

# UL-EU CERTIFICATE

**Certificate No.** UL-EU-01056-CPR  
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**Date of Issue** 2018-04-27

**Certificate Holder** J. van Walraven Holding B.V.  
Industrieweg 5  
3641RK Mijdrecht  
The Netherlands

**Manufacturer** J/001 / E/003

**Certified Product Type** Fire Stop – Pipe Sleeve  
**Product Trade Name** Pacifyre® BFC  
**Trademark** N/A

**Rating/Classification** See Appendix

**Harmonised Technical Specifications** ETAG 026-2 / EN 13501-2

**Additional information** N/A

**Expiry date** 2028-04-26



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**Head of Notified Body**  
Chris Miles

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

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This certificate relates to the use of Pacifyre® BFC for fire stopping where there are service penetrations through floors and walls. The detailed scope is given in pages 3 to 7 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 120 minutes for differing services and wall/floor constructions.

The products are certificated on the basis of:

- i) Inspection and surveillance of factory production control by UL
- ii) Fire resistance test data in accordance with EN 1366-3: 2009
- iii) Classification in accordance with EN 13501-2
- iv) Durability and Servicability as defined in ETAG 026-2

The durability class of Pacifyre® BFC is Y<sub>1</sub> - intended for use at temperatures below 0°C with exposure to UV but no exposure to rain. Pacifyre® BFC has reaction to fire class E.

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|  |  |  |
|--|--|--|
| Products: Pacifyre® BFC  |  |  |
| Product-type: Pipe closure   |  | Intended use: Penetration Seal                           |
| Basic requirement for construction work                            | Basic Requirement                      | Performance  |
| <b>BWR 1 Mechanical resistance and stability</b>                   |  |  |
| -  | None                                   | Not relevant   |
| <b>BWR 2 Safety in case of fire</b>                                |  |  |
| EN 13501-1   | Reaction to fire                       | Class E  |
| EN 13501-2   | Resistance to fire                     | See pages 4 - 7  |
| <b>BWR 3 Hygiene, health and environment</b>                       |  |  |
| EN 1026:2000   | Air permeability (material property)   | No performance determined                                |
| ETAG 026-2, Annex C  | Water permeability (material property) | No performance determined                                |
| Submission of chemical constitution or declaration of manufacturer | Release of dangerous substances        | Use categories: IA1, S/W3<br>Declaration of manufacturer |
| <b>BWR 4 Safety in use</b>   |  |  |
| EOTA TR 001:2003   | Mechanical resistance and stability    | No performance determined                                |
| EOTA TR 001:2003   | Resistance to impact/movement          | No performance determined                                |
| EOTA TR 001:2003   | Adhesion                               | No performance determined                                |
| <b>BWR 5 Protection against noise</b>                              |  |  |
| EN 10140-2/ EN ISO 717-1   | Airborne sound insulation              | No performance determined                                |
| <b>BWR 6 Energy economy and heat retention</b>                     |  |  |
| EN 12664, EN 12667 or EN 12939                                     | Thermal properties                     | No performance determined                                |
| EN ISO 12572<br>EN 12086   | Water vapour permeability              | No performance determined                                |
| <b>General aspects relating to fitness for use</b>                 |  |  |
| EOTA TR 024:2009, clause 3.1.11 & 3.1.12                           | Durability and serviceability          | Y <sub>1</sub>   |
| <b>BWR 7 Sustainable use of natural resources</b>                  |  |  |
| -  | -                                      | No performance determined                                |

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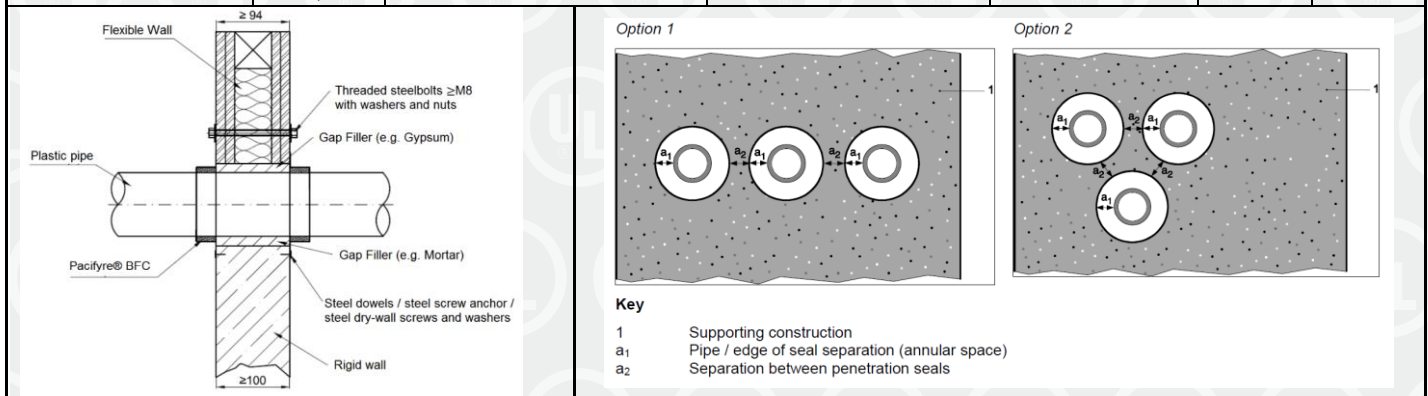
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## Pacifyre® BFC: In EI 60/EI 90 Flexible or Rigid Wall 94 mm

| Pipe diameter (mm)   | Pipe wall thickness (mm) | Annular space (a <sub>1</sub> ) (mm) | Intumescent layers thickness (mm / number of) | Min. separation between openings (a <sub>2</sub> ) (mm) | Fire Resistance (mins.) |     |
|--|--------------------------|--------------------------------------|---|---|-------------------------|-----|
|  |                          |                                      |   |   | E                       | EI  |
| PVC-U pipe <sup>^</sup> according to EN 1453-1, EN 1329-1 and EN 1452-1, PVC-C pipes according to EN 1566-1                        |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 5,6                | 0                                    | 2/2   | 100   | 120                     | 120 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 1,8-12,3                 |                                      | 2/4   |   |                         |     |
| > 110 – ≤ 125  | 2,2 - 12,2               |                                      | 2/5   |   |                         |     |
| ≤ 160  | 3,2-11,9                 |                                      | 2/6   |   |                         |     |
| PE pipe <sup>^</sup> according to EN 12201-2, EN 1519-1 and EN 12666-1, ABS according to EN 1455-1, SAN+PVC according to EN 1565-1 |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 4,6                | 0                                    | 2/2   | 100   | 120                     | 120 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 2,7-10,0                 |                                      | 2/4   |   |                         |     |
| PP pipe <sup>^</sup> according to EN ISO 1873-1, ÖNORM B 5174 and DIN 8077/8087  |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 4,6                | 0                                    | 2/2   | 100   | 120                     | 120 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 2,7-10,0                 |                                      | 2/4   |   |                         |     |
| > 110 – ≤ 125  | 3,9 - 12,2               |                                      | 2/5   |   |                         |     |
| ≤ 160  | 4,0 -14,6                |                                      | 2/6   |   |                         |     |
| Blue Power pipe <sup>^</sup>   |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75   | 2,5                      |                                      | 2/3   |   |                         |     |
| ≤ 110  | 3,4                      |                                      | 2/4   |   |                         |     |
| Wavin SITECH pipe <sup>^</sup>   |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75   | 2,5                      |                                      | 2/3   |   |                         |     |
| ≤ 110  | 3,4                      |                                      | 2/4   |   |                         |     |



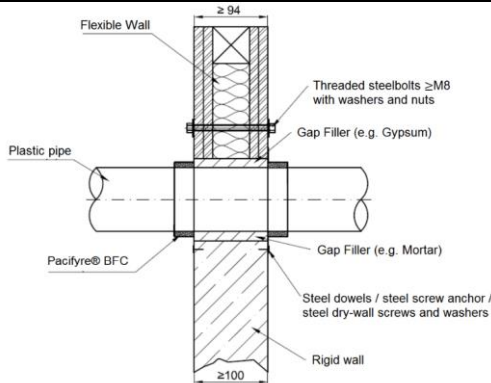
<sup>^</sup> U/U or U/C pipe end configuration

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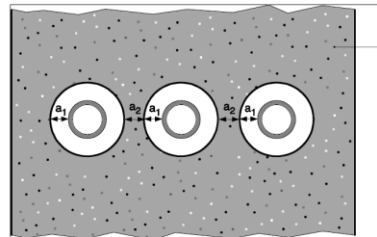
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## Pacifyre® BFC: In EI 60/EI 90 Flexible or Rigid Wall 94 mm

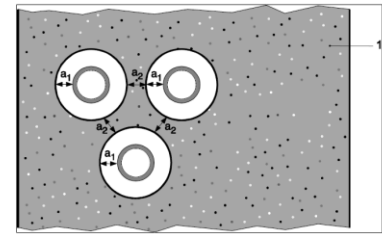
| Pipe diameter (mm)                              | Pipe wall thickness (mm) | Annular space (a <sub>1</sub> ) (mm) | Intumescent layers thickness (mm / number of) | Min. separation between openings (a <sub>2</sub> ) (mm) | Fire Resistance (mins.) |     |
|---|--------------------------|--------------------------------------|---|---|-------------------------|-----|
|   |                          |                                      |   |   | E                       | EI  |
| aquatherm green pipe MS <sup>^</sup>            |                          |                                      |   |   |                         |     |
| ≤ 16  | 2,2                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 50  | 6,9                      |                                      |   |   |                         |     |
| Geberit Silent PP <sup>^</sup>                  |                          |                                      |   |   |                         |     |
| ≤ 50  | 2,0                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75  | 2,6                      |                                      | 2/3   |   |                         |     |
| ≤ 110   | 3,6                      |                                      | 2/4   |   |                         |     |
| POLO-KAL NG <sup>^</sup>                        |                          |                                      |   |   |                         |     |
| ≤ 50  | 2,0                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75  | 2,6                      |                                      | 2/3   |   | 120                     | 90  |
| ≤ 110   | 3,4                      |                                      | 2/4   |   | 120                     | 90  |
| ≤ 125   | 3,9                      |                                      | 2/5   |   | 120                     | 120 |
| ≤ 160   | 4,9                      |                                      | 2/6   |   | 120                     | 120 |
| Rehau Raupiano Plus <sup>^</sup>                |                          |                                      |   |   |                         |     |
| ≤ 50  | 1,8                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75  | 1,9                      |                                      | 2/3   |   |                         |     |
| ≤ 110   | 2,7                      |                                      | 2/4   |   |                         |     |
| ≤ 125   | 3,1                      |                                      | 2/5   |   |                         |     |
| ≤ 160   | 3,9                      |                                      | 2/6   |   |                         |     |
| Triplus 3 Schicht-Schallschutzrohr <sup>^</sup> |                          |                                      |   |   |                         |     |
| ≤ 40  | 1,8                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75  | 2,5                      |                                      | 2/3   |   |                         |     |
| ≤ 90  | 3,1                      |                                      | 2/4   |   |                         |     |



Option 1



Option 2



**Key**

- 1 Supporting construction
- a<sub>1</sub> Pipe / edge of seal separation (annular space)
- a<sub>2</sub> Separation between penetration seals

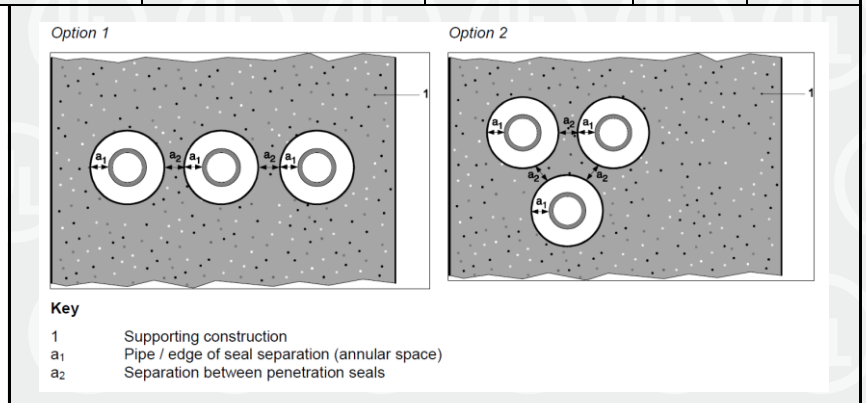
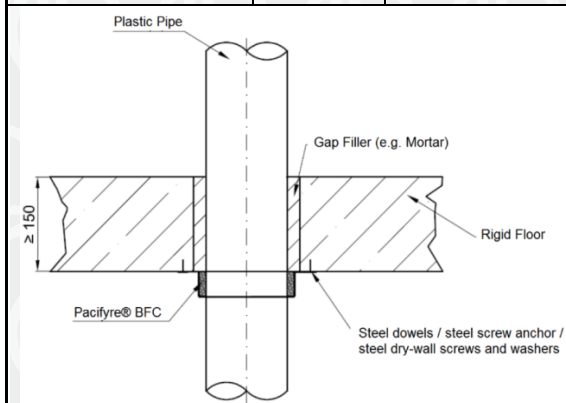
<sup>^</sup> U/U or U/C pipe end configuration

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## Pacifyre® BFC: In Rigid Floor 150 mm

| Pipe diameter (mm)   | Pipe wall thickness (mm) | Annular space (a <sub>1</sub> ) (mm) | Intumescent layers thickness (mm / number of) | Min. separation between openings (a <sub>2</sub> ) (mm) | Fire Resistance (mins.) |     |
|--|--------------------------|--------------------------------------|---|---|-------------------------|-----|
|  |                          |                                      |   |   | E                       | EI  |
| PVC-U pipe <sup>^</sup> according to EN 1453-1, EN 1329-1 and EN 1452-1, PVC-C pipes according to EN 1566-1                        |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 5,6                | 0                                    | 2/2   | 100   | 240                     | 240 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 1,8-12,3                 |                                      | 2/4   |   |                         |     |
| > 110 – ≤ 125  | 2,2 - 12,1               |                                      | 2/5   |   | 120                     | 120 |
| ≤ 125  | 12,1                     |                                      | 2/6   |   | 240                     | 240 |
| ≤ 160  | 3,2-11,9                 |                                      |   |   | 120                     | 120 |
| PE pipe <sup>^</sup> according to EN 12201-2, EN 1519-1 and EN 12666-1, ABS according to EN 1455-1, SAN+PVC according to EN 1565-1 |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 4,6                | 0                                    | 2/2   | 100   | 120                     | 120 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 2,7-10,0                 |                                      | 2/4   |   |                         |     |
| PP pipe <sup>^</sup> according to EN ISO 1873-1, ÖNORM B 5174 and DIN 8077/8087  |                          |                                      |   |   |                         |     |
| ≤ 50   | 1,8 - 4,6                | 0                                    | 2/2   | 100   | 240                     | 240 |
| > 50 – ≤ 75  | 1,8 – 8,4                |                                      | 2/3   |   |                         |     |
| > 75 – ≤ 110   | 2,7                      |                                      | 2/4   |   | 180                     | 180 |
| > 75 – ≤ 110   | > 2,7-10                 |                                      |   |   |                         |     |
| Uponor MLC Rohr "weiß" <sup>^</sup>  |                          |                                      |   |   |                         |     |
| ≤ 50   | 4,5                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75   | 7,5                      |                                      | 2/3   |   |                         |     |
| ≤ 110  | 10                       |                                      | 2/4   |   |                         |     |
| aquatherm green pipe MS <sup>^</sup>   |                          |                                      |   |   |                         |     |
| ≤ 16   | 2,2                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 50   | 6,9                      |                                      | 2/3   |   |                         |     |
| ≤ 75   | 10,4                     |                                      | 2/4   |   |                         |     |
| ≤ 110  | 15,2                     |                                      |   |   |                         |     |



<sup>^</sup> U/U or U/C pipe end configuration

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## Pacifyre® BFC: In Rigid Floor 150 mm

| Pipe diameter (mm)             | Pipe wall thickness (mm) | Annular space (a <sub>1</sub> ) (mm) | Intumescent layers thickness (mm / number of) | Min. separation between openings (a <sub>2</sub> ) (mm) | Fire Resistance (mins.) |     |
|--------------------------------|--------------------------|--------------------------------------|---|---|-------------------------|-----|
|                                |                          |                                      |   |   | E                       | EI  |
| Wavin SITECH <sup>^</sup>      |                          |                                      |   |   |                         |     |
| ≤ 50                           | 2,0                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75                           | 2,6                      |                                      | 2/3   |   |                         |     |
| ≤ 110                          | 3,4                      |                                      | 2/4   |   |                         |     |
| ≤ 125                          | 3,9                      |                                      | 2/5   |   |                         |     |
| ≤ 160                          | 4,9                      |                                      | 2/6   |   |                         |     |
| Geberit Silent PP <sup>^</sup> |                          |                                      |   |   |                         |     |
| ≤ 50                           | 2,0                      | 0                                    | 2/2   | 100   | 120                     | 120 |
| ≤ 75                           | 2,6                      |                                      | 2/3   |   |                         |     |
| ≤ 110                          | 3,6                      |                                      | 2/4   |   |                         |     |
| POLO-KAL NG <sup>^</sup>       |                          |                                      |   |   |                         |     |
| ≤ 50                           | 2,0                      | 0                                    | 2/2   | 100   | 120                     | 90  |
| ≤ 75                           | 2,6                      |                                      | 2/3   |   | 120                     | 120 |
| ≤ 110                          | 3,4                      |                                      | 2/4   |   | 120                     | 120 |

Plastic Pipe

Gap Filler (e.g. Mortar)

Rigid Floor

Pacifyre® BFC

Steel dowels / steel screw anchor / steel dry-wall screws and washers

≥ 150

Option 1

Option 2

**Key**

1 Supporting construction  
a<sub>1</sub> Pipe / edge of seal separation (annular space)  
a<sub>2</sub> Separation between penetration seals

<sup>^</sup> U/U or U/C pipe end configuration

# Appendix UL-EU Certificate

|                           |                        |
|---------------------------|------------------------|
| <b>Certification Mark</b> | <b>UL-EU mark</b>      |
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| <b>Date of Issue</b>      | <b>2018-04-27</b>      |

The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

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