

# British Board of Agrément

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Authorised and notified according to Article 10 of the Council Directive (89/106/EEC) of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products.



## European Technical Approval ETA-05/0075

|   |   |
|---|---|
| Trade name:                                   | Belzona 3111 (Flexible Membrane) Roofing System   |
| Holder of approval:                           | Belzona Polymerics Limited<br>Claro Road<br>Harrogate<br>North Yorkshire HG1 4AY<br>United Kingdom<br>Tel: + 44 (0) 1423 567641<br>Fax: + 44 (0) 1423 505967<br>e-mail: com@belzona.co.uk |
| Generic type and use of construction product: | Liquid-applied roof waterproofing, using kits based on water dispersable polymers   |
| Valid from:<br>to:                            | 25th July 2005<br>31st July 2010  |
| Manufacturing plant:                          | Belzona Polymerics Limited<br>Claro Road<br>Harrogate<br>North Yorkshire HG1 4AY<br>United Kingdom  |
| This European Technical Approval contains:    | 4 pages including one Annex which forms an integral part of the document  |



European Organisation for Technical Approvals

## I LEGAL BASES AND GENERAL CONDITIONS

1 This European Technical Approval is issued by the British Board of Agrément in accordance with:

- Council Directive 89/106/EEC of 21 December 1988 [Construction Products Directive (CPD)] on the approximation of laws, regulations and administrative provisions of Member States relating to construction products<sup>(1)</sup>, modified by the Council Directive 93/68/EEC of 22 July 1993<sup>(2)</sup>
- UK implementation of CPD Statutory Instruments 1991, No 1620. The Building and Building Construction Products Regulations 1991 — made 15 July 1991, laid before Parliament 22 July 1991, coming into force 27 December 1991, and amended by the Construction Products (Amendment) Regulations 1994 (Statutory Instruments 1994, No 3051)
- Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex to Commission Decision 94/23/EC<sup>(3)</sup>
- Guideline for European Technical Approval of *Liquid Applied Roof Waterproofing Kits* ETAG 005, edition March 2000, Part 1 *General* and Part 8 *Specific Stipulations for Kits Based on Water Dispersable Polymers*.

2 The British Board of Agrément is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for the intended use remains with the holder of the European Technical Approval.

3 This European Technical Approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European Technical Approval.

4 This European Technical Approval may be withdrawn by the British Board of Agrément, in particular after information by the Commission on the basis of Article 5(1) of Council Directive 89/106/EEC.

5 Reproduction of this European Technical Approval, including transmission by electronic means, shall be in full. However, partial reproduction can be made with the written consent of the British Board of Agrément. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Approval.

6 The European Technical Approval is issued by the approval body in its official language. This version should correspond to the version circulated within EOTA. Translations into other languages have to be designated as such.

(1) Official Journal of the European Communities No L40, 11.2.1989, p12.

(2) Official Journal of the European Communities No L220, 30.8.1993, p1.

(3) Official Journal of the European Communities No L17, 20.1.1994, p34.

## II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

### 1 Definition of product and intended use

#### 1.1 Definition of the product

1.1.1 Belzona 3111 (Flexible Membrane) Roofing System is a kit consisting of a single-component, acrylic ester copolymer emulsion (Belzona 3111) and a polymer-based reinforcing grid [Belzona 9311 (Flexible Membrane Reinforcing Sheet)]. Substrates require a primer (see section 1.1.2) to promote adhesion of the roof waterproofing. Belzona 9431 (Instant Bridging Tape) is used as additional reinforcement at movement joints and surface irregularities. As an assembled system, the kit forms an homogeneous roof waterproofing. The kit is used to produce a two-layer system with reinforcing grid within the first layer at the coverage rates for the different substrates given in Table 1.

Table 1 Coverage rates

| Substrate                            | First layer (m <sup>2</sup> l <sup>-1</sup> ) | Second layer (m <sup>2</sup> l <sup>-1</sup> ) |
|--------------------------------------|---|--|
| Asphalt                              | 1.9   | 3.0  |
| Mineralised bitumen roofing felt     | 1.3   | 3.0  |
| Non-mineralised bitumen roofing felt | 1.9   | 3.0  |
| steel/iron                           | 1.9   | 3.0  |
| galvanized steel                     | 1.9   | 3.0  |
| Concrete/brick (upstands)            | 1.3   | 3.0  |

1.1.2 Ancillary items include:

- Belzona 3911 (PSC Surface Conditioner) — a single-component primer, for use in preparing porous and bituminous substrates
- Belzona 3921 (GSC Surface Conditioner) — a two-component primer, for use in preparing non-porous substrates.

#### 1.2 Intended use

1.2.1 The Belzona 3111 kit is for use as a liquid-applied roof waterproofing to resist the passage of water to the building's internal structure, where Essential Requirements 2, 3 and 4 of the Directive 89/106/EEC concerning, *Safety in the case of fire, Hygiene, Health and the Environment and Safety in use*, including the aspect of durability, respectively apply.

1.2.2 The kit has been assessed for use on substrates of:

- asphalt
- mineralised bitumen roofing felt
- non-mineralised bitumen roofing felt
- galvanized steel/iron
- steel/iron
- brick/concrete (upstands).

#### 1.3 Intended working life

The provisions made in this ETA are based on an assumed working life of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be used as a means for

selecting the appropriate product in relation to the expected economically reasonable working life of the works.

## 2 Characteristics of product and methods of verification

### 2.1 Characteristics of product

The system produced from the kit is given in Part II, section 1, and has the characteristics listed in Annex 1.

2.1.2 The characteristic values and respective tolerances for the components of the kit are stated in the Manufacturer's Technical Dossier (MTD) to this ETA.

2.1.3 The chemical composition of the components of the kit and the manufacturing and quality control procedures are deposited with the British Board of Agrément.

2.1.4 The ETA is issued for the kit on the basis of the product composition held by the British Board of Agrément. Changes to the components of the kit or in the production process of the components, that could result in the details held by the British Board of Agrément being wrong, should be notified to the British Board of Agrément before the changes are introduced. The British Board of Agrément will decide whether the changes affect the ETA and consequently the validity of the CE marking and whether further assessment and alterations to the ETA are required.

### 2.2 Methods of verification

2.2.1 Assessment of the fitness for intended use of the kit with regard to the Essential Requirements 2, 3 and 4 was carried out in accordance with the Guideline for European Technical Approval of Liquid Applied Roof Waterproofing Kits ETAG 005, edition March 2000, Part 1 *General* and Part 8 *Specific Stipulations for Kits Based on Water Dispersable Polymers*.

2.2.2 According to the manufacturer's declaration, the roof waterproofing does not contain any of the dangerous substances listed in the EU database.

2.2.3 Within the scope of this approval, there may be other requirements applicable to dangerous substances resulting from transposed European legislation or applicable national regulations and administrative provisions. Such requirements must be met.

## 3 Evaluation of Conformity and CE marking

### 3.1 Attestation of Conformity system

The system of Attestation of Conformity applied to this kit shall be that laid down in the CPD, Annex III, 2(ii) (referred to as System 3).

### 3.2 Responsibilities

#### 3.2.1 Tasks for the manufacturer

##### 3.2.1.1 Factory production control

The manufacturer shall set up production control at his factory and perform regular inspection and controls according to the prescribed test plan<sup>(4)</sup>.

The manufacturer may only use the initial materials stated in the MTD. He shall inspect or control the raw materials on acceptance according to the prescribed test plan.

The results of factory production control are recorded and evaluated. The records include at least:

- designation of the material
- type of control or testing
- date of manufacture of the product and date of testing
- result of control or testing and, if appropriate, comparison with requirements
- signature of person responsible for factory production control.

The records shall be kept for at least five years. On request they shall be presented to the British Board of Agrément.

Details concerning extent, type and frequency of tests or inspections to be performed within the scope of the factory production control shall correspond to the prescribed test plan that is part of the MTD to this ETA.

### 3.2.2 Tasks for approved bodies

#### 3.2.2.1 Initial type-testing of the product

For initial type-testing the results of the tests performed as part of the assessment for the European Technical Approval shall be used unless there are changes in the manufacturing procedure that will affect the properties. In such cases the necessary type-testing has to be agreed between the British Board of Agrément and the approved body involved.

### 3.3 CE marking

The CE marking shall be affixed to each component of the kit. The CE symbol shall be accompanied by the following information:

- identification of the product
- name and address or identification mark of the manufacturer
- the last two digits of the year in which the CE marking was affixed
- number of the European Technical Approval
- statement on dangerous substances
- class of external fire performance
- reaction to fire class : no performance determined (NPD).

## 4 Assumptions under which the fitness of the product for the intended use was favourably assessed

### 4.1 Manufacture

The components of the kit are factory made in accordance to the procedure laid down in the MTD.

### 4.2 Design

The fitness for the respective use for the levels of performance stated in Annex 1 results from national requirements, and previous use of the kit.

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(4) The test plan is deposited with the British Board of Agrément and contains the required information on the factory production control.

The manufacturer has stated in the MTD the quantity required to produce the specified thicknesses of the two waterproofing layers (see section 1.1).

### 4.3 Installation

The fitness for use of the roof waterproofing can be assumed only if the installation is carried out in accordance with the manufacturer's instructions as stated in the MTD, in particular taking into account the following points:

- installation by trained and approved personnel
- substrates must be free of contamination, visibly dry, sound and free from loose materials
- only marked components of the kit must be used
- it must be ensured that the thickness of the waterproofing is at least the nominal thickness
- installation should be only carried out during suitable weather conditions
- the substrate should be primed, if required, with the correct primer
- any points of weakness in the substrate should be reinforced prior to installation of the waterproofing layer.

The instructions for method of repair and handling of waste products shall be followed.

### 4.4 Responsibility of the manufacturer

It is the manufacturer's responsibility to make sure that all those who use the kits are appropriately informed of the specific conditions in sections 1, 2, 4 and 5 including the annex to this ETA.

## 5 Information from the manufacturer

### 5.1 Information on packaging, transportation and storage

Information on packaging, transportation and storage are given in the MTD.

### 5.2 Information on use, maintenance and repair

Information on use, maintenance and repair are given in the MTD.



On behalf of the British Board of Agrément

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

Date of issue: 25th July 2005

Chief Executive

## ANNEX 1 BELZONA 3111 (FLEXIBLE MEMBRANE) ROOFING SYSTEM

This annex applies to the Belzona 3111 (Flexible Membrane) roof waterproofing kit described in the main body of this ETA.

The substrates applicable to this kit are defined in the main body of this ETA.

Water vapour permeability —  $6.3 \text{ gm}^{-2}\text{day}^{-1}$ .

Resistance to wind loads —  $>50 \text{ kPa}$ .

The categorisation of levels of performance in accordance with ETAG 005 : 2000 is given in Table 1.

Table 1 Levels of performance

| Characteristic                        | Level of performance |
|---------------------------------------|----------------------|
| External fire performance             | NPD <sup>(1)</sup>   |
| Reaction to fire                      | Euroclass F          |
| Categorisation by working life        | W3                   |
| Categorisation by climatic zones      | M                    |
| Categorisation by imposed loads       |                      |
| most compressible substrate           | P1                   |
| least compressible substrate          | P1                   |
| Categorisation by roof slope          | S1 to S4             |
| Categorisation by surface temperature |                      |
| lowest                                | TL3                  |
| highest                               | TH3                  |
| Statement on dangerous substances     | None contained       |
| Slipperiness                          | NPD                  |

(1) Classification cannot be given as a valid EN does not exist. However, classification under BS 476-3 : 1958 is assessed as EXT.S.AA. Results of tests are given in the Evaluation Report.

