

## ***Additional classification report for roofs/roof coverings exposed to external fire No. 19419F***

### **Owner of the additional classification report**

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### **Introduction**

This additional classification report defines the classification assigned to the roof/roof covering «**Paradiene SA + Parafor Solo SA**» in accordance with the procedures given in the standard EN 13501-5:2016 : Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 4: Method with two stages incorporating burning brands, wind and supplementary radiant heat

**This additional classification report consists of 9 pages**

This report is additional to that issued as No. 18586J, dated 12/10/2018. This report is drafted in accordance with the regulations of EGOLF Agreement EGA 08rev2:2013 "Application note: clause 5.10 / 4-2 – Amendment of reports: client changing product/company names (ii) for commercial reasons – Issue of additional reports". The original report remains valid and is not replaced by this report. The product has not been retested and this report does not involve technical changes or technical reviews of the original report. The original and the new name of the product and of the company commercially responsible for the product, as well as the declarations concerning this additional report, are documented by the laboratory and maintained in the laboratory records. / The original and the new name of the sponsor, as well as the declarations concerning this additional report, are documented by the laboratory and maintained in the laboratory records.

## 1. DESCRIPTION OF THE ROOF/ROOF COVERING

*This description is based on information given by the sponsor.*

**Tested system according to CEN/TS 1187:2012**

|                                              | Nominal value                                                                                                     |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>SUPPORTING DECK</b>                       |                                                                                                                   |
| Material                                     | Wood particle board                                                                                               |
| Density (kg/m <sup>3</sup> )                 | 680                                                                                                               |
| Thickness (mm)                               | 16                                                                                                                |
| Flame retardants                             | No                                                                                                                |
| Reaction to fire according to EN 13501-1     | D-s2,d0                                                                                                           |
| <b>OR</b>                                    |                                                                                                                   |
| <b>SUPPORTING DECK 2</b>                     |                                                                                                                   |
| Material                                     | Fiber cement board                                                                                                |
| Density (kg/m <sup>3</sup> )                 | 1850                                                                                                              |
| Thickness (mm)                               | 8                                                                                                                 |
| Flame retardants                             | No                                                                                                                |
| Reaction to fire according to EN 13501-1     | A2                                                                                                                |
| <b>PRIMER</b>                                |                                                                                                                   |
| Material                                     | Cold bituminous primer                                                                                            |
| Trade name                                   | Langley Primer                                                                                                    |
| Manufacturer                                 | BMI - SIPLAST                                                                                                     |
| Solid content (%)                            | 46,5                                                                                                              |
| Applied amount (g/m <sup>2</sup> ) (dry)     | 250                                                                                                               |
| Density (kg/m <sup>3</sup> ) (wet)           | 0,92                                                                                                              |
| Flame retardants                             | No                                                                                                                |
| <b>VAPOUR BARRIER</b>                        |                                                                                                                   |
| Material                                     | Fillerized SBS modified adhesive elastomeric bitumen vapour barrier with aluminium and glass fiber reinforcement. |
| Trade name                                   | Parevapo SA                                                                                                       |
| Manufacturer                                 | BMI - SIPLAST                                                                                                     |
| Supplier                                     | Langley Waterproofing Systems, Lda.                                                                               |
| Reinforcement (material + g/m <sup>2</sup> ) | Aluminium/ glass fiber composite, weight not communicated                                                         |
| Thickness (mm)                               | 1,5                                                                                                               |
| Surface weight (g/m <sup>2</sup> )           | 1600                                                                                                              |
| Flame retardants                             | No                                                                                                                |
| Fixing method                                | Self-adhesive                                                                                                     |
| Reaction to fire according to EN 13501-1     | Not communicated                                                                                                  |

(1) Not verifiable

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| Nominal value                                             |                                                                                                                                  |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>GLUE</b>                                               |                                                                                                                                  |
| Material                                                  | Cold bituminous glue                                                                                                             |
| Trade name                                                | <b>Langley glue</b>                                                                                                              |
| Manufacturer                                              | BMI - SIPLAST                                                                                                                    |
| Solid content (%)                                         | 86                                                                                                                               |
| Applied amount (g/m <sup>2</sup> ) (dry)                  | 500                                                                                                                              |
| Density (kg/m <sup>3</sup> ) (wet)                        | 1,3                                                                                                                              |
| Flame retardants                                          | No                                                                                                                               |
| <b>INSULATING LAYER</b>                                   |                                                                                                                                  |
| Material                                                  | One or two layers PIR insulation faced on both sides with a mineral coated glass fleece.                                         |
| Trade name                                                | <b>Parafoam Ultra LPC/FM</b>                                                                                                     |
| Backing/facing material (g/m <sup>2</sup> )               | Mineral coated glass fleece, weight not communicated                                                                             |
| Manufacturer / Supplier                                   | Langley Waterproofing Systems, Lda.                                                                                              |
| Thickness (mm)                                            | 30<br>100<br>120<br>150                                                                                                          |
| Density (kg/m <sup>3</sup> ) of the foam                  | 32                                                                                                                               |
| Surface weight (g/m <sup>2</sup> ) of the product as such | Not communicated<br>by the sponsor                                                                                               |
| 30 mm thickness                                           |                                                                                                                                  |
| 100 mm thickness                                          |                                                                                                                                  |
| 120 mm thickness                                          |                                                                                                                                  |
| 150 mm thickness                                          |                                                                                                                                  |
| Flame retardants                                          | No                                                                                                                               |
| Fixing method                                             | Glued by Langley glue (500 g/m <sup>2</sup> )                                                                                    |
| Reaction to fire according to EN 13501-1                  | E                                                                                                                                |
| <b>ROOF COVERING</b>                                      |                                                                                                                                  |
| 1.1 <u>First layer</u>                                    |                                                                                                                                  |
| Material                                                  | A SBS modified elastomeric bitumen roofing membrane with a non-woven polyester reinforcement core. Heat activated self-adhesive. |
| Trade name                                                | <b>Paradiene SA</b>                                                                                                              |
| Manufacturer                                              | BMI - SIPLAST                                                                                                                    |
| Supplier                                                  | Langley Waterproofing Systems, Lda.                                                                                              |
| Reinforcement (material + g/m <sup>2</sup> )              | Non-woven Polyester, 180 g/m <sup>2</sup>                                                                                        |
| Thickness (mm)                                            | 2,5                                                                                                                              |
| Surface weight (g/m <sup>2</sup> )                        | 3000                                                                                                                             |
| Flame retardants                                          | No                                                                                                                               |
| Fixing method                                             | Heat activated self-adhesive.                                                                                                    |

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| 1.2 Top layer                                               |                                                                                                                     |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Material                                                    | A reinforced SBS modified elastomeric bitumen membrane with a surface finish of mineral granules or mineral slates. |
| Trade name                                                  | <b>Parafor Solo SA</b>                                                                                              |
| Manufacturer                                                | BMI - SIPLAST                                                                                                       |
| Supplier                                                    | Langley Waterproofing Systems, Lda.                                                                                 |
| Reinforcement (material + g/m <sup>2</sup> )                | Non-woven polyester, 180 g/m <sup>2</sup>                                                                           |
| Thickness (mm)                                              | 4,2                                                                                                                 |
| Surface weight (g/m <sup>2</sup> )                          | 5000                                                                                                                |
| Surface weight (g/m <sup>2</sup> ) of the mineral finishing | Mineral granules or mineral slates, weight known by the laboratory                                                  |
| Flame retardants                                            | Yes                                                                                                                 |
| Fixing method                                               | Heat activated self-adhesive                                                                                        |

(1) Not verifiable

The table below summarize the different build-up's and tested parameters:

| Parameter/<br>Test 18586 | Top layer       | Under layer  | Thickness of<br>the insulation<br>(mm) | Vapour<br>barrier | Substrate                    |
|--------------------------|-----------------|--------------|----------------------------------------|-------------------|------------------------------|
| <b>G1-G2</b>             | Parafor Solo SA | Paradiene SA | 30                                     | Parevapo SA       | Wooden<br>substrate<br>16 mm |
| <b>G3-G4</b>             | Parafor Solo SA | Paradiene SA | 120                                    | Parevapo SA       | Wooden<br>substrate<br>16 mm |
| <b>G5-G6</b>             | Parafor Solo SA | Paradiene SA | 150                                    | Parevapo SA       | Wooden<br>substrate<br>16 mm |
| <b>G7-G8</b>             | Parafor Solo SA | Paradiene SA | 100 (top)<br>150 (bottom)              | Parevapo SA       | Wooden<br>substrate<br>16 mm |
| <b>G9-G10</b>            | Parafor Solo SA | Paradiene SA | 30 (top)<br>150 (bottom)               | Parevapo SA       | Wooden<br>substrate<br>16 mm |
| <b>G11-G12</b>           | Parafor Solo SA | Paradiene SA | 150                                    | Parevapo SA       | Fiber cement<br>board 8 mm   |

(-) Not applicable

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## 2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

### a) Test report

| Name of the laboratory        | Name of the sponsor     | Test report ref. no.   | Standard                    |
|-------------------------------|-------------------------|------------------------|-----------------------------|
| WFRGENT nv<br>Ghent - Belgium | Known by the laboratory | 18586H<br>(25/08/2017) | CEN/TS 1187:2012:<br>Test 4 |
| WFRGENT nv<br>Ghent - Belgium | Known by the laboratory | 18586K<br>(25/08/2017) | CEN/TS 16459:2013<br>EXAP   |

### b) Test results

Test conditions: 18586G at 0°

| 18586G  | Specimen number    | Time to fire penetration (min:sec) | Duration of flaming after withdrawal of test flame (min:sec) | Maximum flame spread distance (mm) |
|---------|--------------------|------------------------------------|--------------------------------------------------------------|------------------------------------|
| Stage 1 | G-1                | Did not penetrate                  | 0:00                                                         | 70                                 |
|         | G-3 <sup>(*)</sup> | Did not penetrate                  | 0:00                                                         | 80                                 |
|         | G-5                | Did not penetrate                  | 0:00                                                         | 110                                |
|         | G-7                | Did not penetrate                  | 0:00                                                         | 80                                 |
|         | G-9                | Did not penetrate                  | 0:00                                                         | 70                                 |
|         | G-11               | Did not penetrate                  | 0:02                                                         | 80                                 |
| Stage 2 | G-2 <sup>(*)</sup> | Did not penetrate                  | (-)                                                          | (-)                                |
|         | G-4                | Did not penetrate                  | (-)                                                          | (-)                                |
|         | G-6                | Did not penetrate                  | (-)                                                          | (-)                                |
|         | G-8                | Did not penetrate                  | (-)                                                          | (-)                                |
|         | G-10               | Did not penetrate                  | (-)                                                          | (-)                                |
|         | G-12               | Did not penetrate                  | (-)                                                          | (-)                                |

(-) not applicable

(\*) This test result was reused for the official test 18586H.

Test conditions: 18586H at 0°

| 18586H  | Specimen number | Time to fire penetration (min:sec) | Duration of flaming after withdrawal of test flame (min:sec) | Maximum flame spread distance (mm) |
|---------|-----------------|------------------------------------|--------------------------------------------------------------|------------------------------------|
| Stage 1 | 1               | Did not penetrate                  | 0:00                                                         | 80                                 |
| Stage 2 | 2               | Did not penetrate                  | (-)                                                          | (-)                                |
|         | 3               | Did not penetrate                  | (-)                                                          | (-)                                |
|         | 4               | Did not penetrate                  | (-)                                                          | (-)                                |
|         | Average         | Did not penetrate                  | (-)                                                          | (-)                                |

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### 3. CLASSIFICATION AND FIELD OF APPLICATION

#### a) Reference

This classification has been carried out in accordance with clause 9 test 4 of EN 13501-5:2016 and EN 13707:2004.

#### b) Classification

The roof / roof covering « **Paradiene SA + Parafor Solo SA** » in relation to its external fire performance is classified:

### **Broof (t4)**

#### c) Direct field of application

The classification is valid for the system as described in §1 for the following conditions:

- Range of pitches:  $\leq 10^\circ$

#### d) Extended field of application

This extended application for the product as described in §1.2, is valid for the following end-use applications:

- Systems with PIR insulation

- Range of layer 0: The membrane (top layer): Parafor Solo SA: a SBS bitumen membrane with mineral granules or mineral slates

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Thickness:            | 4,2 mm                                              |
| Total surface weight: | 5000 g/m <sup>2</sup>                               |
| Reinforcement:        | Non-woven polyester, weight known by the laboratory |
| Fixing method:        | Heat activated self-adhesive                        |

- Range of layer 1: The membrane (under layer): Paradiene SA: a SBS bitumen membrane with mineral surface finish

|                       |                                                   |
|-----------------------|---------------------------------------------------|
| Thickness:            | 2,5 mm                                            |
| Total surface weight: | 3000 g/m <sup>2</sup>                             |
| Reinforcement:        | Non-woven Polyester, 180 g/m <sup>2</sup> or less |
| Fixing method:        | Heat activated self-adhesive                      |

- Range of layer 2 and an optional 3th layer: The insulation: one or two layers PIR insulation with a mineralized glass fleece

|                                  |                                                                                                                                                                       |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thickness:                       | - One layer: from 30 to 150 mm<br>- Two layers: <ul style="list-style-type: none"><li>• top layer from 30 to 100 mm</li><li>• bottom layer maximally 150 mm</li></ul> |
| Density of the foam:             | 32 kg/m <sup>3</sup> or greater                                                                                                                                       |
| Facing/backing:                  | Mineral coated glass fleece, weight not communicated                                                                                                                  |
| Reaction to fire classification: | E or better                                                                                                                                                           |
| Fixing method:                   | Each insulation layer is adhered by a cold bituminous glue (Langley glue, 500 g/m <sup>2</sup> )                                                                      |

- Range of layer 3: Cold bituminous glue

|                    |                      |
|--------------------|----------------------|
| Applied amount:    | 250 g/m <sup>2</sup> |
| Solid content (%): | 86 %                 |
| Flame retardants:  | No                   |

- Range of layer 4: Vapour barrier: Parevapo SA: modified bitumen vapour barrier

|                       |                                                           |
|-----------------------|-----------------------------------------------------------|
| Thickness:            | 1,5 mm                                                    |
| Total surface weight: | 1600 g/m <sup>2</sup>                                     |
| Reinforcement:        | Aluminium/ glass fiber composite, weight not communicated |
| Fixing method:        | Self-adhesive                                             |

- Range of layer 5: Supporting deck: wood particle board or a non-combustible board

|                                                         |                                                  |
|---------------------------------------------------------|--------------------------------------------------|
| Range of supporting deck:                               | - Wood particle board<br>- Non-combustible board |
| Density:                                                |                                                  |
| <i>Wood particle board</i>                              | 680 kg/m <sup>3</sup>                            |
| <i>Non-combustible board</i>                            | 1850 kg/m <sup>3</sup> or greater                |
| Thickness:                                              |                                                  |
| <i>Wood particle board</i>                              | 16 mm or thicker                                 |
| <i>Non-combustible board</i>                            | 8 mm or thicker                                  |
| Flame retardants                                        |                                                  |
| <i>Wood particle board</i>                              | No                                               |
| <i>Non-combustible board</i>                            | No                                               |
| Reaction to fire classification according to EN 13501-1 |                                                  |
| <i>Wood particle board</i>                              | D-s2,d0                                          |
| <i>Non-combustible board</i>                            | A2 or A1                                         |

#### 4. **LIMITATIONS**

At the time the standard EN 13501-5:2016 was published, no decision was made concerning the duration of validity of a classification document.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

#### 5. **WARNING**

This classification report does not represent type approval nor certification of the product.

#### 6. **CONCERNING DECLARATION OF PERFORMANCE (DoP) ACCORDING TO THE CONSTRUCTION PRODUCT REGULATION (CPR)**

Annex ZA of the harmonised standard

- EN 13707: 2004 – “Flexible sheets for waterproofing - Reinforced bitumen sheets for roof waterproofing”

declares that a System 3 Attestation of Conformity (AoC) under the Construction Products Directive (CPD: 89/106/EEC) is required for all external fire performance declarations better than class  $F_{\text{roof}}$  (t1, t2, t3, t4). Under the Construction Products Regulation (CPR: EU 305/2011) this corresponds with a System 3 of Assessment and Verification of Constancy of Performance (AVCP) as basis for a Declaration of Performance (DoP).

The classification assigned to the product in this report is appropriate to such a Declaration of Performance of the essential characteristics of the construction product by the manufacturer within the context of a System 3 Assessment and Verification of Constancy of Performance. Under the Construction Products Regulation a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

PREPARED BY

APPROVED BY

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