

BituChem Building Products

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HAPAS Certificate
14/H225
Product Sheet 1

BITUCHEM POLYMER-MODIFIED BITUMEN ROAD EMULSIONS

POLBIT, FORTCOAT AND SUPERCOAT ROAD EMULSIONS

This HAPAS Certificate Product Sheet⁽¹⁾ is issued by the British Board of Agrément (BBA), supported by the Highways Agency (HA) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Assembly Government and the Department for Regional Development, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers' Group and industry bodies. HAPAS Certificate Product Sheets are normally each subject to a review every three years.
(1) Hereinafter referred to as 'Certificate'.

This Certificate relates to Polbit, Fortcoat and Supercoat Road Emulsions, polymer-modified bitumen emulsions for use in surface dressing systems for highways.

CERTIFICATION INCLUDES:

- factors relating to compliance with HAPAS requirements
- factors relating to compliance with Regulations where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Durability — the products have been used in surface dressing systems in the UK since 2011, and available evidence indicates that they contribute to a surface dressing system's satisfactory performance (see section 7).

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Simon Wroe
Head of Approvals — Materials

Claire Curtis-Thomas
Chief Executive

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The BBA is a UKAS accredited certification body — Number 1113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Requirements

In the opinion of the BBA, Polbit, Fortcoat and Supercoat Road Emulsions, when assessed in accordance with the *Guidelines Document for the Assessment and Certification of Modified Bitumens for Surface Dressings, Micro-Surfacing and Bond Coats for Highways*, and used in accordance with the provisions of this Certificate, are suitable for use in surface dressings for highways.

Regulations

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.2) of this Certificate.

Technical Specification

1 Description

1.1 Polbit is an intermediate-grade, polymer-modified bitumen emulsion for use in surface dressing systems for highways as defined within the *Manual of Contract Documents for Highway Works*, Series NG900, Volume 2, Table NG 9/8.

1.2 Fortcoat is a premium-grade polymer-modified bitumen emulsion for use in surface dressing systems for highways as defined within the *Manual of Contract Documents for Highway Works*, Series NG900, Volume 2, Table NG 9/8.

1.3 Supercoat is a super-premium-grade polymer-modified bitumen emulsion for use in surface dressing systems for highways as defined within the *Manual of Contract Documents for Highway Works*, Series NG900, Volume 2, Table NG 9/8.

1.4 The Certificate holder has taken the responsibility of CE marking Polbit, Fortcoat and Supercoat in accordance with harmonised European Standard BS EN 13808 : 2005.

2 Manufacture

2.1 The products are manufactured by blending raw materials within a colloidal mill.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BM Trada (Certificate C0585).

3 Delivery and site handling

3.1 The products are delivered to site in bulk tankers and are applied on site in accordance with the Certificate holder's instructions and this Certificate.

3.2 The products are not classified under *The Chemicals (Hazard Information and Packaging for Supply Regulations 2009 (CHIP4)/Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*. They should be handled in accordance with the manufacturer's material safety data sheets.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Polbit, Fortcoat and Supercoat Road Emulsions.

Design Considerations

4 Use

Polbit, Fortcoat and Supercoat Road Emulsions are satisfactory for use as binders in surface dressing systems on highways.

5 Practicability of installation

The products are designed to be installed by contractors experienced with this type of material.

6 Maintenance

The products do not require routine maintenance but any damage must be repaired (see section 10).

7 Durability

The products have been used as binders in surface dressing systems in the UK since 2011. Inspections of existing sites indicate that the products contribute to a surface dressing system's satisfactory performance in service.

Installation

8 General

8.1 Polbit, Fortcoat and Supercoat Road Emulsions are hot-applied for use in surface dressings in accordance with the Certificate holder's instructions which include requirements for surface preparation and application rates.

8.2 The products are suitable for application on existing bituminous or concrete surfaces at a minimum surface temperature of 10°C measured on a rising thermometer. The substrate must be free from standing water.

8.3 Traffic management must be in accordance with the installer's risk assessment, based on the guidance given in Department of Transport *Traffic Signs Manual*, Chapter 8, the Department for Transport *Safety at Street Works and Road Works – A Code of Practice*, the *Design Manual for Roads and Bridges*, Volume 8, the RSDA/CSS⁽¹⁾ *Code of Practice for Traffic Control at Surface Dressing Sites* and the RSTA/ADEPT *Code of Practice for Surface Dressing*.

(1) Now known as RSTA/ADEPT respectively.

8.4 The surface dressing contractor, in conjunction with the Certificate holder, must ensure compatibility between the road emulsion and the aggregate(s) used in the surface dressing process.

9 Preparation

The road surface is prepared for the installation of the surface dressing in accordance with the recommendations in TRL Road Note 39 *Design Guide for Road Surface Dressing* and the RSTA/ADEPT *Code of Practice for Surface Dressing*.

10 Application

10.1 The products are spray-applied to the substrate at a temperature between 65°C and 85°C.

10.2 The application rates for the products must be in accordance with the Certificate holder's recommendations or TRL Road Note 39.

10.3 Installation of the surface dressing system is carried out in accordance with a Quality Assurance Scheme complying with the requirements of Highways Agency National Highways Sector Scheme 13A *Sector Scheme for The Supply and Application of Surface Dressings to Road Surfaces*.

11 After-care

As with all surface dressing systems, the installer must plan and execute the after-care of the works in accordance with the RSTA/ADEPT *Code of Practice for Surface Dressing*.

Technical Investigations

12 Investigations

12.1 Test reports were evaluated in relation to Polbit, Fortcoat and Supercoat relating to:

- penetration
- softening point
- Vialit pendulum before and after ageing on recovered binder
- rheology by dynamic shear rheometer before and after ageing on recovered binder.

12.2 Visits to existing sites on which the products had been used and which were at least two years old were carried out to confirm the products' performance in use.

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

Bibliography

- BS EN 13808 : 2005 *Bitumen and bituminous binders — Framework for specifying cationic bituminous emulsions*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- Design Manual for Roads and Bridges, Volume 8*
- Department for Transport *Traffic Signs Manual, Volume 8*
- Department for Transport *Safety at Street Works and Road Works — A Code of Practice*
- Guidelines Document for the Assessment and Certification of Modified Bitumens for Surface Dressings, Micro-Surfacings and Bond Coats for Highways, SG04 Doc 086, May 2010*
- Highways Agency National Highways Sector Scheme 13A *Sector Scheme for The Supply and Application of Surface Dressings to Road Surfaces*
- Manual of Contract Documents for Highway Works, Volume 2 *Notes for Guidance on the Specification for Highway Works, Series NG900 Road pavements – bituminous bound materials*
- RSDA/CSS *Code of Practice for Signing at Surface Dressing Sites*
- RSTA/ADEPT *Code of Practice for Surface Dressing*
- TRL Road Note 39 *Design Guide for road surface dressing*

13 Conditions

13.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

13.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

13.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

13.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

13.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

13.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.