

## ***Reaction to fire extended application report Nr 15090C***

### **Owner of the extended application report**

ETERNIT nv  
Kuiermansstraat 1  
1880 Kapelle-op-den-Bos  
BELGIUM

### **Normative references**

This extended application report concerns test results obtained in accordance with test method EN 13823: 2002/2010 and EN ISO 1716: 2010.

The extended application process is carried out in conformity with the following extended application standard: DD CEN/TS 15117: 2005: Guidance on direct and extended application.

**This extended application report consists of 18 pages, including 3 annexes.**

**1. DETAILS OF PRODUCT CONCERNED**

a) Nature

Product Technical Specifications: EN 12467+A2: 2006

Product family: Fibre cement boards

Intended use / End-use application: Internal and external wall and ceiling finishes.

b) Description

| Nominal value  |  |
|--|--|
| <b>ETER-BOARD MD, OPERAL, PAINTBOARD (MD), PAINTBOARD PRIM</b> |  |
| Material   | The material consists of a fibre cement board, composed of Portland cement, mineral fillers, organic reinforcement fibres and functional additives. For Operal and Paintboard Prim, on the front side the board is finished by a water based acrylic paint. Paintboard was made hydrophobic through silanes. |
| Manufacturer   | Eternit nv   |
| Total thickness (mm)   | 9  |
| Total density (kg/m <sup>3</sup> )                             | 1358 (*)   |
| Nominal density (kg/m <sup>3</sup> )                           | 1230   |
| <b>BLUCLAD</b>   |  |
| Material   | The material consists of a fibre cement board, composed of Portland cement, mineral fillers, organic reinforcement fibres and functional additives. The material was made hydrophobic through silanes.   |
| Manufacturer   | Eternit nv   |
| Total thickness (mm)   | 10   |
| Nominal density (kg/m <sup>3</sup> )                           | 1230   |

| <b>CEDRAL-SIDINGS, CEDRAL CLICK</b>  |   |
|--------------------------------------|---|
| Material                             | The material consists of a decorative fibrocement sheet. The base sheet is a semi compressed fibre cement board consisting essentially of a crystalline calcium silicate matrix formed by a chemical reaction of pre-cured Portland cement and silica sand in an autoclave. The matrix is reinforced with homogeneously dispersed cellulose fibres. The boards are finished on one side with a water based acrylic primer and paint (75 g/m <sup>2</sup> ). |
| Manufacturer                         | Eternit nv  |
| Total thickness Cedral-Sidings (mm)  | 10  |
| Total thickness Cedral Click (mm)    | 12  |
| Nominal density (kg/m <sup>3</sup> ) | 1230  |
| <b>ETER-BACKER HD</b>                |   |
| Material                             | The material consists of a fibre cement board, composed of Portland cement, mineral fillers, organic reinforcement fibres and functional additives.   |
| Manufacturer                         | Eternit nv  |
| Total thickness (mm)                 | 8   |
| Total density (kg/m <sup>3</sup> )   | 1600  |
| <b>ETER-BOARD HD, ETER-COLOR</b>     |   |
| Material                             | The material consists of a fibre cement board, composed of Portland cement, mineral fillers, organic reinforcement fibres and functional additives. The surface of the material is polished.  |
| Manufacturer                         | Eternit nv  |
| Total thickness (mm)                 | 8   |
| Total density (kg/m <sup>3</sup> )   | 1600  |

| <b>EPDM JOINT PROFILE WITH RIDGES 45/90MM</b> |   |
|---|---|
| Material                                      | EPDM-rubber used as joint strip   |
| Manufacturer                                  | Nes BV  |
| Thickness (mm)                                | 1   |
| Surface mass (g/m <sup>2</sup> )              | 87 & 167  |
| Colour  | Grey  |
| <b>MOUNTING &amp; FIXING EN 13823</b>         |   |
| Substrate                                     | <p>According to EN 12467+A2: 2006, the fibre cement boards were screwed onto a wooden frame with a 40mm air gap between fibre cement and thermal insulation.</p> <p>See annex 1 (pages 2 and 3 of 3) for the dimensions of the frame and the screws.</p> <p>The products Cedral-Sidings and Cedral Click are mounted with a metal profile in the corner.</p>  |
| Joints  | The material was tested with a vertical joint (width 10mm) at 200mm from the corner and a horizontal joint (width 10mm) at 500mm from the inner edge of the specimen.   |
| EPDM  | If EPDM joint profile with ridges is used, a strip of 45mm is placed between the vertical members of the wooden frame and the board (thickness of 1mm, surface mass of 87 g/m <sup>2</sup> ) and a strip of 90mm is placed behind the vertical joint onto the vertical members of the wooden frame (thickness of 1mm, surface mass of 167 g/m <sup>2</sup> ). |
| Insulation                                    | A mineral wool insulation having a thickness of 50mm and a density of 70 kg/m <sup>3</sup>  |
| Backing                                       | Calcium silicate backing board (12,5mm; 870 kg/m <sup>3</sup> )   |

(\*) Measured by the laboratory

## 2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS EXTENDED APPLICATION

### a) Test reports

| <b>Name of the laboratory</b> | <b>Name of the sponsor</b>                 | <b>Test report Nr.</b>                         | <b>Test method</b>             |
|-------------------------------|--|--|--------------------------------|
| WFRGENT nv<br>Ghent, Belgium  | ETERNIT nv<br>Kappelle-op-den-Bos, Belgium | 11649G<br>11649H<br>12047B<br>12048B           | EN ISO 1716<br>(February 2002) |
| WFRGENT nv<br>Ghent, Belgium  | ETERNIT nv<br>Kappelle-op-den-Bos, Belgium | 15090A   | EN ISO 1716<br>(June 2010)     |
| WFRGENT nv<br>Ghent, Belgium  | ETERNIT nv<br>Kappelle-op-den-Bos, Belgium | 11649K<br>12047A<br>12048A<br>12049A<br>12059A | EN 13823<br>(February 2002)    |
| WFRGENT nv<br>Ghent, Belgium  | ETERNIT nv<br>Kappelle-op-den-Bos, Belgium | 15090B   | EN 13823<br>(July 2010)        |

Deviations from the test standard:

EN 13823: 15090B: two tests on each product have been carried out instead of the standard three replicates.

b) Test samples

| <b>Test report ref. Nr.</b> | <b>Sampling procedure</b> | <b>Conditioning</b> | <b>Number of samples tested</b> |
|-----------------------------|---------------------------|---------------------|---------------------------------|
| 11649G                      | System of attestation 3   | For fixed period    | 3                               |
| 11649H                      | System of attestation 3   | For fixed period    | 3                               |
| 11649K                      | System of attestation 3   | For fixed period    | 3                               |
| 12047A                      | System of attestation 3   | To constant mass    | 3                               |
| 12047B                      | System of attestation 3   | To constant mass    | 3                               |
| 12048A                      | System of attestation 3   | To constant mass    | 3                               |
| 12048B                      | System of attestation 3   | To constant mass    | 3                               |
| 12049A                      | System of attestation 3   | To constant mass    | 3                               |
| 12059A                      | System of attestation 3   | To constant mass    | 3                               |
| 15090A                      | System of attestation 3   | For fixed period    | 3                               |
| 15090B                      | System of attestation 3   | To constant mass    | 2 x 2                           |

c) Test results

| Test method   | Parameter                    | Number of tests | Results                    |                       | Criteria for Class A2-s1,d0 |                       |
|---|------------------------------|-----------------|----------------------------|-----------------------|-----------------------------|-----------------------|
|   |                              |                 | Continuous parameters Mean | Compliance parameters | Continuous parameters       | Compliance parameters |
|   |                              |                 |                            |                       |                             |                       |
| <b>ETER-BOARD MD, OPERAL, PAINTBOARD (MD), PAINTBOARD PRIM</b>  |                              |                 |                            |                       |                             |                       |
| EN ISO 1716   | PCS (MJ/kg) (1)              | 3               | 1,2                        | (-)                   | ≤ 3,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (2) | 3               | 1,4                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (3) | 3               | 2,5                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (4) | 3               | 0,6                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (5) | 3               | 2,5                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/kg) (6)              | (-)             | 1,7                        | (-)                   | ≤ 3,0                       | (-)                   |
| <p>1. Base sheet - Based on the results obtained in test report Nr. 12048B</p> <p>2. Coating with highest organic content (declaration of the manufacturer) – Based on the results obtained in test report Nr. 11649H</p> <p>3. EPDM as internal non substantial component (40mm on one side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>4. EPDM as external non substantial component (10mm visible) – Based on the results obtained in test report Nr. 15090A</p> <p>5. EPDM as internal non substantial component (40mm on the other side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>6. Product as a whole:</p> <p>Substantial component = 1,2 MJ/kg X 12222 g/m<sup>2</sup> = 14,7 MJ/m<sup>2</sup></p> <p>Non substantial component = 18,0 MJ/kg X 75 g/m<sup>2</sup> = 1,4 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>External non substantial component = 34,3 MJ/kg X 18,6 g/m<sup>2</sup> = 0,6 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>Sum of all components = 21,7 MJ/m<sup>2</sup> / total surface mass 12464 g/m<sup>2</sup></p> <p><b>Total Product = 1,7 MJ/kg</b></p> |                              |                 |                            |                       |                             |                       |
| <b>CEDRAL-SIDINGS, CEDRAL CLICK</b>   |                              |                 |                            |                       |                             |                       |
| EN ISO 1716   | PCS (MJ/kg) (1)              | 3               | 0,8                        | (-)                   | ≤ 3,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (2) | 3               | 1,4                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (3) | 3               | 2,5                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (4) | 3               | 0,6                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/m <sup>2</sup> ) (5) | 3               | 2,5                        | (-)                   | ≤ 4,0                       | (-)                   |
|   | PCS (MJ/kg) (6)              | (-)             | 1,2                        | (-)                   | ≤ 3,0                       | (-)                   |
| <p>1. Base sheet - Based on the results obtained in test report Nr. 11649G</p> <p>2. Coating with highest organic content (declaration of the manufacturer) – Based on the results obtained in test report Nr. 11649H</p> <p>3. EPDM as internal non substantial component (40mm on one side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>4. EPDM as external non substantial component (10mm visible) – Based on the results obtained in test report Nr. 15090A</p> <p>5. EPDM as internal non substantial component (40mm on the other side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>6. Product as a whole:</p> <p>Substantial component = 0,8 MJ/kg X 14800 g/m<sup>2</sup> = 11,8 MJ/m<sup>2</sup></p> <p>Non substantial component = 18,0 MJ/kg X 75 g/m<sup>2</sup> = 1,4 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>External non substantial component = 34,3 MJ/kg X 18,6 g/m<sup>2</sup> = 0,6 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>Sum of all components = 18,8 MJ/m<sup>2</sup> / total surface mass 15042 g/m<sup>2</sup></p> <p><b>Total Product = 1,2 MJ/kg</b></p> |                              |                 |                            |                       |                             |                       |

| <b>BLUCLAD</b>   |                              |     |     |     |       |     |
|--|------------------------------|-----|-----|-----|-------|-----|
| EN ISO 1716  | PCS (MJ/kg) (1)              | 3   | 1,0 | (-) | ≤ 3,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (2) | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (3) | 3   | 0,6 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (4) | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/kg) (5)              | (-) | 1,4 | (-) | ≤ 3,0 | (-) |
| <p>1. Base sheet - Based on the results obtained in test report Nr. 12047B</p> <p>2. EPDM as internal non substantial component (40mm on one side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>3. EPDM as external non substantial component (10mm visible) – Based on the results obtained in test report Nr. 15090A</p> <p>4. EPDM as internal non substantial component (40mm on the other side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>5. Product as a whole:</p> <p>Substantial component = <math>1,0 \text{ MJ/kg} \times 12300 \text{ g/m}^2 = 12,3 \text{ MJ/m}^2</math></p> <p>Internal non substantial component = <math>34,3 \text{ MJ/kg} \times 74,2 \text{ g/m}^2 = 2,5 \text{ MJ/m}^2</math></p> <p>External non substantial component = <math>34,3 \text{ MJ/kg} \times 18,6 \text{ g/m}^2 = 0,6 \text{ MJ/m}^2</math></p> <p>Internal non substantial component = <math>34,3 \text{ MJ/kg} \times 74,2 \text{ g/m}^2 = 2,5 \text{ MJ/m}^2</math></p> <p>Sum of all components = <math>17,9 \text{ MJ/m}^2</math> / total surface mass <math>12467 \text{ g/m}^2</math></p> <p><b>Total Product = 1,4 MJ/kg</b></p> |                              |     |     |     |       |     |
| <b>ETER-BACKER HD</b>  |                              |     |     |     |       |     |
| EN ISO 1716  | PCS (MJ/kg) (1)              | 3   | 1,0 | (-) | ≤ 3,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (2) | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> )(3)  | 3   | 0,6 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (4) | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/kg) (5)              | (-) | 1,4 | (-) | ≤ 3,0 | (-) |
| <p>1. Base sheet - Based on the results obtained in test report Nr. 12047B</p> <p>2. EPDM as internal non substantial component (40mm on one side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>3. EPDM as external non substantial component (10mm visible) – Based on the results obtained in test report Nr. 15090A</p> <p>4. EPDM as internal non substantial component (40mm on the other side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>5. Product as a whole:</p> <p>Substantial component = <math>1,0 \text{ MJ/kg} \times 12800 \text{ g/m}^2 = 12,8 \text{ MJ/m}^2</math></p> <p>Internal non substantial component = <math>34,3 \text{ MJ/kg} \times 74,2 \text{ g/m}^2 = 2,5 \text{ MJ/m}^2</math></p> <p>External non substantial component = <math>34,3 \text{ MJ/kg} \times 18,6 \text{ g/m}^2 = 0,6 \text{ MJ/m}^2</math></p> <p>Internal non substantial component = <math>34,3 \text{ MJ/kg} \times 74,2 \text{ g/m}^2 = 2,5 \text{ MJ/m}^2</math></p> <p>Sum of all components = <math>18,4 \text{ MJ/m}^2</math> / total surface mass <math>12967 \text{ g/m}^2</math></p> <p><b>Total Product = 1,4 MJ/kg</b></p> |                              |     |     |     |       |     |



| ETER-BOARD HD, ETER-COLOR  |  |     |     |     |       |     |
|--|--|-----|-----|-----|-------|-----|
| EN ISO 1716  | PCS (MJ/kg) (1)                          | 3   | 1,2 | (-) | ≤ 3,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (2)             | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (3)             | 3   | 0,6 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/m <sup>2</sup> ) (4)             | 3   | 2,5 | (-) | ≤ 4,0 | (-) |
|  | PCS (MJ/kg) (5)                          | (-) | 1,6 | (-) | ≤ 3,0 | (-) |
| <p>1. Base sheet - Based on the results obtained in test report Nr. 12048B</p> <p>2. EPDM as internal non substantial component (40mm on one side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>3. EPDM as external non substantial component (10mm visible) – Based on the results obtained in test report Nr. 15090A</p> <p>4. EPDM as internal non substantial component (40mm on the other side of the joint) – Based on the results obtained in test report Nr. 15090A</p> <p>5. Product as a whole:</p> <p>Substantial component = 1,2 MJ/kg X 12800 g/m<sup>2</sup> = 15,4 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>External non substantial component = 34,3 MJ/kg X 18,6 g/m<sup>2</sup> = 0,6 MJ/m<sup>2</sup></p> <p>Internal non substantial component = 34,3 MJ/kg X 74,2 g/m<sup>2</sup> = 2,5 MJ/m<sup>2</sup></p> <p>Sum of all components = 21,0 MJ/m<sup>2</sup> / total surface mass 12967 g/m<sup>2</sup></p> <p><b>Total Product = 1,6 MJ/kg</b></p> |  |     |     |     |       |     |
| EN 13823 (1)   | FIGRA <sub>0,2 MJ</sub> (W/s)            |     | 21  | (-) | ≤ 120 | (-) |
|  | LFS <sub>edge</sub>                      |     | (-) | Yes | (-)   | Yes |
|  | THR <sub>600s</sub> (MJ)                 |     | 1,4 | (-) | ≤ 7,5 | (-) |
|  | SMOGRA (m <sup>2</sup> /s <sup>2</sup> ) |     | 2   | (-) | ≤ 30  | (-) |
|  | TSP <sub>600s</sub> (m <sup>2</sup> )    | 3   | 33  | (-) | ≤ 50  | (-) |
|  | Flaming droplets/particles               |     |     |     |       |     |
|  | f<10s                                    |     | (-) | Yes | (-)   | Yes |
| f>10s  |  | (-) | No  | (-) | No    |     |
| 1. Operal (without use of EPDM) – Based on the results obtained in test report Nr. 12048A  |  |     |     |     |       |     |

(-) Not applicable

|                           | FIGRA (W/s) | THR <sub>600s</sub> (MJ) | SMOGRA (m <sup>2</sup> /s <sup>2</sup> ) | TSP <sub>600s</sub> (m <sup>2</sup> ) |
|---------------------------|-------------|--------------------------|--|---------------------------------------|
| Bluclad                   | 1           | 0,6                      | 0  | 24                                    |
| Cedral-Sidings            | 4           | 0,9                      | 2  | 21                                    |
| Eter-Backer HD            | 5           | 0,7                      | 1  | 26                                    |
| Eter-Board HD, Eter-Color | 4           | 0,6                      | 2  | 26                                    |
| Operal                    | 21          | 1,4                      | 2  | 33                                    |

Based on the results obtained in test reports Nrs. 12047A, 11649K, 12049A, 12059A and 12048A.

|                                    |    | FIGRA (W/s) | THR <sub>600S</sub> (MJ) | SMOGRA (m <sup>2</sup> /s <sup>2</sup> ) | TSP <sub>600S</sub> (m <sup>2</sup> ) |
|------------------------------------|----|-------------|--------------------------|--|---------------------------------------|
| Operal without EPDM                |    |             |                          |  |                                       |
|                                    | 1A | 25          | 1,5                      | 2  | 33                                    |
|                                    | 1B | 18          | 1,3                      | 2  | 34                                    |
| <b>Average Operal without EPDM</b> |    | <b>22</b>   | <b>1,4</b>               | <b>2</b>                                 | <b>34</b>                             |
| Operal with EPDM                   |    |             |                          |  |                                       |
|                                    | 2A | 0           | 0,6                      | 2  | 19                                    |
|                                    | 2B | 0           | 0,4                      | 2  | 18                                    |
| <b>Average Operal with EPDM</b>    |    | <b>0</b>    | <b>0,5</b>               | <b>2</b>                                 | <b>19</b>                             |

Based on the results obtained in test report Nr. 15090B: two tests on each product have been carried out instead of the standard three replicates.

d) Additional supporting data used in the extended application process (if any)

None

### 3. EXTENDED APPLICATION

#### a) Principles applied for the extension of the field of application

This extended application procedure is based on:

Additional test results on one product/end-use parameter in accordance with DD CEN/TS 15117 § 6.2.1

#### b) Procedure

##### Preliminary examination

Based on the results in test reports Nr. 11649K, 12047A, 12048A, 12049A and 12059A, the product Operal can be considered the worst case product over the products Eter-Board MD, Paintboard MD, Paintboard Prim, Bluclad, Cedral-Sidings, Eter-Backer HD, Eter-Board HD and Eter-Color, and can therefore cover this entire range of products. See the graphs in Annex 2.

The sponsor has declared that the only difference between the products Cedral Click and Cedral-Sidings is thickness of the materials and the mechanical fixation. Since EN 12467+A2: 2006 states that any mechanical fixing is covered if tested mechanically fixed and the smallest thickness automatically covers all greater thicknesses, Cedral Click (with thickness 12mm) can be added to Cedral-Sidings (with thickness 10mm) without testing.

##### Extended application

To evaluate the product parameter *Use of EPDM joint profile with ridges 45/90mm covering the joints* tests were performed according to EN 13823 on the product Operal with and without EPDM (presented to the laboratory).

As a conclusion, the product **without EPDM** obtained the worst case results over the other product.

Therefore this worst case result can be considered the upper limit for results of the range Operal with and without EPDM presented to the laboratory. See the graphs in Annex 3.

#### 4. EXTENDED APPLICATION RESULTS

a) Application range – product family

This extended application for the product as described in §1b, is valid for the following end-use applications:

The classification applies to fibre cement flat sheets of the same mix formulation as the base sheet, same thickness, same density and same facing or coating thickness as used for the test and within a field determined by the normal manufacturing tolerances.

This extended application for the product as described in §1b, is valid for the following product parameters and end use conditions:



- Fibre cement boards of the same type, but with different dimensions of length and width
- With a thickness of 9 mm or higher for the products Eter-Board MD, Operal, Paintboard (MD) and Paintboard Prim
- With a thickness of 10 mm or higher for the products Bluclad and Cedral- Sidings
- With a thickness of 12 mm or higher for the product Cedral Click
- With a thickness of 8 mm or higher for the products Eter-Backer HD, Eter-Board HD and Eter-Color
- With a different surface texture (smooth or embossed)
- Total density of 1358 kg/m<sup>3</sup>, within a range of  $\pm 150$  kg/m<sup>3</sup> for the products Eter-Board MD, Operal, Paintboard (MD), Paintboard Prim, Bluclad, Cedral Click and Cedral-Sidings
- Nominal density of 1600 kg/m<sup>3</sup>, within a range of  $\pm 150$  kg/m<sup>3</sup> for the products Eter-Backer HD, Eter-Board HD and Eter-Color
- With vertical joints having a width of 10 mm or smaller covered or uncovered with EPDM joint profile with ridges 90mm (1mm; 167 g/m<sup>2</sup>) or other jointing material for a similar or higher fire classification
- With uncovered horizontal joints having a width of 10mm or smaller
- Fixed with all other types of mechanical devices such as metal nails or rivets
- Fixed at different (wider or closer) horizontal or vertical fixing centres
- Fixed to wooden or metallic profiles covered or uncovered with EPDM joint profile with ridges 45mm (1mm; 87 g/m<sup>2</sup>)
- Without thermal insulation in the cavity or with other types of insulation having a minimum class A2 (acc. EN13501-1), a minimum nominal thickness of 50 mm and a minimum nominal density of (70  $\pm$  20) kg/m<sup>3</sup> as long as a ventilated air gap behind the sheets is present
- Without finishes or with different finishes or coatings
- All colours
- Cedral-Sidings and Cedral Click: with a metal profile in the corner

b) Fire performance parameters

All products as described in §1b and within the field of application as defined in §4a, can be considered to obtain reaction to fire test results that are lower than or equal to the results obtained in §2c.

**5. ADDITIONAL STATEMENT**

The extended application results relate to the behaviour of a product/product family under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product/product family in use.

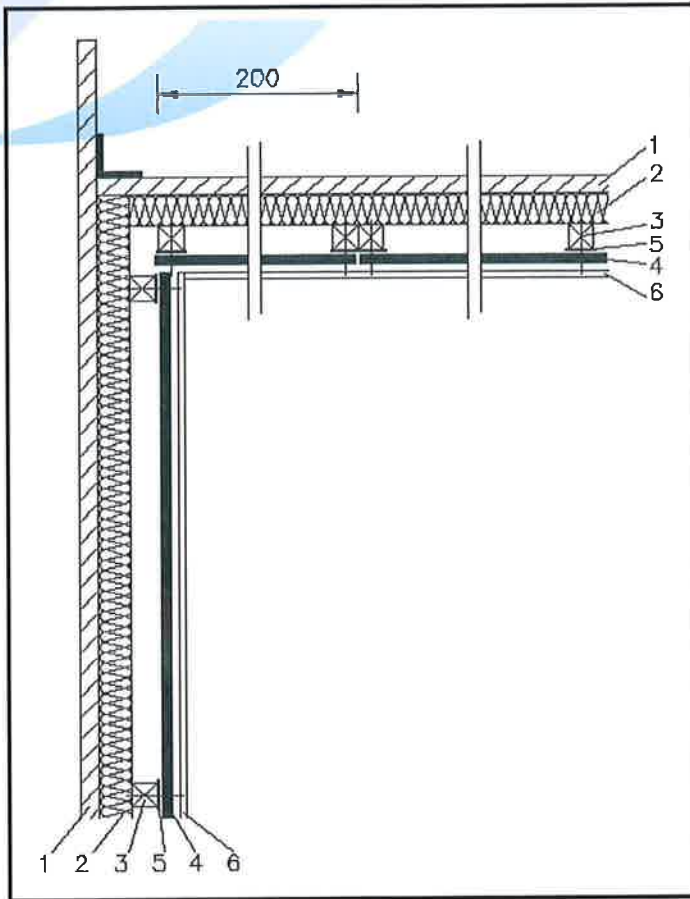
| Report      | Name         | Signature (*)   | Date         |
|-------------|--------------|---|--------------|
| Prepared by | I. LAMMERTYN |   | 23 APR. 2012 |
| Reviewed by | ir. K. CATRY |  | 23 APR. 2012 |

(\*) For and on behalf of "WFRGENT nv"

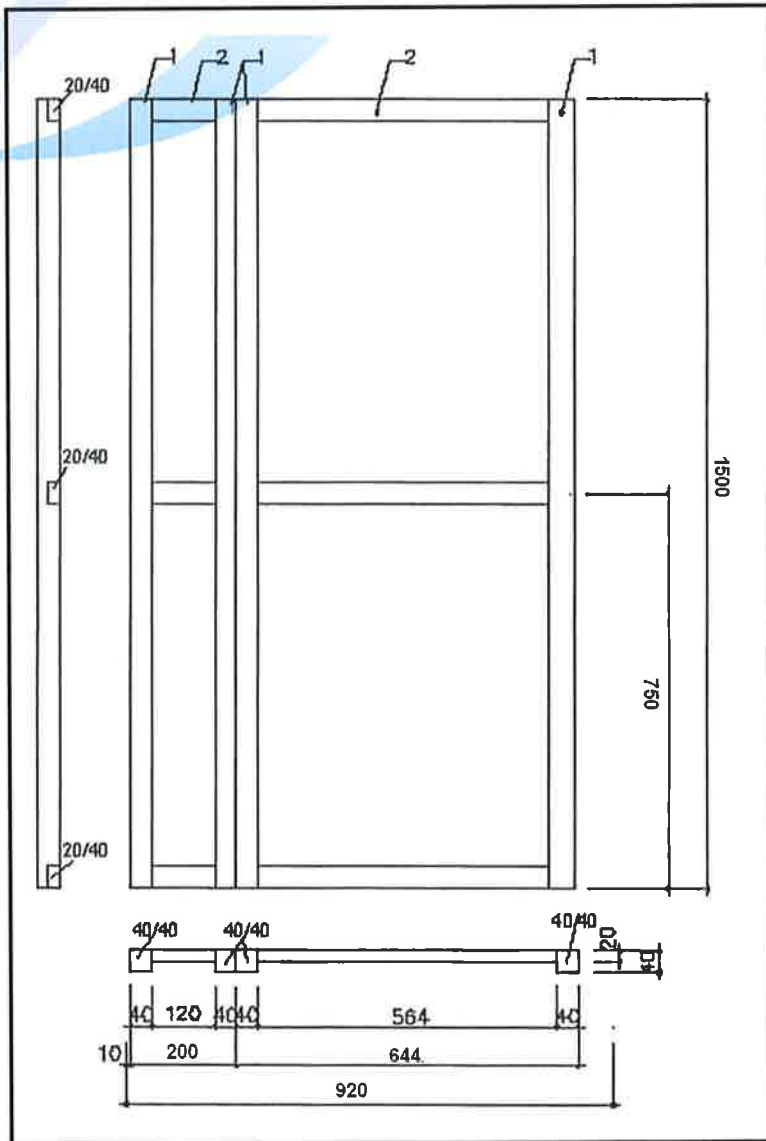
EN EXAPRPT WG 1E\*

This document is the original version of this exap report and is written in English. This report may be used only literally and completely for publications. - For publications of certain texts, in which this report is mentioned, our permission must be obtained in advance.

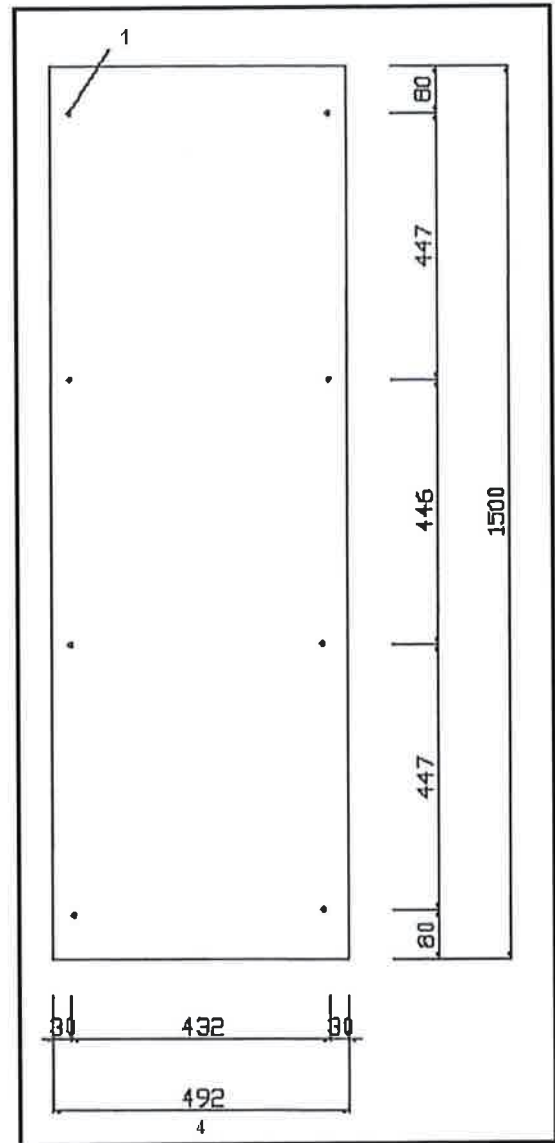
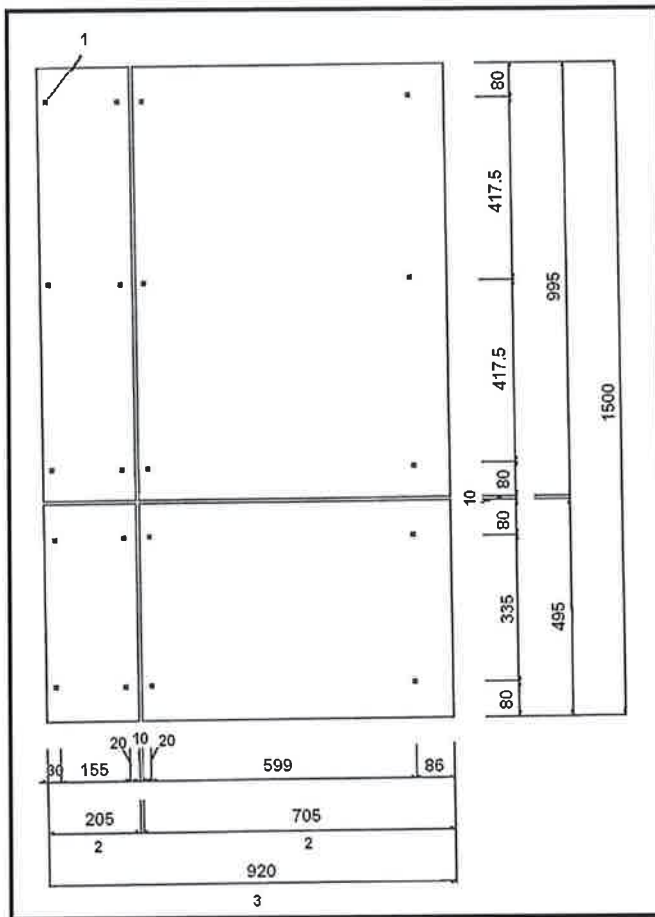
**Mounting specifications (\*)**



- 1. Backing board
- 2. Insulation
- 3. Vertical member (timber)
- 4. Sheet
- 5. EPDM if used
- 6. U-channel



1. Vertical frame member  
2. Horizontal frame member

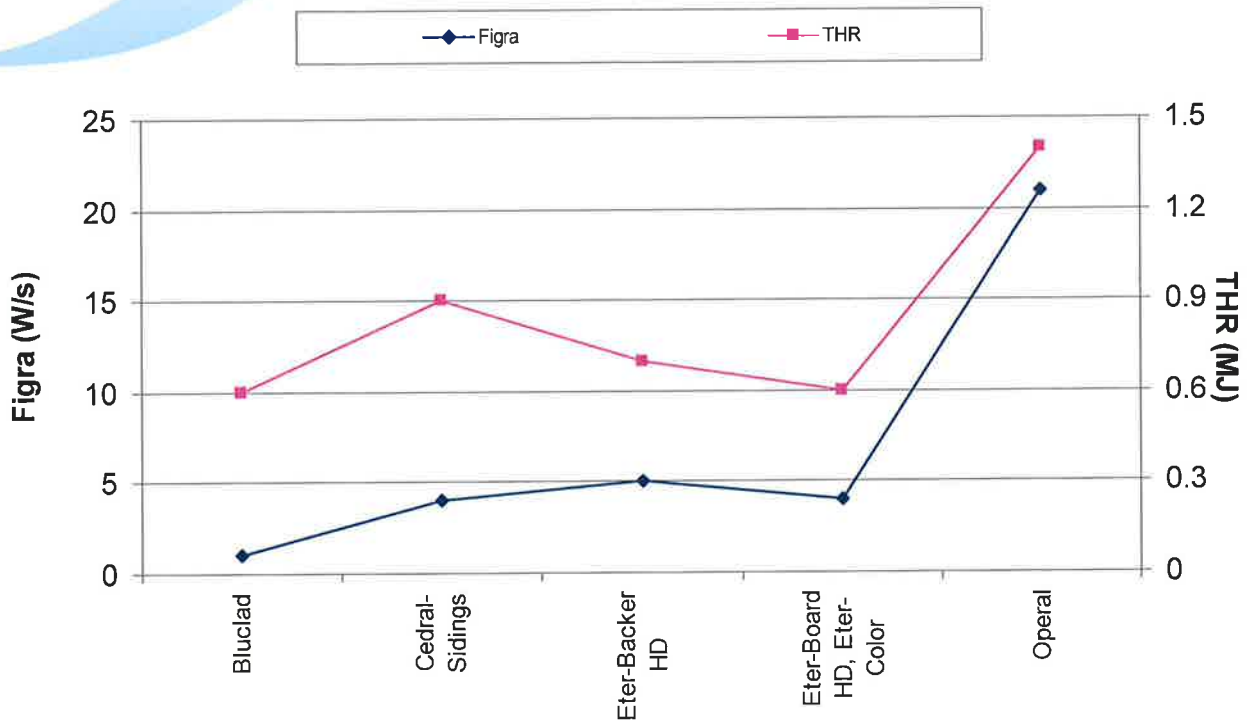


- 1. Screw
- 2. Width of the sheet
- 3. Width of the long wing
- 4. Width of the short wing

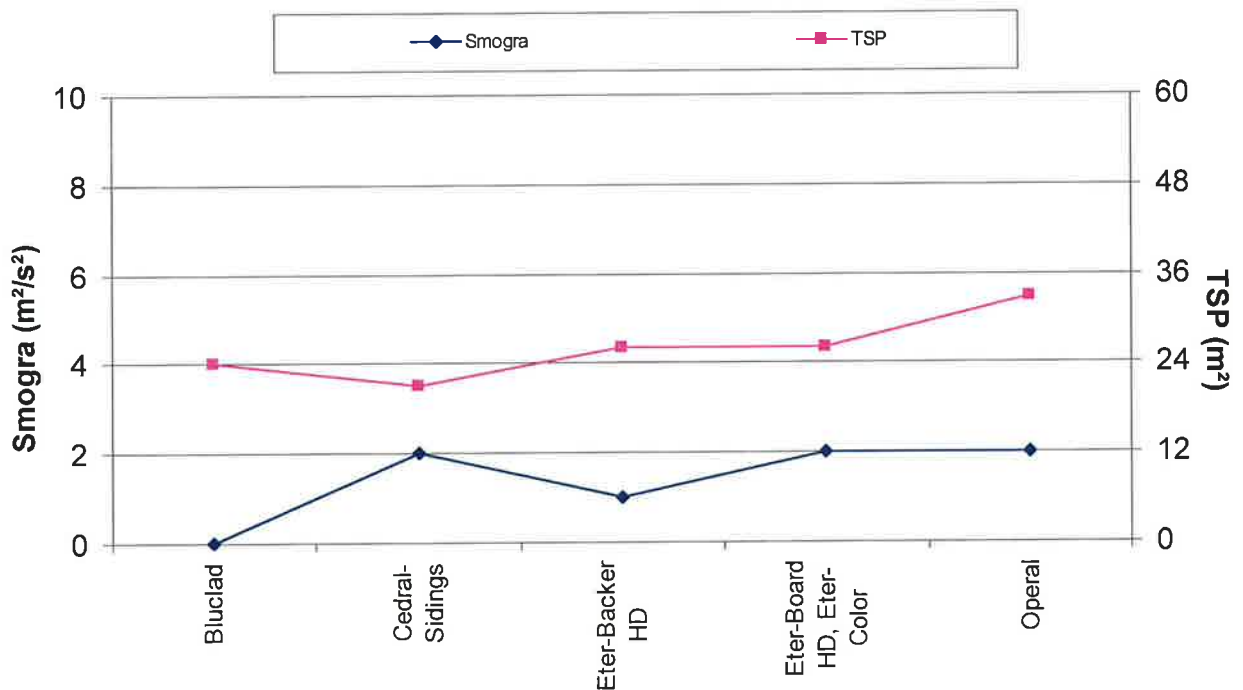
(\*) Drawing not to scale



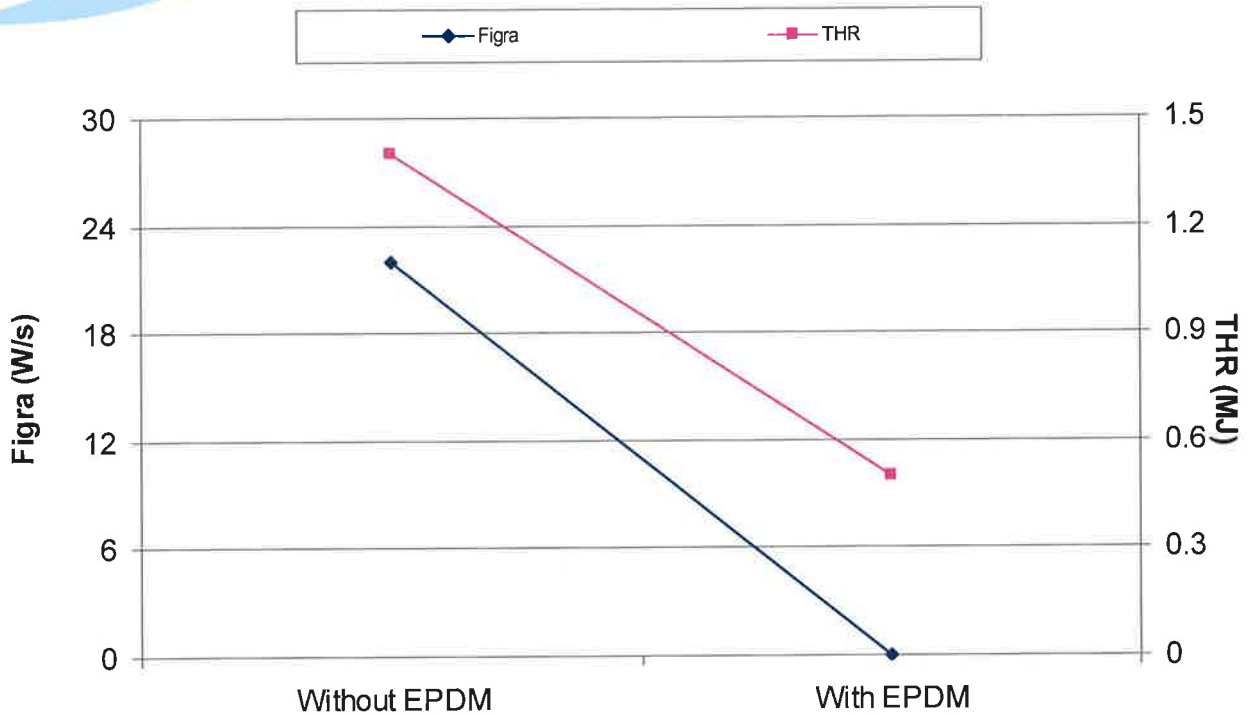
**Graph of the influence of sort of product on the Figra and THR value**



**Graph of the influence of sort of product on the Smogra and TSP value**



**Graph of the influence of use of EPDM joint profile with ridges 45/90mm of the product Operal on the Figra and THR value**



**Graph of the influence of use of EPDM joint profile with ridges 45/90mm of the product Operal on the Smogra and TSP value**

