water.

9 Properties in relation to fire

When tested to BS 476-6 : 1989, a sample of Zinga coated steel had an index of performance (I) of 0.0 and when tested to BS 476-7 : 1997 had a Class 1 surface. It therefore has a Class 0 or low risk surface as defined in the various national Building Regulations.

10 Welding

10.1 Welding or flame cutting should not be conducted until the zinc-rich film is fully cured and free from solvent.

10.2 Prior to welding Zinga coated steel, an assessment must be made of the dangers posed to the welder's (and others') health under the Control of Substances Hazardous to Health Regulations 2002 (COSHH). Reference should be made to HSE Guidance Note EH54 *Assessment of exposure to fume from welding and allied processes 1990*.

10.3 Proper conditions of ventilation must be provided to ensure that the concentrations of toxic products produced during welding or flame cutting of steel with a 60 µm coating of Zinga do not exceed the values stated in HSE Guidance Note EH40 *Occupational Exposure Limits 2002 (2003)*.

10.4 Welding through this thickness of Zinga will have no detrimental effect on the quality of the weld.

11 Resistance to abrasion

11.1 The resistance of the finished coating to continual abrasion is limited, but any damage is easily repaired. Where continual abrasion is likely, an abrasion resistant topcoat should be applied (see section 7.3 of this Certificate).

11.2 In the event of surface damage, under-film corrosion of the steel will not occur. The damage should be repaired by the further application of Zinga as part of a planned maintenance programme (see section 12 of this Certificate).

12 Maintenance

12.1 Maintenance painting using the techniques described in section 14 of this Certificate, should be conducted before the steel substrate has become exposed, and within the periods stated in section 13 of this Certificate.

12.2 Localised repairs (of damaged or eroded areas) may also be made with Zinga when necessary, using the same techniques.

13 Durability

13.1 Zinga applied to abrasive blasted steel at 60 µm minimum dft (above the maximum peak height) is suitable for internal use in conditions free from chemical contamination, and will remain effective with an ultimate life in excess of 20 years. When applied for external use, it will remain effective with an ultimate life in excess of the following (but see also section 12.1 of this Certificate):

- 10 years in polluted coastal conditions
- 12 years in inland industrial conditions
- 20 years in rural conditions.

13.2 The life of the coating can be extended proportionately by applying additional coats of Zinga to achieve a greater thickness up to a maximum of 200 µm, or to a greater thickness with the written consent of the Certificate holder.

13.3 In chemically-corrosive conditions this performance may not be achieved and the advice of the Certificate holder should be sought.

14 General

Zinga is applied either under factory conditions or on site to either abrasive blasted steel to grade Sa 2½, or rusted steel to rust grade C as defined by BS 7079-A1 : 1989 (BS EN ISO 8501-1 : 2001).

15 Precautions

15.1 During application, adequate ventilation must be provided, and care must be taken to avoid inhalation of spray and solvent vapour. Naked flames, or other sources of ignition, must be excluded during application and curing.

15.2 The product may be applied to damp substrates, but not to wet surfaces.

16 Application

16.1 The product is applied in one or two coats by brush, or airless or conventional spray, or in two coats by roller, to give a minimum total dry film thickness of 60 µm. Zinga can be applied to substrates at temperatures down to -15°C providing the surface is free from ice.

16.2 The product may be diluted by up to 5% of Zingasolv for spray application. The Certificate holder can advise on suitable spray equipment.

16.3 Where abrasive cleaning is required, the first coat is applied to the abraded substrate before the surface has oxidised, normally within four hours of blasting. The surface must be kept free from contamination between blasting and coating.

16.4 The product is allowed to cure for two hours (at 20°C) prior to application of subsequent coats. If the product is to be overcoated with a different topcoat, a longer curing period is necessary. The Certificate holder can advise on suitable topcoats and overcoating times (see section 7.3 of this Certificate).

16.5 During the curing period, good ventilation is essential to remove solvent vapour. On any surface where natural ventilation is restricted, an air blower should be installed to ensure complete removal of solvent vapour. If heaters are used they should provide efficient air circulation to remove vapours and avoid local hot spots.

16.6 When a significant delay occurs between coats, the first coat must be cleaned. Any dirt or water-soluble deposits must be removed by thorough washing with water. Any grease or oil must be removed by swabbing with Zingasolv using clean rags (taking appropriate precautions to avoid inhalation and skin contact).

16.7 Any steel coated with the product and welded on-site will have suffered some coating damage. Weld spatter must be removed by chipping and/or grinding. Slag, charred coating, and abraded areas caused by mechanical damage during transit and erection, must be blast cleaned to restore the original condition of the steel substrate, and a further one or two coats of Zinga applied to a minimum dry film thickness of 60 µm.

The following is a summary of the technical investigations carried out on the Zinga zinc coating.

17 Tests

17.1 Samples of the product were tested for:

- flashpoint to BS 3900-A14 : 1986
- solids content to BS 3900-B2 : 1970.

17.2 Samples of the product coated on abrasive blasted steel were tested for:

- resistance to artificial weathering to MOAT No 33 : 1986 3.3.2.1
- cross-hatch adhesion to BS 3900-E6 : 1974
- resistance to salt spray to BS 3900-F4 : 1968
- resistance to sulphur dioxide to BS 3900-F8 : 1976
- effect of substrate preparation.

17.3 A sample of Zingasolv was tested for flashpoint to BS 3900-A14 : 1986.

18 Investigations

18.1 Independent test data were examined relating to the following aspects of performance of Zinga:

- galvanic protection offered to a steel substrate
- intercoat mixing of successive coating layers
- resistance to humidity, salt spray, salt water and artificial weathering
- chemical resistance
- effect of overcoating
- effect of low temperature storage
- bend and impact resistance
- effect of substrate preparation on adhesion
- effect on strength of welding.

18.2 Independent test reports were examined on the performance of the product when coated on a steel plate and tested to BS 476-6 : 1989 and BS 476-7 : 1997.

18.3 Reports were examined from a number of users with experience of the product in service.

18.4 Visits were made to existing sites where the product had been in use for periods of up to 11 years.

18.5 A visit was made to a site in progress in order to assess the practicability of application.

18.6 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

Bibliography

BS 476-6 : 1989 *Fire tests on building materials and structures — Method of test for fire propagation for products*

BS 476-7 : 1997 *Fire tests on building materials and structures — Method of test to determine the classification of the surface spread of flame of products*

BS 3900-A14 : 1986 *Methods of test for paints — Tests on liquid paints — Determination of flashpoint (rapid equilibrium method)*

BS 3900-B2 : 1970 *Methods of test for paints — Tests involving chemical examination of liquid paints and dried paint films — Determination of volatile matter and non-volatile matter*

BS 3900-E6 : 1974 *Methods of test for paints — Cross-cut test*

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BS 3900-F4 : 1968 *Methods of test for paints — Durability tests on paint films — Resistance to continuous salt spray*

BS 3900-F8 : 1976 *Methods of test for paints — Durability tests on paint films — Determination of resistance to humid atmospheres containing sulphur dioxide*

BS 6920-1 : 2000 *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 1: Specification*

BS 7079-A1 : 1989 *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Specification for rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

BS 7079-A1 : Suppl : 1996 *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Specification for rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings — Representative photographic examples of the change of appearance imparted to steel when blast-cleaned with different abrasives*

BS EN ISO 8501-1 : 2001 *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

MOAT No 33 : 1986 *The assessment of masonry coatings*

Conditions of Certification

19 Conditions

19.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;

(c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;

(d) is copyright of the BBA.

19.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents; and
- (c) are reviewed by the BBA as and when it considers appropriate.

19.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

19.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Zinga is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 03/4047 is accordingly awarded to Zinga UK.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. Q. Newton'.

Date of issue: 8th September 2003

Chief Executive