

Chemfix Products Ltd

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Agrément Certificate
12/4893
Product Sheet 1

MASONRY ADHESIVE

METOLUX METOFIX 3-1 AND METOLUX METOFAST 3-1

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Metolux Metofix 3-1 and Metolux Metofast 3-1 epoxy adhesives, used for bonding cut bricks and pavers, and the fixing of brick slips to cast concrete structural units or GRP panels under factory conditions. They may also be used on-site for the replacement of damaged brick slips.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information 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

Strength — the adhesives achieve a bond of acceptable strength to substrates described in this Certificate (see section 6).

Resistance to frost damage — the epoxy bond is durable and stable when subjected to freeze/thaw cycling (see section 7).

Durability — the adhesives are durable and capable of bonding cut bricks and pavers, and brick-slips to concrete and GRP substrates, which can have a service life equivalent to that of similar brick masonry or pavers (see section 9).

The BBA has awarded this Agrément 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

A handwritten signature in black ink, appearing to be 'S Wroe'.

Simon Wroe
Head of Approvals — Materials

A handwritten signature in black ink, appearing to be 'G Cooper'.

Greg Cooper
Chief Executive

Date of First issue: 24 February 2012

The BBA is a UKAS accredited certification body — Number 113. 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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Regulations

In the opinion of the BBA, there are no requirements in these Regulations relating to the use of Metofix 3-1 and Metofast 3-1.



The Building Regulations 2010 (England and Wales)



The Building (Scotland) Regulations 2004 (as amended)



The Building Regulations (Northern Ireland) 2000 (as amended)

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 and 3.4) of this Certificate.

Additional Information

NHBC Standards 2011

In the opinion of the BBA, the use of Metofix 3-1 and Metofast 3-1, in relation to this Certificate, is not subject to the requirements of these Standards.

Technical Specification

1 Description

- 1.1 Metofix 3-1 and Metofast 3-1 are solvent-free, two-component epoxy adhesives.
- 1.2 Metofast 3-1 is an accelerated version of Metofix 3-1, and is suitable for site repairs at temperatures down to 5°C.

2 Manufacture

- 2.1 Metofix 3-1 and Metofast 3-1 are manufactured in batch blending processes.
- 2.2 To ensure product quality is consistently maintained to the required specification, the BBA has:
 - agreed with the Certificate holder 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 as part of a surveillance process to ensure that standards are maintained and that the product or system remains as Certificated.
- 2.3 The management system of Chemfix Products Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by WQA (Certificate QM1634).

3 Delivery and site handling

- 3.1 The products are packaged in single containers, with the hardener component housed in the dish lid.
- 3.2 Metofix 3-1 is supplied in 5 kg and 15 kg polypropylene containers and Metofast 3-1 in 5 kg polypropylene containers.
- 3.3 The products will have a shelf-life of two years from the date of manufacture, when stored in unopened containers in dry conditions at a temperature of between 5°C and 25°C.
- 3.4 The products are labelled 'irritant' and 'dangerous for the environment' in accordance with *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP4)/Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*. Containers bear the appropriate hazard warning.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Metofix 3-1 and Metofast 3-1.

Design Considerations

4 Use

4.1 Metofix 3-1 and Metofast 3-1 epoxy adhesives are for use in the following applications:

- bonding of cut bricks for in use walling applications where angled special bricks to BS 4729 : 2005 (types AN, PL or similar) would normally be used
- bonding of cut pavers for use where pavement designs and murals are required in pedestrian areas with occasional low-speed vehicular access
- bonding of brick slips to cast concrete structural units or GRP panels.

4.2 The aforementioned applications relate to factory-based processes. On-site repairs to factory-made units which have been damaged on site are also possible.

4.3 The adhesives achieve a durable bond providing that the surfaces are properly prepared and the application and curing of the adhesive is in accordance with the Certificate holder's instructions.

5 Practicability of installation

The products are used under factory conditions for the assembly of bonded masonry units, however, the on-site installation of such units is outside the scope of this Certificate.

6 Strength

6.1 Test results indicate that cut and bonded bricks and pavers have similar flexural strengths to the bricks and pavers from which they were manufactured.

6.2 Test results indicate that the bond between bricks slips and cast structural concrete or GRP panels has satisfactory strength and can withstand loadings likely to be encountered in service.

7 Resistance to frost damage

Test results indicate that the epoxy bond is durable and stable when subjected to freeze/thaw cycling. The freeze-thaw resistance of actual bonded masonry units will depend on the intrinsic freeze-thaw resistance of the constituent masonry units themselves.

8 Maintenance

The epoxy bond is durable and does not require maintenance.

9 Durability

The adhesives are durable and satisfactory for bonding cut-bricks and pavers, and for fixing brick slips to concrete and GRP substrates. The bonded products will have a service life commensurate with that of the materials from which they were manufactured.

Installation

10 General

Installation of factory-made products using Metofix 3-1 and Metofast 3-1 is outside the scope of this Certificate.

11 Bonding Procedure

11.1 Substrates to be adhered should be sound, clean and dry and free of loose material, laitance and contamination, for example oil and grease. Smooth surfaces to be bonded should be abraded and/or profiled to provide a key for the adhesive.

11.2 The products are mixed at a ratio of 3:1 (by weight) base to hardener. Mixing can be accomplished by a slow-speed mixer or by hand, employing a smooth board and a wide blade scraper.

11.3 The mixed product is applied by trowel, spatula or scraper to a minimum thickness of 1 mm. Surfaces to be bonded should be brought together with firm pressure while the product is still mobile and tacky. Components should be supported during curing to prevent slippage.

11.4 Pot life will depend upon the quantity mixed, ambient temperature and whether Metofix 3-1 or Metofast 3-1 is used (see Table 1).

Table 1 Product pot life

Product and unit size	Ambient temperature (°C)		
	5	15	30
Metofix 3-1			
5 kg unit	2 hours	30 mins	15 mins
15 kg unit	1.5 hours	25 mins	10 mins
Metofast 3-1			
5 kg unit	40 mins	15 mins	5 mins

11.5 Product coverage for the 5 kg units at an applied thickness of 1 mm is 3.8 m² for Metofix 3-1 and 4 m² for Metofast 3-1.

Technical Investigations

12 Tests

Tests were carried out on Metofix 3-1 and Metofast 3-1 and the results assessed, to determine:

- flexural strength of cut and bonded bricks after exposure to heat ageing, thermal shock and freeze-thaw conditioning
- bond strength of brick slips adhered to cast concrete after exposure to heat ageing, thermal shock and freeze-thaw conditioning
- bond strength of brick slips adhered to GRP panels after exposure to heat ageing, thermal shock and freeze-thaw conditioning.

13 Investigations

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

Bibliography

BS 4729 : 2005 *Clay and calcium silicate bricks of special shapes and sizes — Recommendations*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

14 Conditions

14.1 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.

14.2 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.

14.3 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.

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

14.5 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
- individual 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.

14.6 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.

