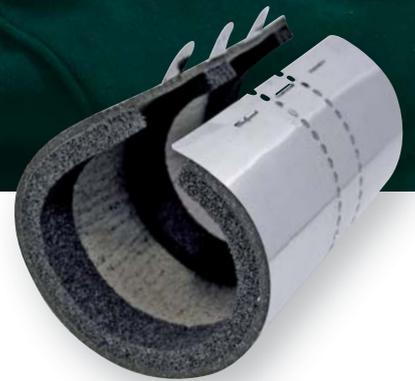
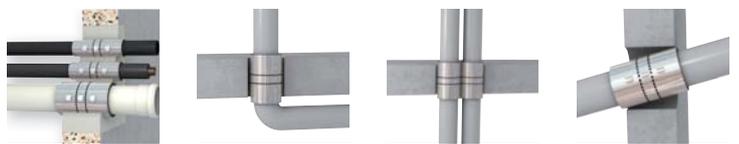


Fire, smoke and
noise barrier

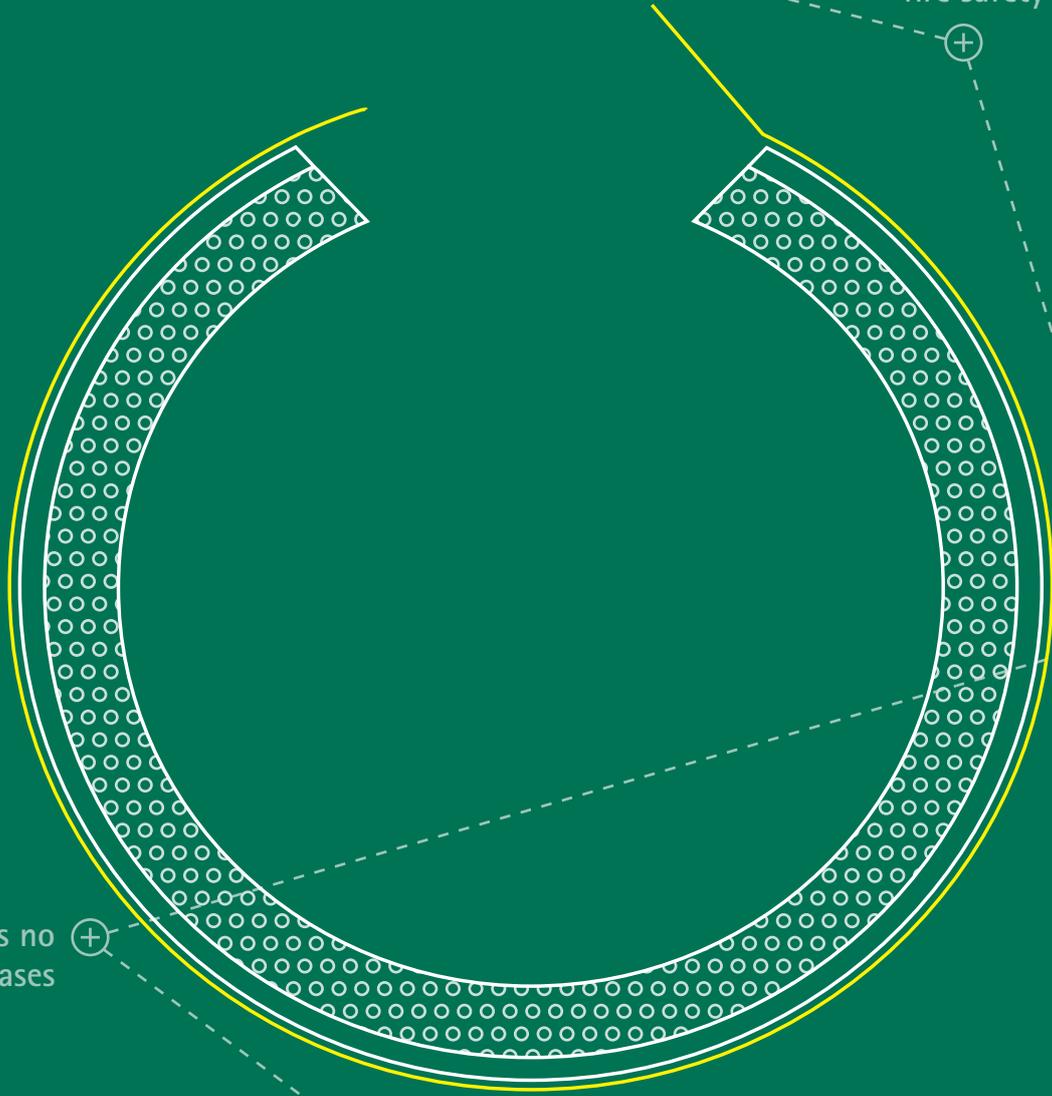


Pacifyre[®] MK II

Fire Sleeve



Pacifyre® MK II



Complies with fire safety standards



Fire, smoke and noise barrier



Emits no toxic gases



Easy installation



Easy self- installation

In accordance with
passive fire protection
requirements.

Broad safety applications

The Pacifyre® MK II Fire Sleeve is a single component fire sleeve with which you can make an aperture for pipes smoke free and fire resistant. In homes, factories, hospitals, offices or other residential buildings the Pacifyre® MK II is installed around pipes through floors, ceilings, solid walls and modular walls. Pacifyre® MK II Fire Sleeves ensure fire compartments that effortlessly comply with the building regulations.

When to use?

In accordance with the building regulations for fire protection every building must be divided into fire compartments. Unprotected apertures for mechanical and electrical installations (pipes and cables) compromise the fire resistance of the walls, floors and ceilings of such a fire compartment. Therefore, Walraven advises to close unprotected apertures in a proper way.

Strong in fire resistance

It shows in all fire tests that the Pacifyre® MK II Fire Sleeve complies amply with all standards. You can ensure a very simple and trustworthy fire resistant aperture without the need for any training.

The cost and time savings are crystal clear. In short, the BIS Pacifyre® MK II Fire Sleeve is an innovative, effective and reliable product.



Simple and innovative

Dutch Building Prize Jury

The Pacifyre® MK II Fire Sleeve has been extensively tested by independent authorities in various countries throughout Europe (according EN 1366-3 resp. EN 13501-2).

A summary of the results:

| Fire resistance | Metal pipes | Plastic pipes |
|---------------------------------|-------------|---------------|
| Wall of aerated concrete blocks | EI 240 | EI 120 |
| Modular wall | EI 120 | EI 120 |
| Ceilings | EI 240 | EI 120 |



efectis

CSTB



ISIB

DIBt



This product also has an ETA Approval ETA 17/0163.

Visit walraven.com/pacifyre for all technical documents.



A dramatic scene of firefighters at a large fire. The firefighters are silhouetted against a massive wall of fire and thick, billowing white smoke that fills the sky. The ground is wet and reflective, showing the firefighters' forms. The overall color palette is dominated by dark blues and greys, with the bright white of the smoke providing a stark contrast.

Pacifyre[®] MK II

Operational benefits

- The spreading of fire
- The spreading of smoke
- The conduction of noise

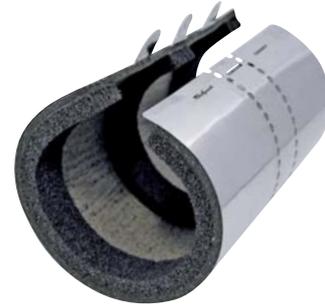
walraven.com/pacifyre

Fire, smoke and noise barrier

Operational benefits

Prevents:

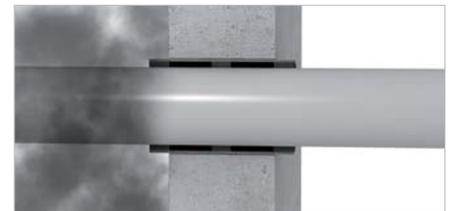
- The spreading of fire
- The spreading of smoke
- The conduction of noise
- Remains operational for decades without maintenance
- Expansion and contraction of the pipe remains possible
- Contains no dangerous materials
- Emits no toxic gases or smoke in the event of a fire



Smoke seal

When a fire burns, it generates carbon dioxide, water vapor, carbon monoxide, particulate matter, chemicals and hazardous gases. Most victims of fires (ca. 95%) die from smoke or toxic gases, not from burns.

Thanks to its three foam strips the Pacifyre® MK II Fire Sleeve is a perfect seal. Also, at lower temperatures it allows smoke no chance of penetrating other areas in any situation.

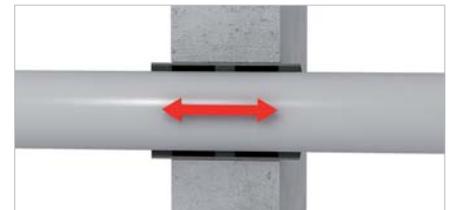


■ Perfect smoke seal

Free pipe expansion and noise barrier

In normal day-to-day operation pipes shrink and swell. This can be because of temperature or pressure fluctuations or fluids running through the pipe. When such a pipe is in direct contact with the building, it produces noise.

Thanks to the three foam strips in the Pacifyre® MK II Fire Sleeve the pipe can expand and contract freely. Noise transmission from one room to another and contact noises are being absorbed and reduced.



■ Free expansion and contraction

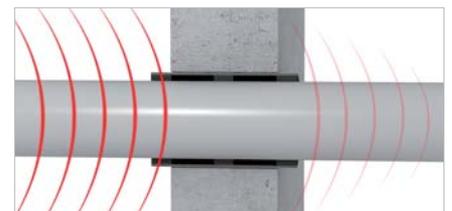
The noise reducing properties of the Pacifyre® MK II Fire Sleeve have been tested extensively by independent authorities in the United Kingdom and Germany.



■ Reduction of contact noise

Sound reduction with a metal pipe in a modular wall

| | |
|---------------------------------------|---|
| Weighted Sound Reduction Index (WSRI) | Rw 49-50 |
| Test in accordance with: | BS 2750, Part 3 (Sound Research Laboratories Ltd UK) SRL Test Report C/98/5L/7424/1 |
| Fraunhofer Institut | S9712 - Technical Comment on Noise Control Performance |



■ Reduction of noise transmission

Pacifyre® MK II Fire Sleeve is one of the few fire stops that, as well as being fire resistant, also offers good smoke sealing and sound proofing!

Pacifyre® MK II Fire Sleeve

Installation Instructions

The Pacifyre® MK II Fire Sleeve is installed easily without using special fixing materials. Only one pair of hands is needed for the whole installation.

After wrapping the sleeve around the pipe, the closing tabs are bent and locked. Then slide the sleeve into the aperture. You then fill the rest of the opening with

fire resistant acrylic, foam or mortar. Fill out the Pacifyre® ID-Card and place it next to the aperture and the job is done.



1. Wrap the sleeve around the pipe



2. Fold the tabs in proper position



3. Bend and lock the tabs



4. Slide the sleeve into the aperture and centre it

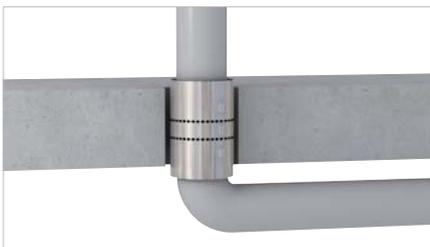


5. Fill the opening with acrylic, foam or mortar



6. Pacifyre® ID-Card
(Part No. 214 9 999903)

For nearly all situations



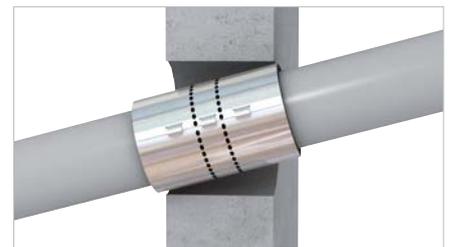
Small spaces

Places with difficult accessibility (for example an aperture that is only accessible from one side) cause no problems. The Pacifyre® MK II Fire Sleeve can also be used when the distance between the wall or ceiling and pipe is very small.



Close spacing

The Pacifyre® MK II Fire Sleeve is kept in place due to its closing tabs. It has no obtrusive fixing tabs, which is an advantage when parallel running pipes are installed. Thanks to its compact design the centre distance between pipes is very small.



Any direction

The Pacifyre® MK II Fire Sleeve can be used for horizontal, vertical and even diagonal running pipes!



Pacifyre® MK II Fire Sleeve

Easy to install

Installation benefits

- Simple and easy to install, without special training
- Just one sleeve per aperture
- Close wall distance
- Close spacing
- For pipes in any direction



1. Open aperture



2. Completely finished aperture

The Pacifyre® MK II Fire Sleeve in action

At a temperature in excess of 140 °C the intumescent in the Pacifyre® MK II Fire Sleeve starts to swell. In case of a metal pipe, the stop seals the space between pipe

and wall against fire. With a plastic pipe the Pacifyre® MK II seals the aperture against fire by completely crushing the pipe. Smoke and fire have no chance of entering the

adjoining areas. The Pacifyre® MK II Fire Sleeve has protected those present and has given them time to reach safety.



1. Fire breaks out in a fire compartment



2. The fire spreads and the residents are warned



3. The Pacifyre® MK II starts to work and the residents have time to reach safety



Composition

The Pacifyre® MK II Fire Sleeve comprises of:

1. Three foam strips (smoke seal and noise barrier)
2. A layer of intumescent (seal in the event of a fire)
3. A sleeve of stainless steel for counter pressure and protection

"Just the thing!"

Dutch Building Prize Jury



Selection tables

The Pacifyre® MK II Fire Sleeve is available in all common pipe sizes for both non-insulated plastic pipes and metal pipes (insulated or non-insulated). Other dimensions are available on request.

Plastic pipe

| Pipe Ø (mm) | Part no. |
|-------------|--------------|
| 15 - 17 | 215 1 015017 |
| 18 - 20 | 215 1 018020 |
| 23 - 28 | 215 4 024026 |
| 29 - 36 | 215 4 030032 |
| 38 - 44 | 215 4 039041 |
| 46 - 52 | 215 4 048050 |
| 48 - 55 | 215 4 051053 |
| 52 - 58 | 215 4 054056 |
| 55 - 61 | 215 4 057059 |
| 61 - 67 | 215 4 063065 |
| 70 - 79 | 215 4 075077 |
| 74 - 82 | 215 4 078080 |
| 86 - 94 | 215 4 090092 |
| 95 - 103 | 215 4 099101 |
| 104 - 113 | 215 4 108110 |
| 120 - 128 | 215 8 123125 |
| 131 - 139 | 215 8 135137 |
| 136 - 144 | 215 8 138140 |
| 155 - 164 | 215 8 159161 |
| 175 - 184 | 215 8 180182 |
| 195 - 204 | 215 2 198200 |

Other dimensions on request.

Drilling table

| Part No. | Allowance (mm) | | | | | |
|--------------|----------------|------|--------|------|------|------|
| | FP 430 | | FP 550 | | FPM | |
| | min. | max. | min. | max. | min. | max. |
| 214 1 xxxxxx | 25 | 65 | 45 | 125 | 125 | 225 |
| 215 1 xxxxxx | 25 | 65 | 45 | 125 | 125 | 225 |
| 215 4 xxxxxx | 30 | 70 | 50 | 130 | 130 | 230 |
| 215 8 xxxxxx | 40 | 80 | 60 | 140 | 140 | 240 |
| 215 2 xxxxxx | 50 | 90 | 70 | 150 | 150 | 250 |

Drill Ø =

Pipe Ø + 2 x insulation + allowance* or

Pipe Ø + allowance*

*Allowance = 2 x thickness MK II + 2 x min./max. joint width

For holes to be drilled: select your available drill size within the min. / max. allowance given above.

Metal pipe (insulated)

| DN | Pipe Ø (mm) | | Non-insulated | Insulation thickness (mm) | | |
|-----|-------------------|--------|---------------|---------------------------|--------------|--------------|
| | Steel + Stainless | Copper | | 15 | 20 | 25 |
| | | | | 30 | 40 | 50 |
| 10 | 17,2 | 15 | 214 1 015017 | 214 1 045047 | 214 1 054056 | 214 1 063065 |
| - | - | 18 | 214 1 018020 | 214 1 048050 | 214 1 057059 | 214 1 066068 |
| 15 | 21,3 | 22 | 214 1 021023 | 214 1 051053 | 214 1 060062 | 214 1 069071 |
| 20 | 26,9 | 28 | 214 1 027029 | 214 1 057059 | 214 1 066068 | 214 1 075077 |
| 25 | 33,7 | 35 | 214 1 033035 | 214 1 063065 | 214 1 072074 | 214 1 084086 |
| 32 | 42,4 | 42 | 214 1 042044 | 214 1 072074 | 214 1 081083 | 214 1 090092 |
| 40 | 48,3 | - | 214 1 048050 | 214 1 078080 | 214 1 087089 | 214 1 096098 |
| - | - | 54 | 214 1 054056 | 214 1 084086 | 214 1 093095 | 214 1 102104 |
| 50 | 60,3 | - | 214 1 060062 | 214 1 090092 | 214 1 099101 | 214 1 108110 |
| - | 64,0 | - | 214 1 063065 | 214 1 093095 | 214 1 102104 | 214 1 111113 |
| - | - | 66 | 214 1 066068 | 214 1 096098 | 214 1 105107 | 214 1 114116 |
| 65 | 76,1 | 76 | 214 1 075077 | 214 1 105107 | 214 1 114116 | 214 1 126128 |
| 80 | 88,9 | 89 | 214 1 087089 | 214 1 117119 | 214 1 129131 | 214 1 138140 |
| - | - | 108 | 214 1 108110 | 214 1 138140 | 214 1 147149 | 214 1 156158 |
| 100 | 114,3 | - | 214 1 114116 | 214 1 144146 | 214 1 153155 | 214 1 162164 |
| 125 | 139,7 | - | 214 1 138140 | 214 1 168170 | 214 1 180182 | 214 1 189191 |
| 150 | 168,3 | - | 214 1 168170 | 214 1 198200 | 214 1 207209 | 214 1 219221 |
| 200 | 219,1 | - | 214 1 219221 | 214 1 249251 | 214 1 258260 | 214 1 270272 |
| 250 | 273 | - | 214 1 273275 | 214 1 301303 | 214 1 313315 | 214 1 322324 |
| 10 | 17,2 | 15 | 214 1 015017 | 214 1 075077 | 214 1 096098 | 214 1 114116 |
| - | - | 18 | 214 1 018020 | 214 1 078080 | 214 1 096098 | 214 1 117119 |
| 15 | 21,3 | 22 | 214 1 021023 | 214 1 081083 | 214 1 102104 | 214 1 120122 |
| 20 | 26,9 | 28 | 214 1 027029 | 214 1 087089 | 214 1 105107 | 214 1 126128 |
| 25 | 33,7 | 35 | 214 1 033035 | 214 1 093095 | 214 1 114116 | 214 1 132134 |
| 32 | 42,4 | 42 | 214 1 042044 | 214 1 102104 | 214 1 120122 | 214 1 141143 |
| 40 | 48,3 | - | 214 1 048050 | 214 1 108110 | 214 1 126128 | 214 1 147149 |
| - | - | 54 | 214 1 054056 | 214 1 114116 | 214 1 132134 | 214 1 153155 |
| 50 | 60,3 | - | 214 1 060062 | 214 1 120122 | 214 1 138140 | 214 1 159161 |
| - | 64,0 | - | 214 1 063065 | 214 1 123125 | 214 1 144146 | 214 1 162164 |
| - | - | 66 | 214 1 066068 | 214 1 126128 | 214 1 144146 | 214 1 165167 |
| 65 | 76,1 | 76 | 214 1 075077 | 214 1 135137 | 214 1 156158 | 214 1 177179 |
| 80 | 88,9 | 89 | 214 1 087089 | 214 1 147149 | 214 1 168170 | 214 1 189191 |
| - | - | 108 | 214 1 108110 | 214 1 168170 | 214 1 186188 | 214 1 207209 |
| 100 | 114,3 | - | 214 1 114116 | 214 1 174176 | 214 1 192194 | 214 1 213215 |
| 125 | 139,7 | - | 214 1 138140 | 214 1 198200 | 214 1 219221 | 214 1 240242 |
| 150 | 168,3 | - | 214 1 168170 | 214 1 228230 | 214 1 249251 | 214 1 267269 |
| 200 | 219,1 | - | 214 1 219221 | 214 1 279281 | 214 1 298300 | 214 1 319321 |
| 250 | 273 | - | 214 1 273275 | 214 1 331333 | 214 1 352354 | 214 1 373375 |

Other dimensions on request. For rubber or elastomer please contact us.



Pacifyre® MK II

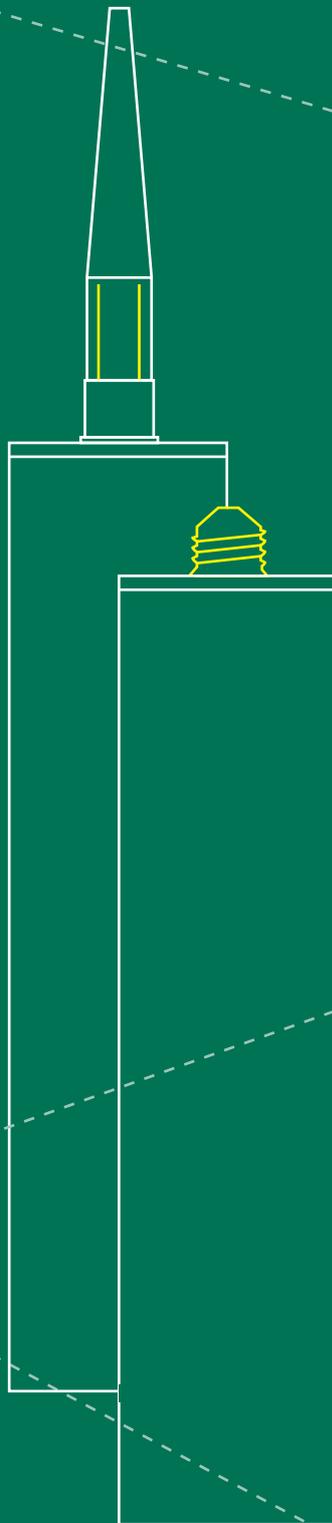
- Easy to install to minimise risk of incorrect installation
- Suitable for renovations and remedial fire stopping
- Unique product feature to suit more complex building requirements

walraven.com/pacifyre

Pacifyre® A and S



Tested and approved



Excellent adhesion to most substrates



For use in walls and floors



Fire resistant and smoke tight



Pacifyre® A and S Fire Sealants

For preventing the spread of fire and smoke through joints in walls and floors

Pacifyre® A: Acrylic Fire Sealant

Features and Benefits

- Fire resistant and smoketight up to 4 hours
- Suitable for static linear joints in walls and floors with max. 10% movement
- For sealing annular joints around pipes, fire collars and fire sleeves or wraps
- For sealing cracks in concrete and plaster
- Excellent adhesion to many porous substrates
- Activation temperature $\geq 120^{\circ}\text{C}$
- Temperature resistant between -20°C -and $+80^{\circ}\text{C}$
- Application temperature between $+5^{\circ}\text{C}$ and $+30^{\circ}\text{C}$
- Indoor emission level A+
- Colour-fast, waterproof and paintable after curing
- Remains elastic after curing
- Skin formation in approx. 20 min.
- Shrinkage approx. 15% (DIN 52451)

Pacifyre® S: Silicone Fire Sealant

Features and Benefits

- Fire resistant and smoketight up to 4 hours
- Suitable for linear joints in walls and floors with max. 25% movement
- For sealing annular joints around pipes, fire collars and fire sleeves or wraps
- Very good adhesion to most substrates
- 16 Shore A hardness
- Temperature resistant between -10°C -and $+140^{\circ}\text{C}$
- Application temperature between $+5^{\circ}\text{C}$ and $+30^{\circ}\text{C}$
- Indoor emission level A+
- Colour-fast and UV-stable
- Remains permanently elastic after curing
- Skin formation in approx. 20 min.
- Curing rate 1mm/24h
- Fire class B1 (DIN 4102-2)

Article Overview

| Product | Part No. | ETA | DoP | Colour | Cont. | Pack 1 |
|-------------------------------------|--------------|-------------|------------------|--------|--------|--------|
| Pacifyre® A Acrylic Fire Sealant | 218 0 100010 | ETA 16/1008 | 0749 CPR 16-1008 | White | 300 ml | 12 |

| Product | Part No. | ETA | DoP | Colour | Cont. | Pack 1 |
|--------------------------------------|--------------|-------------|------------------|--------|--------|--------|
| Pacifyre® S Silicone Fire Sealant | 218 0 100020 | ETA 16/1007 | 0749 CPR 16-1007 | White | 300 ml | 12 |

Pacifyre® A and S Complementary products

- Pacifyre® MK II (215 x xxxxxx)
- Pacifyre® EFC (213 2 100x00)
- Pacifyre® BFC (213 3 000xxx)
- Pacifyre® ID-Card/Sticker (21x 9 9999xx)
- Tangit 2C PP6 Foam Gun (218 1 526)
- WIS Dispenser Gun (609 9 986)

Easy to install



1. Slide the sleeve into the aperture and centre it



2. Put some mineral wool as backfilling, fill 25 mm in the depth with Acrylic or Silicone Fire Sealant



3. Fix Pacifyre® ID-Card (Part no. 214 9 999903)

For technical documents see walraven.com/pacifyre



Find out how we can support you

Would you like to find out more about any of the solutions described in this brochure?
Or would you like to discuss how we could help you find the best possible solution for your project? Get in touch today!

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