



## European Technical Assessment

**ETA 15/0026**  
of 10/07/2017

### General Part

|   |   |
|---|---|
| <b>Technical Assessment Body issuing the ETA: SINTEF Building and Infrastructure</b>                                |   |
| <b>Trade name of the construction product</b>   | FIRESAFE GPG MORTAR   |
| <b>Product family to which the construction product belongs</b>   | Fire Stopping and Fire Sealing Products.<br>Penetration Seals   |
| <b>Manufacturer</b>   | Firesafe AS<br>Post box 6411 Etterstad<br>NO-0605 OSLO<br>Norway<br><br><a href="http://www.firesafe.no">www.firesafe.no</a>  |
| <b>Manufacturing plant</b>  | Code A01 (specified in evaluation report)   |
| <b>This European Technical Assessment contains</b>  | 114 pages including 3 Annexes which form an integral part of this assessment.   |
|   | Annex C contains confidential information and is not included in the European Technical Assessment when that assessment is publicly disseminated.   |
| <b>This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of</b> | ETAG 026-1(09-2012) Fire stopping and fire sealing products, Part 1: General<br>ETAG 026-2 (08-2011) Fire stopping and fire sealing products, Part 2: Penetration seals, both used as European Assessment Document (EAD). |
| <b>This ETA replaces</b>  | ETA 15/0026, version 1, issued on 29/01/2015  |

## 1. Technical description of the product

FIRESAFE GPG MORTAR is a powder of gypsum, perlite, quicklime, PE retarder and glass fibre, which mixed with water forms a plaster with firm or loose consistency. The surface dries within 20-50 minutes dependent on air temperature and rate of mixture.

FIRESAFE GPG MORTAR is also marketed under the names GLAVA GPG Brannmasse and ISOVER GPG Fire Mortar.

## 2. Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

FIRESAFE GPG MORTAR may be used to form a penetration seal around services running through openings of maximum dimensions  $w \times h = 1200 \times 1200$  mm in internal wall constructions as described below and in the tables in Annex B, and maximum dimensions  $1800 \times 900$  mm for floor constructions as described below and in the tables in Annex B.

FIRESAFE GPG MORTAR seal may be used to provide blank penetration seals, linear joint seals, cable penetrations seals (single or bundled), pipe penetration seals, steel cable conduits, and floor drains. The penetration seal is used to maintain the fire resistance of a separating element (walls and floors) when and where services pass through, and to close holes in the separating elements. FIRESAFE GPG MORTAR is intended for environmental conditions as defined by use category Z2, intended for use in internal conditions with humidity lower than 85% RH excluding temperatures below 0°C, without exposure to rain or UV, according to ETAG 026 clause 1.2.

The provisions made in this European Technical Assessment are based on an assumed working life of penetration seals made from FIRESAFE GPG MORTAR of at least 25 years, provided that the conditions laid down in the clauses concerning the packaging / transport / storage / installation / use / repair, are met. ETAG 026 Part 2, clause 1.3. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

The specific construction elements FIRESAFE GPG MORTAR penetration seal can be used in are:

- |                             |   |
|-----------------------------|---|
| Rigid floor construction:   | Floors made of concrete, aerated concrete, block works or masonry, with minimum thickness 150 mm and density 650 kg/m <sup>3</sup> .  |
| Rigid wall construction:    | Walls made of concrete, aerated concrete, block works or masonry, with minimum thickness 100 mm, 130 mm or 150 mm and density 650 kg/m <sup>3</sup> .   |
| Flexible wall construction: | Walls made of 2x 12.5 mm Type F gypsum plasterboards on each side according to EN 520, steel studs 50 x 50 mm, and mineral wool insulation minimum 50 mm thick with minimum density 100 kg/m <sup>3</sup> .<br>Walls made of 2x 15 mm Type F gypsum plasterboards on each side according to EN 520, steel studs 70 mm, and mineral wool insulation minimum 70 mm thick with minimum density 135 kg/m <sup>3</sup> . |

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

### 3. Performance of the product and references to the methods used for its assessment

The product characteristics, methods for verification and assessment criteria which are relevant for the fitness for use has been made in accordance with ETAG 026 Part 2: August 2011, summarized as follows:

| ETAG Clause No. | ETA Clause No. | Essential characteristic            | Assessment of characteristic                        |
|-----------------|----------------|-------------------------------------|---|
| 2.4.1           | 3.1            | Reaction to fire                    | Class A1 according to EN 13501-1                    |
| 2.4.2           | 3.2            | Resistance to fire                  | See clause 3.2                                      |
| 2.4.5           | 3.3            | Release of dangerous substances     | See clause 3.3                                      |
| 2.4.3           | 3.4            | Air permeability                    | See clause 3.4                                      |
| 2.4.4           | 3.5            | Water permeability                  | No performance determined                           |
| 2.4.6           | 3.6            | Mechanical resistance and stability | See clause 3.6                                      |
| 2.4.7           | 3.7            | Resistance to impact/movement       | Zone type I to IV according to EOTA TR 001          |
| 2.4.8           | 3.8            | Adhesion                            | See clause 3.8                                      |
| 2.4.9           | 3.9            | Airborne sound insulation           | R <sub>w</sub>                                      |
| 2.4.10          | 3.10           | Thermal resistance                  | See clause 3.10                                     |
| 2.4.11          | 3.11           | Water vapour permeability           | S <sub>d</sub> -value                               |
| 2.4.12          | 3.12           | Durability and serviceability       | Use category Z <sub>2</sub> according to ETAG 026-2 |

#### 3.1 Reaction to fire

FIRESAFE GPG MORTAR has Reaction-to-fire class A1 according to EN 13501-1.

#### 3.2 Resistance to fire

FIRESAFE GPG MORTAR has been tested and classified by PAVUS, a.s. and FIRES, s.r.o. Fire testing laboratory in the Czech Republic and in the Slovak Republic, in accordance to test standards EN 1366-3:2009 and EN 1366-4:2006+A1:2010, extended application standard EN 15882-3, and classification standard EN 13501-2:2007+A1:2009. The classification results are given in Annex B. The sampling of Isover Fire Protect 20 and 50, and FIRESAFE GPG MORTAR was performed by SP Fire Research AS (now RISE Fire Research AS) at Firesafe storage before sending to PAVUS and FIRES.

#### 3.3 Release of dangerous substances

According to EMICODE Test report No. G17526A, dated 2012-11-29 and Eurofins product Testing A/S (VOC emissions) Test report No. G17526B, dated 2012-11-29 FIRESAFE GPG MORTAR complies with the requirements of GEV and the results correspond to the EMICODE emission class EC 1<sup>PLUS</sup>. It also complies with the requirements of the ISO 16000 based M1 classification.

#### 3.4 Air permeability

The air permeability has been tested according to EN 1026.

The cured product is air tight.

#### 3.5 Water permeability

No performance detected.

#### 3.6 Mechanical resistance and stability

It is assumed that the impact test in clause 3.7 covers both static and dynamic loads.

### 3.7 Resistance to impact and movement

An internal wall with a 1000x1000 mm penetration seal with a thickness of 50 mm made of FIRESAFE GPG MORTAR has been tested according to EOTA TR 001. The results demonstrate suitability for all the applications foreseen in EOTA TR 001, A1:

Type I: Zones accessible primarily to those with high incentive to exercise care. Small risk of accidents occurring and of misuse.

Type II: Zones accessible primarily to those with some incentive to exercise care. Some risk of accidents occurring and of misuse.

Type III: Zones readily accessible to public and others with little incentive to exercise care. Risk of accidents occurring and of misuse.

Type IV: Zones and risk as II and III. In case of failure, risk includes the fall to a floor at a lower level.

### 3.8 Adhesion

It is assumed that the verification of adequate adhesion is covered by the impact tests shown in clause 3.7.

### 3.9 Airborne sound insulation

The testing was performed according to EN ISO 10140-2:2010. The test specimens were mounted in a wall opening with size 1500x1250 mm using wedges and sealed using caulking compound. The index for 40 mm and 80 mm thick seal was calculated according to EN ISO 12354-1:2000.

Weighted sound reduction index:

| Sample thickness    | 30 mm | 40 mm | 50 mm | 80 mm | 100 mm |
|---------------------|-------|-------|-------|-------|--------|
| R <sub>w</sub> [dB] | 34    | 34    | 37    | 39    | 42     |

### 3.10 Thermal insulation

Thermal conductivity has been tested according to EN 12664/EN 12667 on two samples. The thermal conductivity depends on the density of the hardened product.

| Density [kg/m <sup>3</sup> ] | Thermal conductivity, λ [W/mK] |
|------------------------------|--------------------------------|
| 753                          | 0.123                          |
| 875                          | 0.141                          |

### 3.11 Water vapour permeability

Water vapour permeability was tested according to NS-EN ISO 12572.

S<sub>d</sub>-value: 0.068 m.

### 3.12 Durability and serviceability

#### 3.12.1 Durability

FIRESAFE GPG MORTAR is intended for environmental conditions as defined by use category Z<sub>2</sub>, intended for use in internal conditions with humidity lower than 85 % RH excluding temperatures below 0°C, without exposure to rain or UV, according to ETAG 026 clause 1.2.

**4. Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base**

According to the decision 1999/454/EC of the European Commission<sup>1</sup> the following system of assessment and verification of constancy of performance applies:

| Product                                 | Intended use   | Level(s) of class(es)<br>(Resistance to fire) | System(s) |
|---|--|---|-----------|
| Fire stopping and fire sealing products | For fire compartmentation and/or fire protection or fire performance | any   | 1         |

**5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

The manufacturer shall exercise permanent internal control of production. The factory production control shall be in accordance with the Control Plan<sup>2</sup> which is part of the Technical Documentation of this ETA.

Issued in Trondheim, Norway on 10/07/2017

By

SINTEF



Hans Boye Skogstad  
Approval Manager

**Annexes:**

Annex A - Product details (3 pages)

Annex B - Resistance to Fire classification (104 pages)

Annex C - Ancillary products (2 page)

---

<sup>1</sup> Official Journal of the European Communities 178/52, 14 July 1999

<sup>2</sup> The control plan is a confidential part of this European Technical Assessment and only handed over to the notified body involved in the procedure of attestation of conformity.