

Fire protection solutions  
you can trust

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## Walraven Pacifyre® Technical Handbook

How to use innovative fire protection solutions for optimum protection

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# About Walraven

## Walraven

Walraven is a fast-growing company. Since 1942, we have grown from a small family business to an international company. Today, we have over 1.400 employees worldwide with production and sales facilities all over Europe, North America, the Middle East, and the Far East. Ever since its foundation, our headquarters has been in the same city in the Netherlands: Mijdrecht.

## A multinational with a heart

As a family-owned company, keeping the long-term interests of our employees, customers, and suppliers in mind comes naturally to us. We aim to make a sustainable difference by building a multinational with a heart. We genuinely look after all our internal and external stakeholders and invest time and effort into building personal, meaningful relationships.



■ Walraven headquarters in Mijdrecht

## Product-systems

We think beyond individual products. Our products are designed to work together seamlessly as a system supporting the installation work to be more efficient, effective, safe and sustainable. We offer a wide range of products, including fastening, passive fire protection, and sanitary systems. Throughout our history, we have applied our expertise to finding smart new solutions for clients. Sometimes big, sometimes small, always meaningful.

## Know-how

Our main business is to provide smart solutions for installation work. We have complete control over the entire process, from the initial concept to manufacturing – hence, providing smart installation materials is our speciality. Our global know-how, together with our local presence, enables us to serve our customers better. With our technical and logistical expertise in installation processes, we develop smart solutions that can significantly impact the installation value chain.

## Services

As technology advances and building requirements change, working with fixing and passive fire protection solutions becomes increasingly complex. However, our team of experts is here to help you find the most effective solutions for your construction challenges. We offer tailor-made services that include smart packaging, logistics, and digital solutions to add value to your daily work. Moreover, we take our technical support one step further in co-engineering by offering customised solutions to meet specific project demands.

The combination of our product systems, know-how, and services enables us to deliver our added value.

Walraven. The value of smart

## Walraven worldwide

- 30 companies
- 1.400+ employees
- 20 countries



### Market served by:

- *Walraven companies*
- *Distributor*

The Netherlands (NL) ■ Belgium (BE) ■ Germany (DE) ■ United Kingdom (UK) ■ Sweden (SE) ■ France (FR) ■ Spain (ES)  
 Poland (PL) ■ Czech Republic (CZ) ■ Ukraine (UA) ■ Türkiye (TR) ■ Greece (GR) ■ Italy (IT) ■ Hungary (HU) ■ United States (US)  
 Canada (CA) ■ China (CN) ■ Singapore (SG) ■ United Arab Emirates (AE) ■ India (IN)

# Walraven Pacifyre® fire protection solutions



Fire safe, smoke-tight and noise insulating ⊕

⊕ Standard and premium products available

⊕ Extensive certifications and approvals

⊕ Walraven Pacifyre® Product Selector available to easily find the right solution



# Fire protection solutions you can trust

The correct selection and installation of fire protection solutions can ultimately save people's lives. It is important to consider not just the product you require, but also the environment and situation where the product will be installed as every situation has its own unique requirements. Due to our extensive experience with developing and manufacturing passive fire protection solutions, we can give you the trusted products, support and advice you need.

## Our fire protection product range includes

### Walraven Pacifyre® fire collars

- Standard and premium ranges available
- Suitable for many plastic pipes, metal pipes and more challenging installation situations

### Walraven Pacifyre® fire sleeves

- Unique product for more complex fire protection requirements
- Installation case studies available online

### Walraven Pacifyre® fire protection wraps

- Intumescent strip for build-in fire protection solutions
- One roll for multiple installations

### Walraven Pacifyre® sealants and mortar

- Easy to use sealants to prevent the spread of smoke and fire through joints in walls and floors

## We are proud to offer

- ETA certified and CE marked products based on an ETA
- Easy to install products to minimise risk of incorrect installation
- Products that are suitable for renovations and remedial fire protection
- Unique product features to suit more complex building requirements
- Testing above and beyond standard requirements
- Free technical advice service including consultation and problem-solving
- Onsite training and support



## Want to know more?

- For technical documents see: [walraven.com/pacifyre](http://walraven.com/pacifyre)
- Find out more about fire protection on our website: [walraven.com/int/fire-protection-systems](http://walraven.com/int/fire-protection-systems)
- To find the right solution for most of your fire protection situations: [walraven.com/int/pacifyre-product-selector](http://walraven.com/int/pacifyre-product-selector)
- To contact our technical support by email: [export@walraven.com](mailto:export@walraven.com)

# Compartmentalisation

## Compartmentalisation and Penetrations of Technical Installations

To keep fire manageable, regulations impose requirements on the resistance to fire spread and fire transfer between fire compartments. A building is divided into compartments with different functions:

- 1. Fire Compartment:** A portion of one or more structures designated as the maximum fire expansion area.
- 2. Sub fire Compartment:** A portion of a fire compartment intended to limit smoke spread and further restrict the fire expansion area. Dimensions are based on minimum walking distance.
- 3. Protected Sub fire Compartment:** A section of a sub fire compartment that offers more protection against fire and smoke than a regular sub fire compartment.

Local regulations dictate the maximum sizes of fire compartments for various usage functions. Effective fire-protected separations keep the fire manageable, allowing building occupants to evacuate safely and providing firefighters the opportunity to extinguish fires and perform rescue work.

## Penetrations of Building Services threaten Compartmentalisation

Fire compartments consist of fire-resistant walls, floors, doors, glass structures, and, importantly, joints and penetrations. These compartments are penetrated by various technical installations, such as plumbing pipes, heating pipes, ventilation system ducts, electrical cables, and data cables. Penetrations and their openings pose a threat to fire resistance and must be protected against fire spread.

The key systems include:

- Plastic Pipes
- Metal Pipes
- Joints, Seams, Expansion Gaps

Each of these penetrations through walls or floors requires a specific approach. The valid test report is always the starting point.

## Plastic Pipes

A plastic pipe that passes through a wall or floor without proper measures is not fire-resistant. During a fire, the plastic material melts, leaving only the opening. With Walraven Pacifyre® collars, wraps and in some situations our Graphite Sealant, will seal the opening in a fire-resistant manner. These collars, wraps and graphite sealant contain a material that expands (intumescent) when exposed to fire, effectively sealing the opening. They rely on the energy from the fire to function, so they should be placed on the side where the fire is expected. For floors, a collar or wrap on the underside is always enough, as European regulations do not consider fire spreading from top to bottom. If you choose to use the Walraven Pacifyre® G Graphite Sealant, it should be used on both sides of the floor. For a wall, collars, wraps or the usage of graphite sealant are needed on both sides.

## Metal Pipes

In the case of a fire, a steel pipe will not melt and remains part of the fire seal. Walraven has conducted an extensive testing program with sealants that can fireproof steel pipes. The sealants effectively close off the penetration of the steel pipe. Temperature conduction continues for larger pipes. For metal pipes with a diameter up to 50 mm, using an expanding graphite sealant like Walraven Pacifyre® G graphite sealant is sufficient when the pipe is insulated with Elastomeric foam such as Aerofoam or Armaflex. For metal pipes with a diameter greater than 50 mm, insulation must be applied to the pipe. This can be done by using Stone wool pipe insulation, like Rockwool 800/810 over a length of at least 50 centimetres on both sides of the wall. Existing stone wool insulation systems have also been tested and, in combination with Walraven Pacifyre® A acrylic sealant, can achieve the desired fire resistance.



## Uncapped and Capped: U/U and U/C

During a test, pipes can either be sealed with a cap or left uncapped. This sealing simulates the difference between vented and unvented piping systems. In a vented system, the heat from the fire can penetrate the pipe due to the positive pressure in the burning space, since there is no counterpressure. The collar must react quickly and robustly because the pipe is attacked from both the outside and inside. This configuration is denoted as U/U (uncapped/uncapped). In unvented systems, there is counterpressure, which keeps the heat of the fire out of the pipe, resulting in lower stress. This configuration is denoted as U/C (uncapped/capped). The Walraven Pacifyre® Selection Chart specifies the range for U/U and U/C for each application.

## Joints, Seams, Expansion Gaps, and Small Openings

During a fire, not only the openings around penetrations need protection, but also joints, seams, expansion gaps, and small openings must be handled in a way that prevents fire from spreading through these gaps. For this purpose, a sealant is used that maintains a high degree of flexibility after curing, allowing it to withstand movement or pressure buildup. The Walraven Pacifyre® H hybrid sealant has been specifically tested for these applications and is highly suitable. Additional benefit is that it is paintable.

## Technical Advice and Application Selector

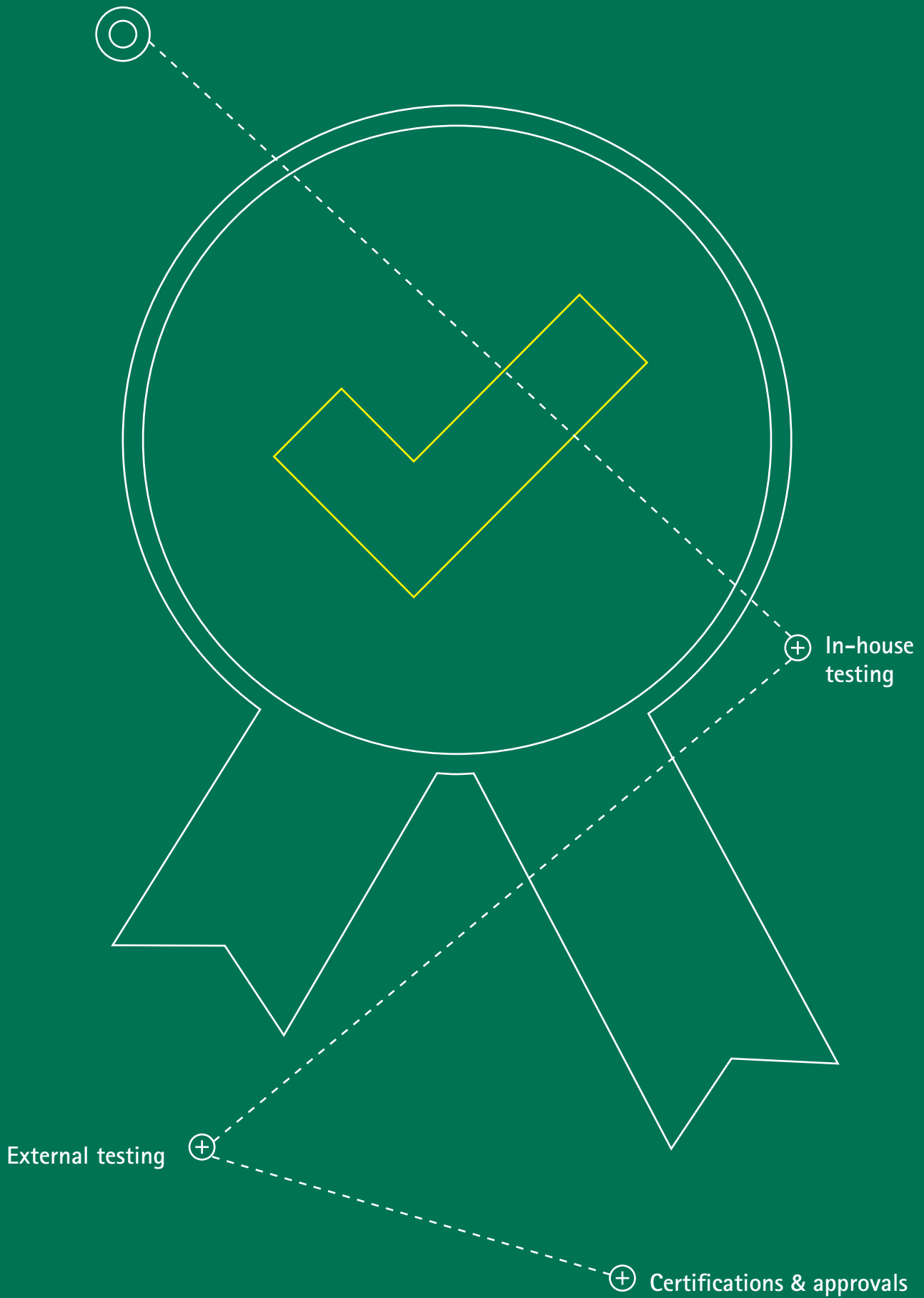
Especially when sealing penetrations of technical installations, practical situations are numerous and complex. Reliable technical advice based on tested constructions is crucial! Take advantage of Walraven's free technical consultation and choose certainty.

You can find all tested applications in the Walraven Pacifyre® Selection Chart on page 78 or online via our tool:

### Walraven Pacifyre® Product Selector:

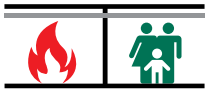
[www.walraven.com/int/pacifyre-product-selector](http://www.walraven.com/int/pacifyre-product-selector)

# Walraven Pacifyre® Certifications



# Certifications

Passive fire solutions are an essential part of improving the chance of survival (and limiting damage to a building) in case of a fire. Therefore, testing our passive fire solutions to the highest standards possible is always a top priority.



Fire safety tested by Walraven



The Ü(bereinstimmungs)-Zeichen is a German quality seal for building products



European Technical Approval (ETA) with CE marking



Independent certification institute for sprinkler systems, among others



Factory Mutual (FM), U. S. Certification for installation of sprinkler systems



Canadian and U.S. product safety certification and verification



RAL = German Institute for Quality Assurance and Certification

RAL quality mark = Quality mark for fastening products which are fire tested and certified according to the guidelines of the RAL Gütegemeinschaft Rohrbefestigung



Material Testing Institute North Rhine-Westphalia, Germany



The Royal Netherlands standardisation Institute



Institute for research in fire safety, engineering testing, inspection and certification, Rijswijk

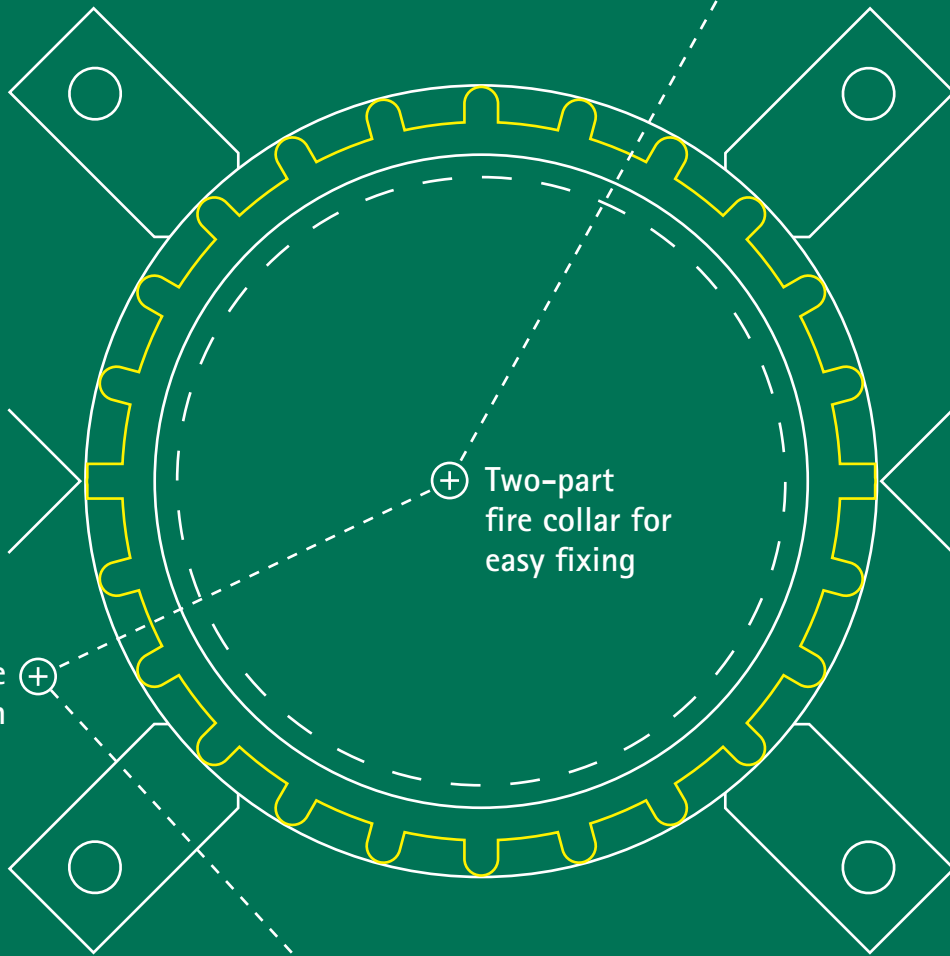


Conformité Européenne; in accordance with European regulations valid within the EEA (European Union, Liechtenstein, Norway and Iceland)

Walraven Pacifyre® FPC



+ Easy to install due to the connection tabs



+ Two-part fire collar for easy fixing

+ Built-in noise insulation

+ For various combustible pipe materials

# Walraven Pacifyre® FPC Fire Collar

The easy-to-install fire collar for fire resistant sealing of plastic and multilayer pipes

A high quality passive fire protection collar that allows a fire resistance up to EI 120 U/U for a range of combustible pipe penetrations in walls and floors up to Ø 315 mm.



## Features and benefits

- Easy to install
- Built-in noise insulation
- Collar stays in place during installation in vertical situations due to foam layer
- Suitable for combustible pipes with intended use as rainwater, sewage, drinking water and heating or cooling
- For application in flexible walls, rigid walls and rigid floors
- With a fire resistance up to EI 120 U/U
- Tested and approved according to EN 1366-3

## Approved for

### Wall application ≥ 100 mm

- PVC-U / PVC-C pipes up to Ø 160 mm EI 120 U/U and up to Ø 315 mm EI 120 U/C
- PE, PE-X ABS & SAN+PVC pipes up to Ø 250 mm EI 120 U/U and up to Ø 160 mm EI 60 U/U and up to Ø 315 mm EI 120 U/C
- PP-H (DIN 8077) pipes up to Ø 160 mm EI 120 U/ U
- Geberit Silent PP, Geberit Silent Pro, Wavin AS+, Wavin SiTech POLO KAL 3S, REHAU RAUPIANO PLUS up to Ø 125 mm EI 120 U/U and up to Ø 160 mm EI 90 U/ U
- Conel Drain, POLO KAL NG, up to Ø 160 mm EI 120 U/U (except Ø 90 > EI 90)
- Georg Fischer Silenta Premium up to Ø 160 mm EI 120 U/U
- Conel Drain up to Ø 110 mm EI 120 U/U

### Floor application ≥ 150 mm

- PVC-U / PVC-C pipes up to Ø 160 mm EI 120 U/U and up to Ø 315 mm EI 120 U/C
- PE, PE-X , ABS & SAN+PVC pipes up to Ø 160 mm EI 120 U/U up to Ø 250 mm EI 120 U/C and up to Ø 315 mm EI 90 U/C
- PP-H (DIN 8807) pipes up to Ø 160 mm EI 120 U/ U
- Geberit Silent PP, Geberit Silent Pro, Georg Fischer Silenta Premium, Conel Drain, Wavin AS+, Wavin SiTech +, POLO KAL NG, POLO KAL 3S, REHAU RAUPIANO PLUS up to Ø 160 mm EI 120 U/U
- Conel Drain up to Ø 110 mm EI 120 U/U



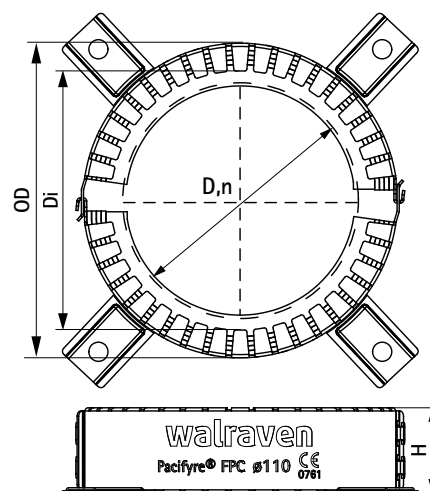
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# Walraven Pacifyre® FPC Fire Collar

The easy-to-install fire collar for fire resistant sealing of plastic and multilayer pipes

## Selection table

| Part No.   | Pipe       | Walraven Pacifyre® FPC fire protection collar |           |        |                  |
|------------|------------|---|-----------|--------|------------------|
|            | D,n Ø (mm) | Di Ø (mm)                                     | OD Ø (mm) | H (mm) | # of fixing tabs |
| 2122000032 | 32         | 28.4  | 59.4      | 30     | 2                |
| 2122000050 | 50         | 46.4  | 77.6      | 30     | 2                |
| 2122000063 | 63         | 59.8  | 95.6      | 30     | 4                |
| 2122000075 | 75         | 71.8  | 112.2     | 40     | 4                |
| 2122000090 | 90         | 87.2  | 127.6     | 40     | 4                |
| 2122000110 | 110        | 107.2   | 147.6     | 40     | 4                |
| 2122000125 | 125        | 122.6   | 167.6     | 60     | 4                |
| 2122000140 | 140        | 138.2   | 192.4     | 60     | 6                |
| 2122000160 | 160        | 158.8   | 213       | 60     | 6                |
| 2122000180 | 180        | 177.3   | 227       | 100    | 8                |
| 2122000200 | 200        | 198.8   | 266.2     | 100    | 10               |
| 2122000225 | 225        | 223.8   | 291.2     | 100    | 10               |
| 2122000250 | 250        | 248.8   | 316.2     | 100    | 10               |
| 2122000280 | 280        | 278.8   | 358       | 100    | 10               |
| 2122000300 | 300        | 298.8   | 378       | 100    | 10               |
| 2122000315 | 315        | 313.8   | 393       | 100    | 10               |



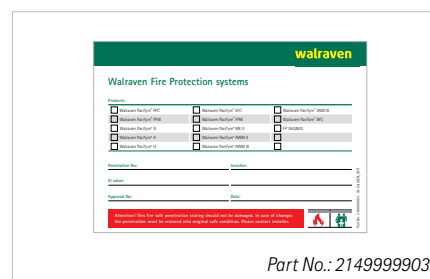
## Complementary products



- Walraven Pacifyre® A acrylic sealant



- Walraven Pacifyre® fixing set 1



- Walraven Pacifyre® ID-Card

## Installation instruction



1. Clean the pipe and check the dimensions.  
Annular joint width max. 30 mm.



2. Close the gap with loose mineral wool and seal it with the gap filler Walraven Pacifyre®  
A acrylic sealant (fill depth = 10 mm).



3. Choose the right size of collar.



4. Mount the collar around the pipe with the closing mechanism.

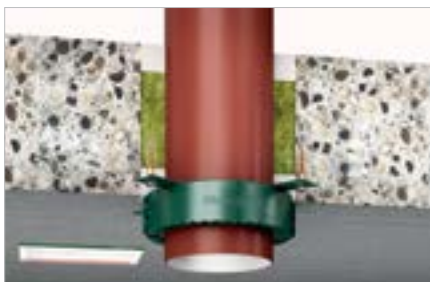


5. Mount the collar to the wall with an approved fixing set (as shown in the section Complementary products).

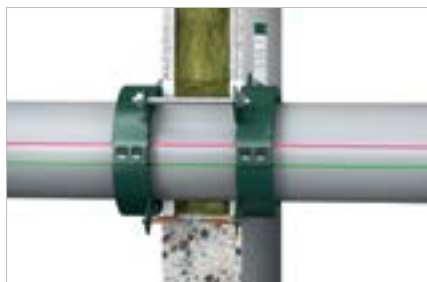


6. Fill out and place the Walraven Pacifyre® ID-Card next to the penetration.

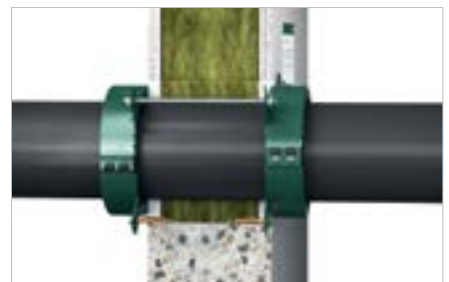
## Installation options



■ Floor penetrations

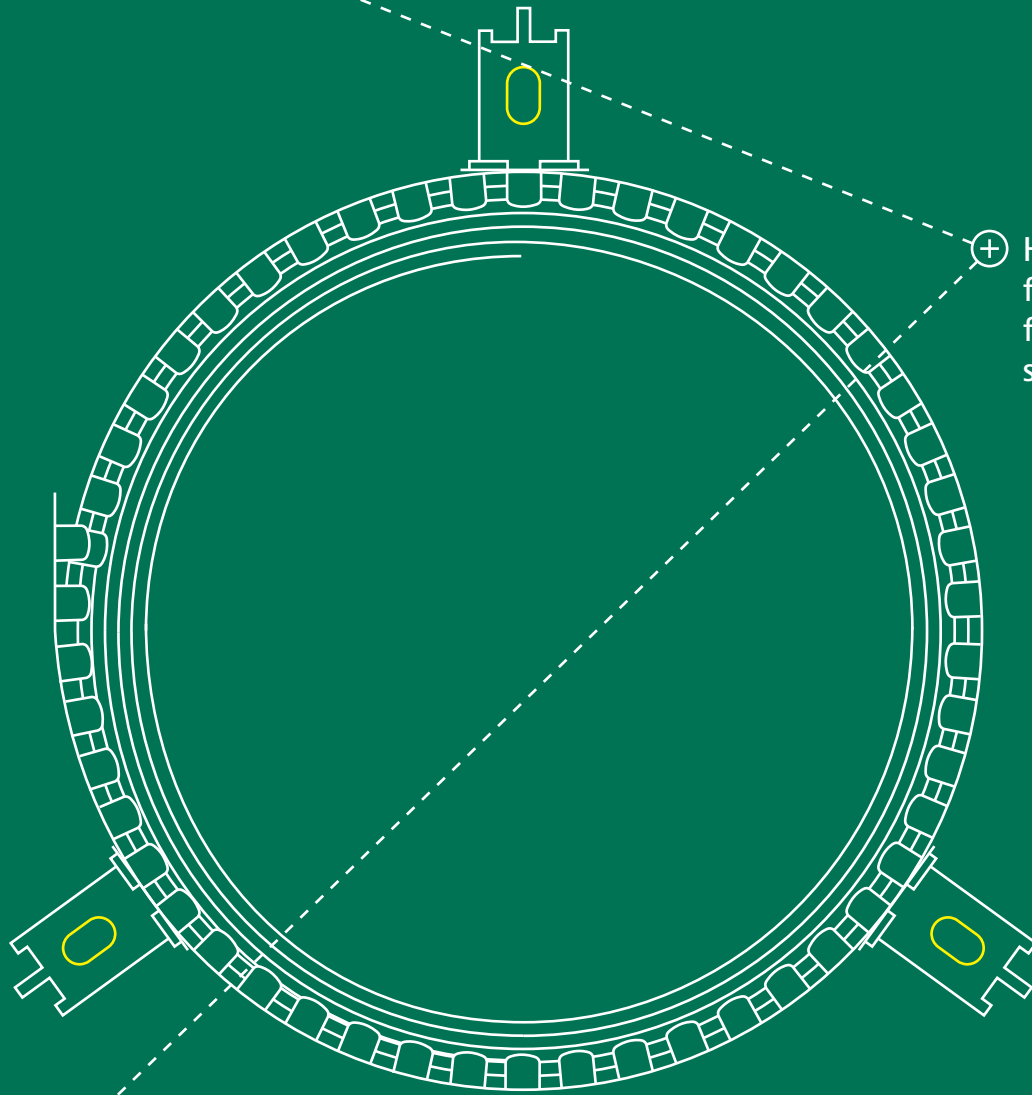


■ Flexible wall penetrations



■ Rigid wall penetrations

# Walraven Pacifyre® EFC



+ High flexibility for complex situations

+ Easy on-site modifications

+ Suitable for damp conditions

+ Left-overs can be reused



# Walraven Pacifyre® EFC Fire Collar

The flexible collar solution for simple to complex situations with plastic and multilayer pipes

The Walraven Pacifyre® EFC is a problem solver for complex installations, such as angled, corner and multiple pipe penetrations with zero distance between the pipes. In the event of a fire, the intumescent material of the collar expands with high pressure and seals the opening against flames and smoke.



This carton box contains: 3 m stainless steel band, 10 m fire strip, 18 fixing brackets, 18 sets of fixings and 6 Walraven Pacifyre® EFC ID-Cards.

## Features and benefits

- Simple and easy to install, without special training
- Only one box for numerous penetrations and all pipe dimensions ( $\varnothing \leq 160$  mm)
- High flexibility due to close wall distance
- Suitable for difficult to access penetrations
- Zero distance between fire collars is possible
- Expansion and contraction of the pipe remains possible
- Suitable for damp conditions
- Maintenance free
- Contains no dangerous materials
- Only 3 fixing points for a fire collar of 110 mm
- The required length of the stainless steel and intumescent strip can be determined on the job site
- Only the exact amount of intumescent band is required: minimal use of material per penetration
- Left-over material can be attached to another Walraven Pacifyre® EFC fire collar
- Max. 3 pipes through 1 fire collar ( $\varnothing \leq 75$  mm) when space in between is  $\leq 15$  mm
- Fire safe tested up to EI 120 U/U
- CE marked
- Tested and approved according to EN 1366-3

*With one EFC set you can create multiple collars of various sizes!*



ETA 13/0793

# Walraven Pacifyre® EFC Fire Collar

The flexible collar solution for simple and complex situations with plastic and multilayer pipes

## Approved for

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### Walls / floors

- Solid walls with a thickness of  $\geq 100$  mm made of e.g.
  - Mortared brick
  - Aerated concrete blocks
  - Reinforced concrete blocks
- Flexible walls (e.g. metal-stud) with a thickness of  $\geq 94$  mm
- Solid floors / ceilings with a thickness of  $\geq 150$  mm

### Approved pipes

- PVC pipes  $\varnothing \leq 160$  mm
- PE pipes  $\varnothing \leq 160$  mm
- PP pipes  $\varnothing \leq 160$  mm
- Mineral fibre pipe systems  $\varnothing \leq 160$  mm, such as:
  - Poloplast – Polokal NG
  - Wavin – SI Tech
  - Geberit – Silent PP
  - Rehau – Raupiano Plus
  - Coes Blue Power
  - Valsir – TRlplus
  - Mainpex - Mainpower
- Multilayer pipes  $\varnothing \leq 110$  mm, such as:
  - Fusiotherm Stabi
  - Uponor Unipipe
  - Alpex F50 / Alpex L
- Copper pipes  $\varnothing \leq 88,9$  mm
- (Stainless) Steel pipes  $\varnothing \leq 108$  mm



■ Built-in situation flexible walls  $\geq 100$  mm



■ Built-in situation ceilings  $\geq 150$  mm

### Approved insulations

Pipe systems can be insulated with:

- Elastomeric foam insulation (Armaflex, Kaiflex, Thermaflex, etc.) with a thickness of  $\leq 35$  mm
- Polyethylene insulation with a thickness of  $\leq 4$  mm

### Approved seals

The gap between pipe and wall or ceiling can be sealed with:

- Walraven Pacifyre® FPM fire protection mortar

## Consumption table

Combustible pipes (e.g. PVC / PE / PP)

| Consumption of materials per collar                                 |                | Pipe Ø (mm) |    |    |    |    |     |     |            |     |            |
|---|----------------|-------------|----|----|----|----|-----|-----|------------|-----|------------|
|   |                | 32          | 40 | 50 | 63 | 75 | 90  | 110 | 125        | 140 | 160        |
| Intumescent   | N° of layers   | 2           | 2  | 2  | 3  | 3  | 4   | 4   | 5 / 6*     | 6   | 6 / 8*     |
|   | Length (cm)    | 26          | 31 | 38 | 69 | 81 | 128 | 153 | 218 / 265* | 293 | 330 / 450* |
| Stainless steel band  | Sections (pcs) | 12          | 14 | 16 | 19 | 22 | 25  | 29  | 33 / 34*   | 37  | 41 / 43*   |
|   | Length (cm)    | 18          | 20 | 24 | 29 | 33 | 39  | 45  | 51 / 52*   | 57  | 63 / 66*   |
| Hooks   | Amount (pcs)   | 2           | 2  | 2  | 3  | 3  | 3   | 3   | 4          | 4   | 4          |
| Potential number of collars per 1 Walraven Pacifyre® EFC carton box |                | 38          | 32 | 26 | 14 | 12 | 7   | 6   | 4          | 3   | 3          |

## Complementary products



Part No.: 2132100601

- 3 m stainless steel band (refill)



Part No.: 2132100602

- 18 fixing brackets, 18 Walraven star plugs, screws and rings (refill)



Part No.: 2180100010

- Walraven Pacifyre® A acrylic sealant



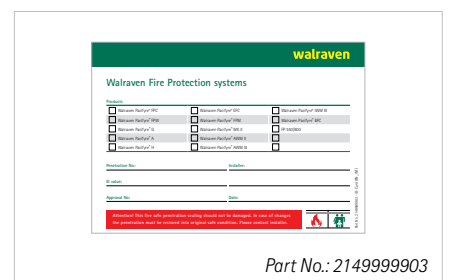
Part No.: 2180100030

- Walraven Pacifyre® H hybrid sealant



Part No.: 2180015300

- Walraven Pacifyre® FPM fire protection mortar



Part No.: 2149999903

- Walraven Pacifyre® ID-Card

# Walraven Pacifyre® EFC Fire Collar

The flexible collar solution for simple to complex situations with plastic and multilayer pipes

## Installation instructions



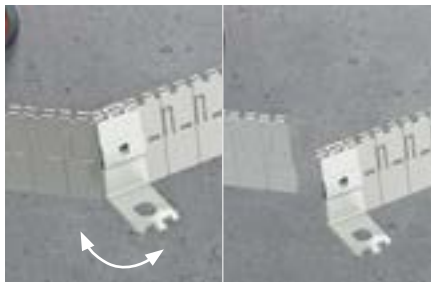
1. Install pipe and if desired apply insulation.



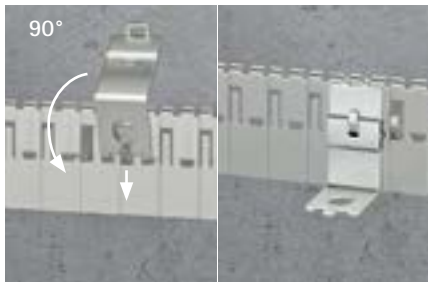
2. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



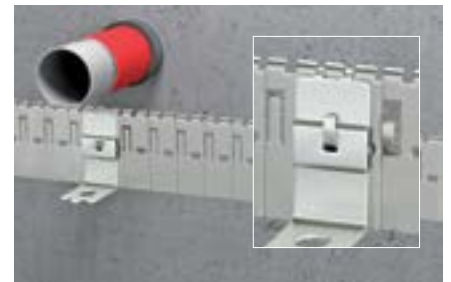
3. Wrap the fire strip (or insulation) around the pipe (note the number of layers required\*). Attach with an overlap of 15 mm.



4. Cut desired length of stainless steel strip\* by using fixing bracket. No additional tools needed.



5. Place a fixing bracket by bending a "tab of stainless steel band" 90° by using the long nose of the fixing bracket.



6. Place fixing bracket and fold "tab of stainless steel band" back over fixing bracket. Distribute the required amount of brackets equally over the stainless steel band.



7. At the end of the stainless steel strip bend 2 "tabs". Place both ends over each other and fold "tabs" back in place to close steel strip.



8. Fix to the wall or floor with the supplied plugs and screws. In drywall partitions, use threaded rods M6 and M8.



9. Apply a Walraven Pacifyre® ID-Card to the wall/ floor for identification by inspection bodies.

\*See consumption table on the previous page

## Installation options



- Zero distance possible between the collars (non-insulated pipes)



- Multilayer pipes up to outer Ø 110 mm insulated with elastomeric foam



- Socket penetrations



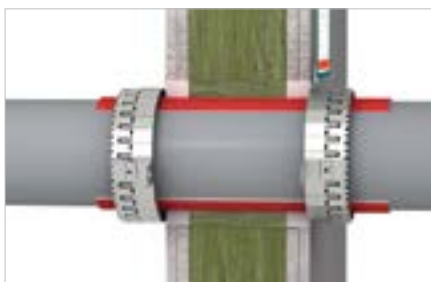
- Suitable for corner penetrations (¾ fire collar). Distance between wall and pipe  $\leq 10$  mm



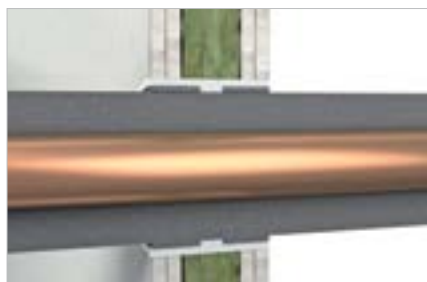
- Angled penetrations



- Multiple penetrations (max. 3 pipes through 1 fire collar). Distance between pipes  $\leq 15$  mm



- Penetration through wall sealed with loose mineral wool and Walraven Pacifyre® FPM fire protection mortar

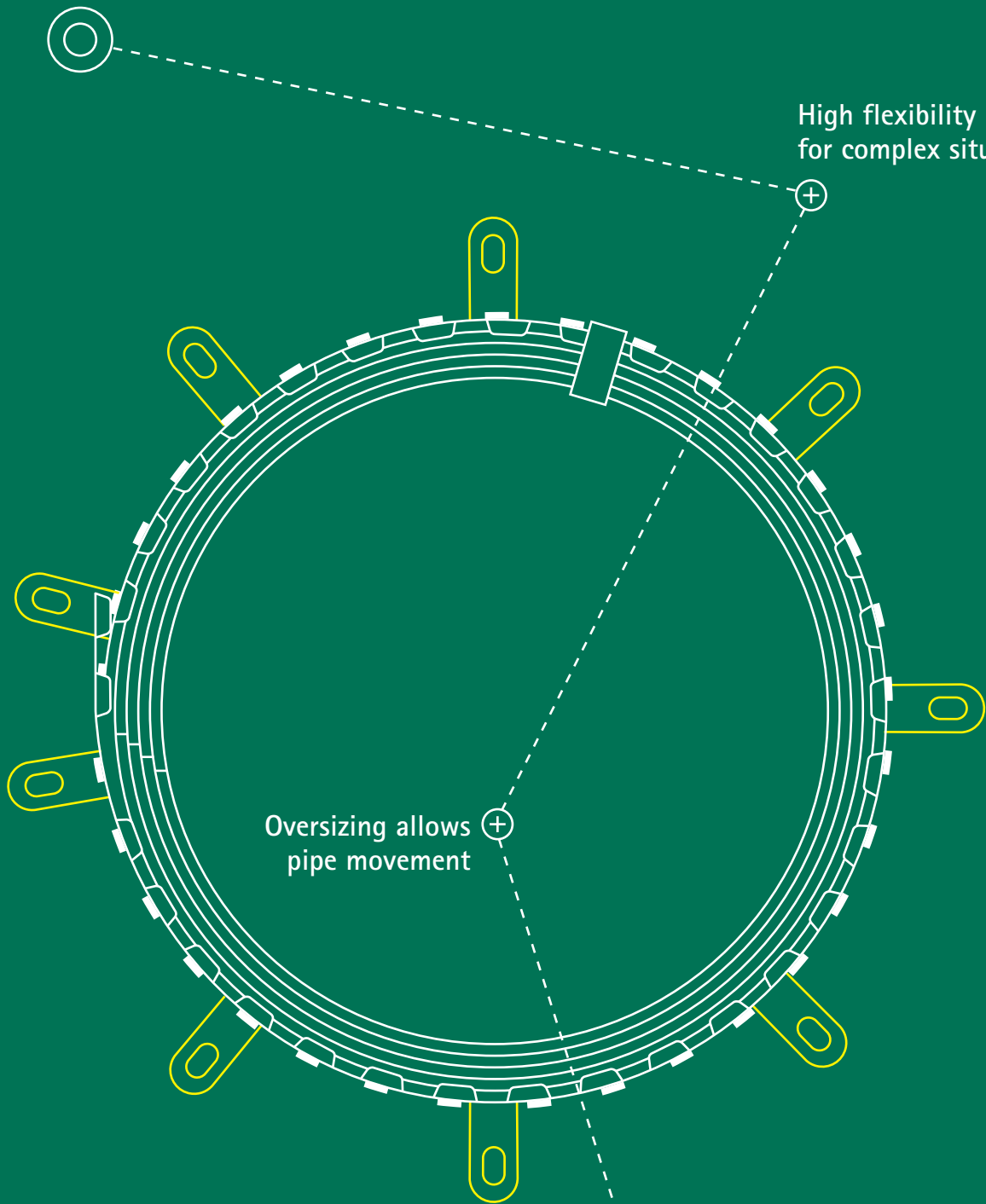


- Non-combustible pipes with insulation through the wall



- Non-combustible pipes with insulation through a floor

Walraven Pacifyre® BFC



High flexibility  
for complex situations

Oversizing allows  
pipe movement

Suitable for  
damp conditions

# Walraven Pacifyre® BFC Fire Collar

## Basic fire collar for plastic and multilayer pipes

A standard fire collar designed for plastic (combustible) pipes up to Ø 160 mm. It works effectively with both thin- and thick-walled pipes, making it suitable for flexible walls, solid walls, and ceilings.



The carton box contains: 2 collars.

## Features and Benefits

- Easy to install
- Suitable for damp conditions
- Oversized for increased flexibility in positioning
- Up to 2 hours fire protection in wall penetrations
- Up to 4 hours fire protection on floor penetrations
- Low height increases installation flexibility
- For thin- and thick-walled pipes
- For flexible walls, solid walls and floors
- With a fire resistance up to EI 120 U/U
- Tested and approved according to EN 1366-3

## Approved for

### Standard pipes

- PVC
- PE
- PP
- PP-R
- Multilayer

### Noise reducing pipes

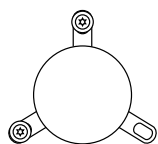
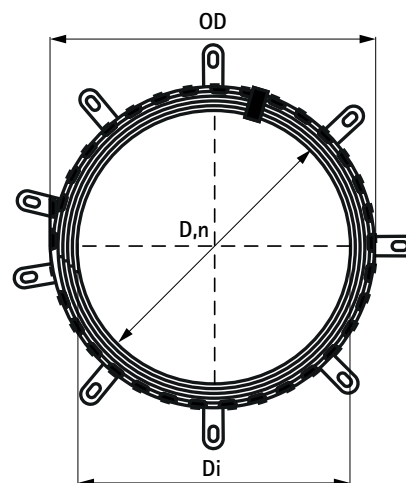
- Blue Power
- Wavin SITECH
- Aquatherm Green
- Geberit Silent PP
- POLO-KAL NG
- Rehau Raupiano Plus
- Triplus 3

# Walraven Pacifyre® BFC Fire Collar

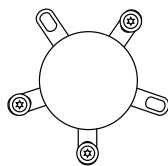
Basic fire collar for plastic and multilayer pipes

## Selection table

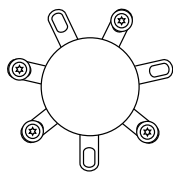
| Part No.   | Pipe       | Walraven Pacifyre® BFC fire collar |           |                  |
|------------|------------|------------------------------------|-----------|------------------|
|            | D,n Ø (mm) | Di Ø (mm)                          | OD Ø (mm) | # of fixing tabs |
| 2133000050 | ≤ 50       | 56                                 | 70        | 2                |
| 2133000063 | 63         | 67                                 | 90        | 3                |
| 2133000075 | 75         | 80                                 | 100       | 3                |
| 2133000090 | 90         | 98                                 | 125       | 3                |
| 2133000110 | 110        | 118                                | 150       | 3                |
| 2133000125 | 125        | 130                                | 160       | 4                |
| 2133000140 | 140        | 145                                | 180       | 4                |
| 2133000160 | 160        | 165                                | 200       | 4                |



Ø = 50 mm;  
at least 2 fixing points



63 mm ≤ Ø ≤ 110 mm;  
at least 3 fixing points



125 mm ≤ Ø ≤ 160 mm;  
at least 4 fixing points

## Complementary products



■ Walraven Pacifyre® A acrylic sealant



■ Walraven Pacifyre® H hybrid sealant



■ Walraven Pacifyre® FPM fire protection mortar



■ Walraven Pacifyre® fixing set 1



■ Walraven Pacifyre® ID-Card



## Installation instructions



1. Install pipe.



2. Close the gap with loose mineral wool and seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



3. Place the collar around the pipe.



4. Close the collar by inserting the strip from the inside out through the second hole and bending it back.



5. Mount the collar to the hole with an approved fixing set (as shown in the complementary products).



6. Fill out and place the Walraven Pacifyre® ID-Card next to the penetration.

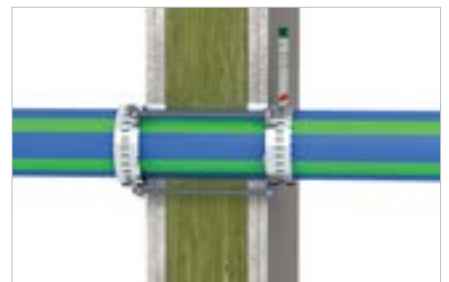
## Installation options



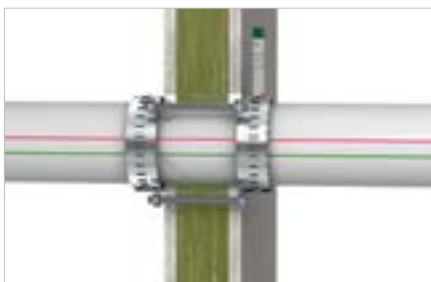
■ Combustible pipe penetration through a rigid floor construction



■ Combustible pipe penetration through a flexible wall construction  $\geq 100$  mm

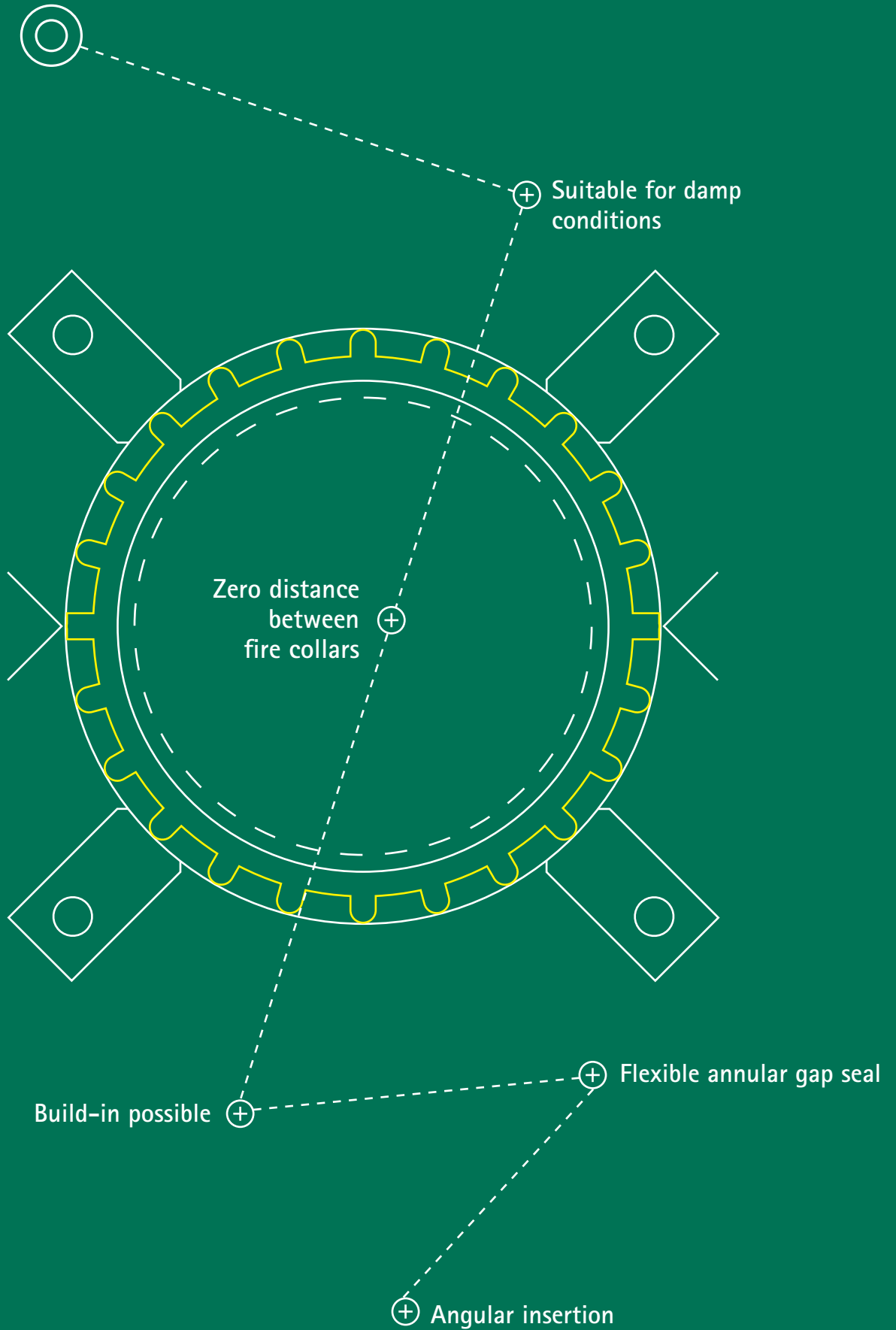


■ Aquatherm Green pipe penetration through a flexible wall construction  $\geq 100$  mm



■ Rehau Raupiano Plus pipe penetration through a flexible wall construction  $\geq 100$  mm

Walraven Pacifyre® AWM II

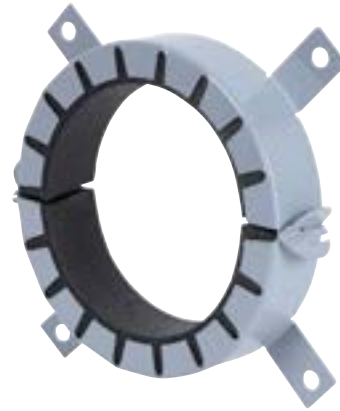


# Walraven Pacifyre® AWM II Fire Collar

Innovative fire collar for complex installations of plastic and multilayer pipes

The Walraven Pacifyre® AWM II fire collar is an innovative collar suitable for a range of applications where a standard fire collar may not be appropriate.

It can be used to fire seal (un)insulated PVC and PE pipes with a  $\varnothing$  of 200 mm up to even 500 mm. It is easily installed and can be fitted to provide added noise insulation benefits.



## Features and benefits

- Zero distance is possible between fire collars
- Built-up fire collar for plastic (combustible) pipes and pipe systems. For apertures in walls (solid walls or flexible walls) and floors with fire protection
- Installation of elbows, pipe couplings or branch pipes into the wall or, directly in, or under the ceiling is possible
- With a fire resistance up to EI 120 U/U
- Installation of telecommunications pipeline or protective piping with up to 2 cables is possible
- The use of PE noise insulation hose up to a thickness of 4 mm of composite natural rubber insulation to a thickness of 43 mm is allowed
- Tested and approved according to EN 1366-3

## Approved for

### Approved pipes resp. piping systems

Flammable pipes:

- PVC pipes  $\varnothing \leq 400$  mm
- PE pipes  $\varnothing \leq 400$  mm
- PP pipes  $\varnothing \leq 200$  mm
- Noise reducing pipes  $\leq \varnothing 200$  mm
- Aquatherm Blue pipe & Aquatherm Greenpipe  $\leq \varnothing 355$  mm

### Approved insulation materials

- Plastic elastomeric foam (FEF) insulation  $< 50$  mm
  - Elastomeric foam (Armaflex, Kaiflex, Thermaflex etc.) with a thickness  $\leq 32$  mm
  - Polyethylene with a thickness  $\leq 4$  mm
- Fire class  $\geq B2$*

### Approved seals

The space between the Walraven Pacifyre® AWM II fire collar and the wall or floor may be sealed with:

- Plaster mortar or concrete mortar (such as Walraven Pacifyre® FPM fire protection mortar) with a width  $\leq 100$  mm applied over the entire depth.
- Loose mineral wool with ablative or intumescent filler



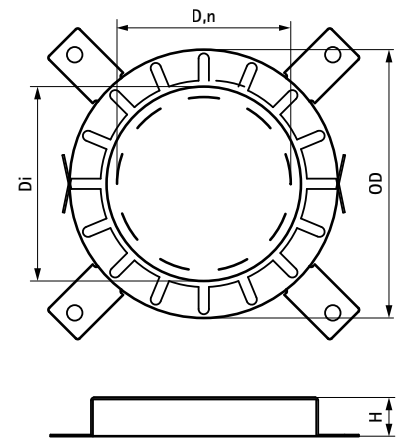
ETA 17/0753

# Walraven Pacifyre® AWM II Fire Collar

Innovative fire collar for complex installations of plastic and multilayer pipes

## Selection table

| Part No.   | Walraven Pacifyre® AWM II fire collar |           |           |        |                  |
|------------|---------------------------------------|-----------|-----------|--------|------------------|
|            | Pipe<br>D Ø (mm)                      | Di Ø (mm) | OD Ø (mm) | H (mm) | # of fixing tabs |
| 2134032034 | 32                                    | 36-40     | 50-54     | 26     | 2                |
| 2134040042 | 40                                    | 44-48     | 58-62     | 26     | 2                |
| 2134050052 | 50                                    | 54-57     | 68-71     | 26     | 2                |
| 2134063065 | 63                                    | 67-70     | 94-97     | 26     | 4                |
| 2134075077 | 75                                    | 79-83     | 106-110   | 26     | 4                |
| 2134090092 | 90                                    | 94-100    | 132-138   | 26,6   | 4                |
| 2134110112 | 110                                   | 114-120   | 155-161   | 26,6   | 4                |
| 2134125125 | 125                                   | 129-135   | 172-178   | 40     | 4                |
| 2134140140 | 140                                   | 144-152   | 200-206   | 40     | 6                |
| 2134160160 | 160                                   | 164-169   | 220-225   | 40     | 6                |
| 2134180180 | 180                                   | 184       | 264       | 40     | 8                |
| 2134200200 | 200                                   | 204       | 284       | 40     | 8                |
| 2134225225 | 225                                   | 239       | 328       | 51.5   | 10               |
| 2134250250 | 250                                   | 264       | 353       | 51.5   | 10               |
| 2134280280 | 280                                   | 289       | 378       | 51.5   | 12               |
| 2134300300 | 300                                   | 314       | 403       | 51.5   | 12               |
| 2134315315 | 315                                   | 328       | 417       | 51.5   | 12               |
| 2134355355 | 355                                   | 370       | 459       | 51.5   | 12               |
| 2134400400 | 400                                   | 415       | 504       | 51.5   | 12               |
| *          | 450                                   | 465       | 554       | 51.5   | 14               |
| *          | 500                                   | 515       | 604       | 51.5   | 14               |



\*For more information please contact your local dealer

## Complementary products



- Walraven Pacifyre® A acrylic sealant



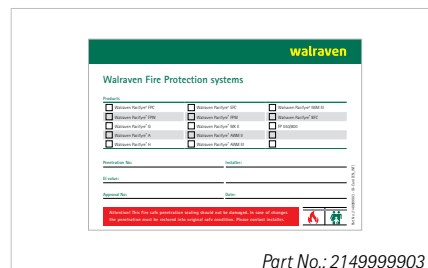
- Walraven Pacifyre® H hybrid sealant



- Walraven Pacifyre® FPM fire protection mortar



- Walraven Pacifyre® fixing set 1



- Walraven Pacifyre® ID-Card

## Installation instructions



1. Install pipe and if necessary apply noise insulation.



2. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



3. Select the correct collar size.



4. Drill (bending and sliding of fixing tabs is permitted).

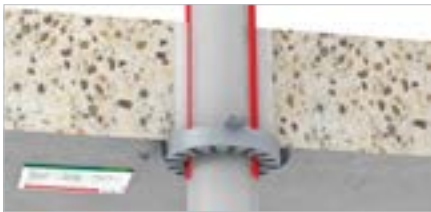


5. Fix using the screws supplied.

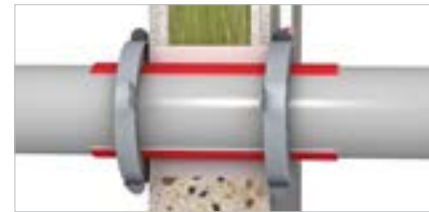


6. Apply the Walraven Pacifyre® ID-Card.

## Installation options



■ Combustible pipes in rigid floors



■ Combustible pipes in rigid and flexible walls



■ Bundles of plastic conduits (including single penetrations) in rigid and flexible walls



■ Combustible pipes with collars in zero distances



■ Combustible pipes installed transverse (45°) in rigid floors



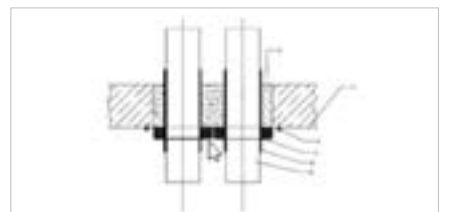
■ Combustible pipes with pipe socket in rigid floors



■ Installation of combustible pipes with pipe collar in rigid floors. 2 x 45° pipe bows

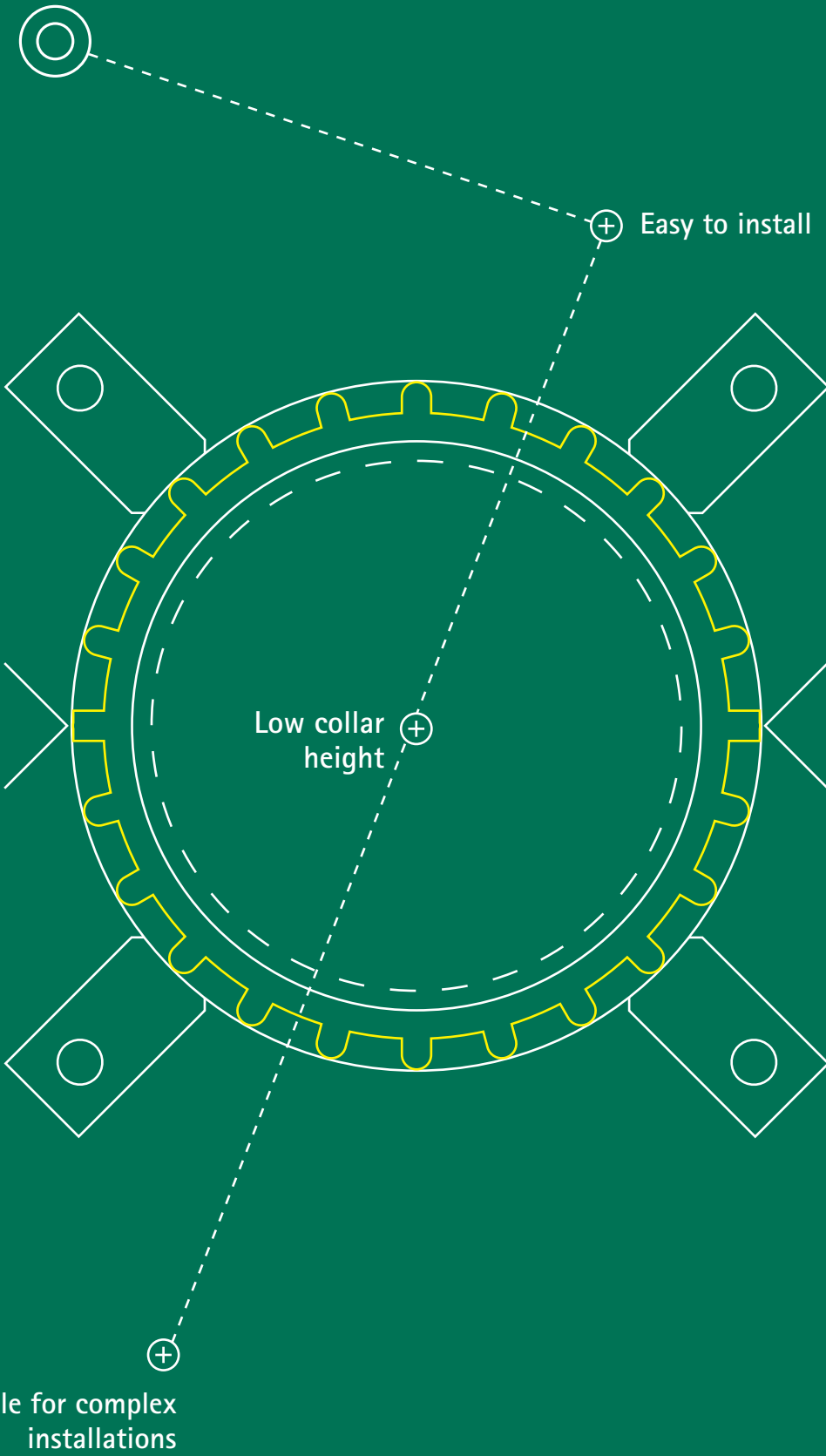


■ Installations with GF Cool-Fit pipes 2.0 and 4.0



■ Zero distance possible between the collars

Walraven Pacifyre® AWM III



# Walraven Pacifyre® AWM III Fire Collar

Standard collar with low collar height for plastic pipes

The Walraven Pacifyre® AWM III fire collar is an innovative collar for complex installations. It can be used to fire seal plastics (combustible) pipes up to Ø 200 mm in walls and ceilings. It is easily installed and can be fitted to provide added noise insulation benefits.



## Features and benefits

- Two-part fire collar designed for easy installation
- Zero distance is possible between fire collars
- With a fire resistance up to EI 120 U/C
- Low collar height, allowing building of bends, sockets and T-joints close to the wall or ceiling
- Should be fixed on both sides of the wall / ceiling
- Tested according to EN 1366-4

## Approved for

### Approved pipes / pipe systems in EI240 quality:

- Noise reducing pipe systems e.g.:
  - Friatec: Friaphon®, dBlue
  - Geberit: Silent-db20, Silent-PP
  - Wavin: Wavin AS, SiTech
  - PipeLife: PP Master
  - Rehau: Raupiano PLUS
- Combustible pipe systems (up to outer Ø 200 mm) in all common pipe materials, e.g.:
  - PVC
  - PP
  - PE
  - PE-X
  - ABS or ASA
- Pipes (up to Ø 200 mm) for central dust extraction and pneumatic dispatch systems

### Approved insulations and seals:

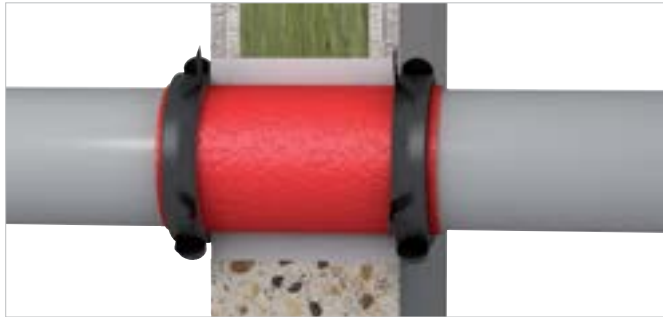
- PE-noise insulation ≤ 9 mm
- Elastomeric foam insulation ≤ 32 mm
- ≤ 10 mm Walraven Pacifyre® A acrylic sealant
- ≤ 10 mm mineral wool (loose)
- Mortar, plaster, concrete (e.g. Walraven Pacifyre® FPM fire protection mortar)



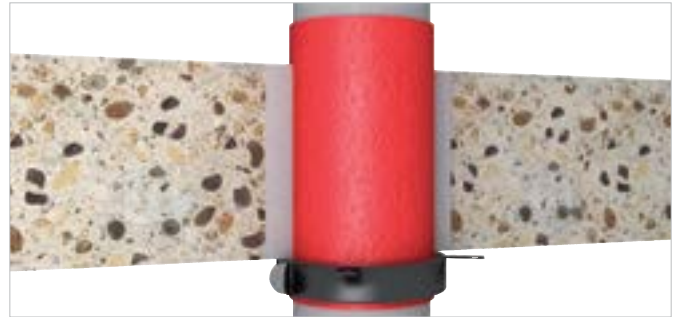
ETA 13/0906

# Walraven Pacifyre® AWM III Fire Collar

Standard collar with low collar height for plastic pipes



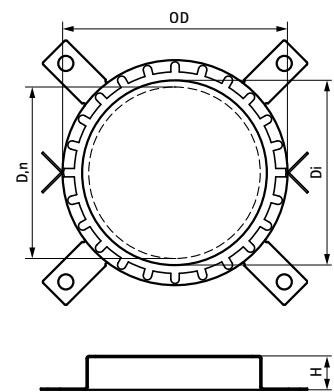
■ Built-in situation solid and flexible walls  $\geq 100$  mm



■ Built-in situation rigid floors  $\geq 150$  mm

## Selection table

| Part No.   | Pipe       | Walraven Pacifyre® AWM III fire collar |           |        |                  |
|------------|------------|--|-----------|--------|------------------|
|            | D,n Ø (mm) | Di Ø (mm)                              | OD Ø (mm) | H (mm) | # of fixing tabs |
| 2135032034 | 32         | 38                                     | 47        | 26     | 2                |
| 2135040042 | 40         | 46                                     | 55        | 26     | 2                |
| 2135050052 | 50         | 56                                     | 65        | 26     | 2                |
| 2135063065 | 63         | 69                                     | 82        | 26     | 4                |
| 2135075077 | 75         | 81                                     | 94        | 26     | 4                |
| 2135090092 | 90         | 96                                     | 114       | 26     | 4                |
| 2135110112 | 100/110    | 116                                    | 134       | 26     | 4                |
| 2135125125 | 125        | 132                                    | 150       | 40     | 4                |
| 2135140140 | 135/140    | 144                                    | 168       | 40     | 4                |
| 2135160160 | 160        | 164                                    | 188       | 40     | 4                |
| 2135180180 | 180        | 184                                    | 218       | 40     | 4                |



## Complementary products



Part No.: 2180100010

■ Walraven Pacifyre® A acrylic sealant



Part No.: 2180100030

■ Walraven Pacifyre® H hybrid sealant



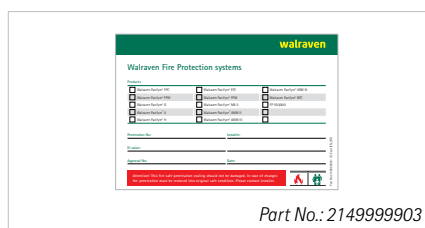
Part No.: 2180015300

■ Walraven Pacifyre® FPM fire protection mortar



Part No.: 2121000024

■ Walraven Pacifyre® fixing set 1



Part No.: 2149999903

■ Walraven Pacifyre® ID-Card



## Installation instructions



1. Install pipe and if necessary apply noise insulation.



2. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



3. Select the correct collar size (in problematic built-in situations the use of an oversized collar is permitted up to max. 3 sizes bigger).



4. Drill (bending and sliding of fixing tabs is permitted).



5. Fix using the screws supplied.



6. Apply the Walraven Pacifyre® ID-Card.

## Installation options



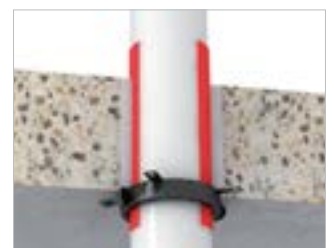
■ Zero distance possible between the collars



■ Combustible pipes up to Ø 200 mm outer



■ Fixing tabs mortared (90° reversed)



■ With PE-Insulation ≤ 9 mm (or ≤ 32 mm elastomeric foam insulation)



■ Bends directly under the ceiling

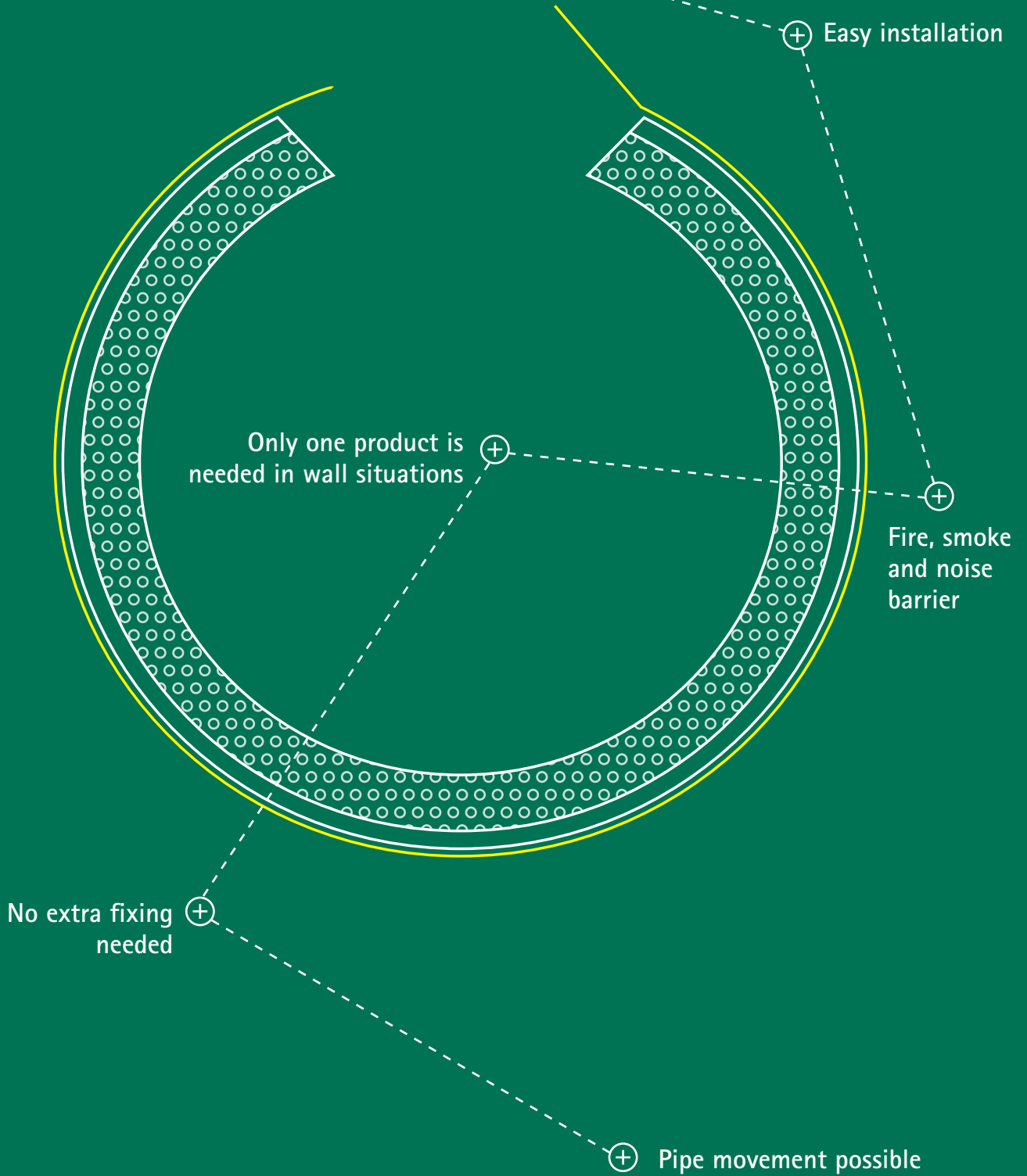


■ Also suitable for diagonal penetrations



■ T-joint close to penetration

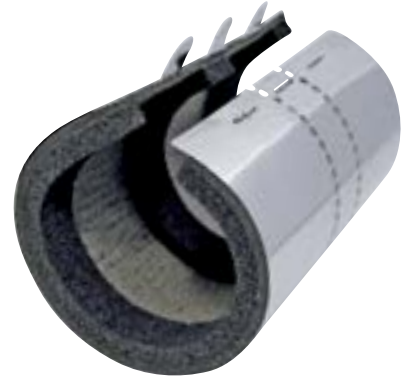
# Walraven Pacifyre® MK II



# Walraven Pacifyre® MK II Fire Sleeve

## The single component solution for plastic pipes

A single component fire sleeve that allows you to make an aperture for pipes, smoke-free, noise-free and fire-resistant. This passive fire product can be installed around pipes through floors, ceilings, solid walls, and modular walls.



## Features and benefits

- The sleeve provides a guaranteed protection against fire, smoke and noise
- With a fire resistance up to EI 120 U/C
- Expansion and contraction of the pipe remains possible
- Minimum space required, therefore can be applied in areas of hard accessibility
- A higher flexibility due to minimal overhang on wall and floor seals
- Only one product per penetration needed in walls and floors
- No tools, drilling or extra fixing materials needed
- Noise reduction test report from IRB (Fraunhofer Institute – Germany) available
- Tested and approved according to EN 1366-3

## Approved for

### Plastic pipes

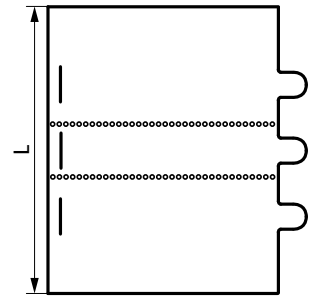
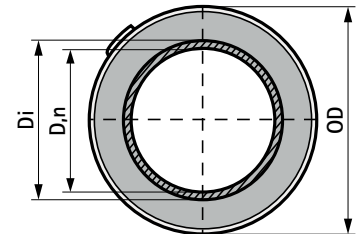
- PE
- PP
- PVC
- Multilayer
- Mixed penetration of plastic pipes

# Walraven Pacifyre® MK II Fire Sleeve

The single component solution for plastic pipes

## Selection table

| Part No.   | Pipe       | Walraven Pacifyre® MK II fire sleeve |           |        |
|------------|------------|--------------------------------------|-----------|--------|
|            | D,n Ø (mm) | Di Ø (mm)                            | OD Ø (mm) | L (mm) |
| 2151015017 | 16         | 17                                   | 40        | 205    |
| 2151018020 | 20         | 20                                   | 45        | 205    |
| 2154024026 | 25         | 28                                   | 50        | 205    |
| 2154030032 | 32         | 36                                   | 55        | 205    |
| 2154039041 | 40         | 44                                   | 65        | 205    |
| 2154048050 | 50         | 52                                   | 75        | 205    |
| 2154051053 | 52         | 55                                   | 75        | 205    |
| 2154054056 | 56         | 58                                   | 80        | 205    |
| 2154057059 | 58         | 61                                   | 85        | 205    |
| 2154063065 | 63         | 67                                   | 90        | 205    |
| 2154075077 | 75         | 79                                   | 100       | 205    |
| 2154078080 | 80         | 82                                   | 105       | 205    |
| 2154090092 | 90         | 94                                   | 115       | 205    |
| 2154108110 | 110        | 113                                  | 135       | 205    |
| 2158123125 | 125        | 128                                  | 160       | 205    |
| 2158135137 | 135        | 139                                  | 170       | 205    |
| 2158138140 | 140        | 144                                  | 175       | 205    |
| 2158159161 | 160        | 164                                  | 195       | 205    |
| 2158180182 | 180        | 184                                  | 215       | 205    |
| 2152198200 | 200        | 204                                  | 245       | 205    |



Drilling  $\varnothing = d + 1X (\geq/\leq)$

| Kit       |           | Mortar    |           |
|-----------|-----------|-----------|-----------|
| $\geq$ mm | $\leq$ mm | $\geq$ mm | $\leq$ mm |
| 10        | 20        | 20        | 100       |

## Complementary products



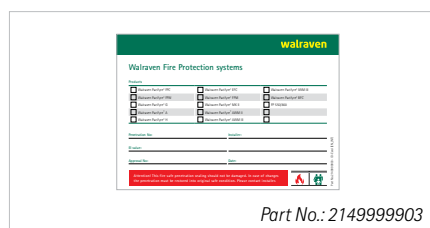
- Walraven Pacifyre® A acrylic sealant



- Walraven Pacifyre® H hybrid sealant



- Walraven Pacifyre® FPM fire protection mortar



- Walraven Pacifyre® ID-Card

## Installation instructions



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. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



6. Fill out and place the Walraven Pacifyre® ID-Card (Part No. 2149999903).

## Installation options



■ Small spaces

Suitable for places with difficult accessibility (for example an aperture that is only accessible from one side). The Walraven Pacifyre® MK II fire sleeve can also be used when the distance between the wall or floor and pipe is very small.



■ Close spacing

The Walraven 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.



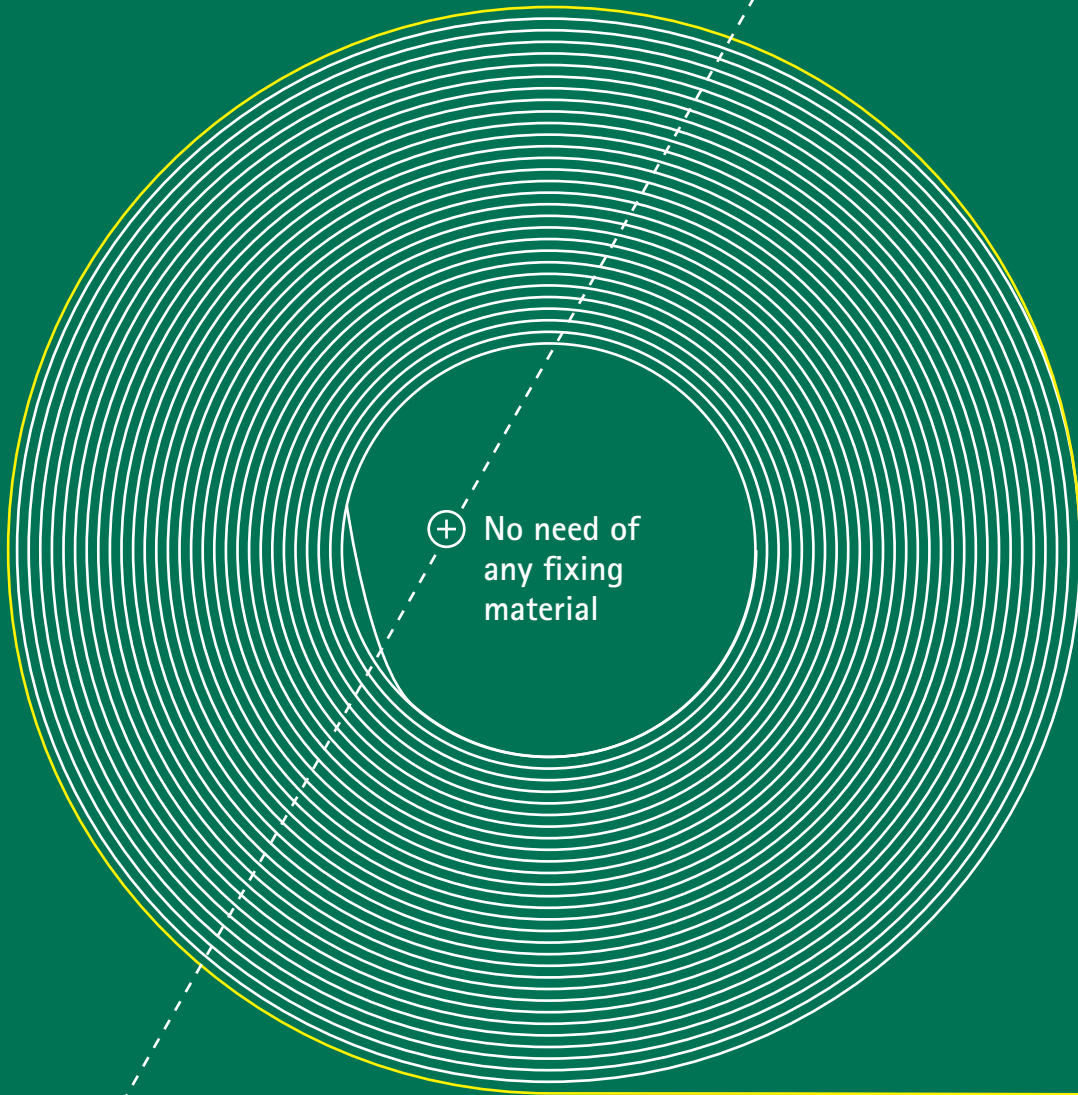
■ Any direction

The Walraven Pacifyre® MK II fire sleeve can be used for horizontal, vertical and even diagonal running pipes!

Walraven Pacifyre® FPW



Easy to install  
due to self  
adhesive strip



⊕ No need of  
any fixing  
material

Only one roll  
for multiple  
penetrations



⊕ High flexibility

# Walraven Pacifyre® FPW Fire Protection Wrap

The most flexible fire protection wrap for plastic and multilayer pipes

An endless and self adhesive intumescent strip that will allow a fire resistance up to EI 120 U/U for a range of combustible pipe penetrations in walls and floors up to a Ø of 160 mm.



## Features and benefits

- Allows for installation with zero distance between pipes
- Easy to install without any additional fixing material due to self-adhesiveness
- Only one roll for numerous penetrations
- Dimension: 9.2 m x 50 mm x 2.0 mm
- Suitable for combustible pipes with intended use as rainwater, sewage, gas, drinking water and heating or cooling
- For application in flexible walls, rigid walls and rigid floors
- For various combustible pipe materials such as PP-H, PVC and PE
- Suited for certain branded pipes
- With a fire resistance up to EI 120 U/U
- Tested according to EN 1366-3

## Approved for

### Wall application ≥ 100 mm

- PVC-U / PVC-C pipes up to Ø 160 mm EI 120 U/U
- PE, PE-X, ABS & SAN+PVC pipes up to Ø 160 mm EI 120 U/U
- PP-H (DIN 8077) pipes up to Ø 110 mm EI 120 U/C
- Geberit Silent PP, Geberit Silent Pro, Georg Fischer Silenta Premium up to Ø 75 mm EI 120 U/U and up to Ø 110 mm EI 120 U/C
- Conel Drain, Wavin AS+, Wavin SiTech+, POLO-KAL NG, POLO-KAL 3S, REHAU RAUPIANO PLUS up to Ø 110 mm EI 120 U/U
- Aquatherm Greenpipe up to Ø 63 mm EI 120 U/C
- Multilayer Composite pipes such as Alpex F50 and Uponor MLC up to Ø 110 mm EI 120 U/C with and without elastomeric foam insulation

### Floor application ≥ 150 mm

- PVC-U / PVC-C pipes up to Ø 110 mm EI 120 U/U and up to Ø 160 mm EI 90 U/C
- PE, PE-X, ABS & SAN+PVC pipes up to Ø 110 mm EI 120 U/U and up to Ø 160 mm EI 60 U/C
- PP-H (DIN 8077) pipes up to Ø 75 mm EI 120 U/U and up to Ø 160 mm EI 120 U/C
- Geberit Silent PP, Geberit Silent Pro, Georg Fischer Silenta Premium, Conel Drain, Wavin AS+, Wavin SiTech+, POLO KAL NG, POLO KAL 3S, REHAU RAUPIANO PLUS up to Ø 110 mm EI 120 U/U
- Conel Drain, Wavin AS+, Wavin SiTech+, POLO KAL NG, POLO KAL 3S, REHAU RAUPIANO PLUS up to Ø 110 mm EI 120 U/U
- Aquatherm Greenpipe up to Ø 110 mm EI 120 U/C
- Multilayer Composite pipes such as Alpex F50 and Uponor MLC up to Ø 110 mm EI 120 U/C with and without elastomeric foam insulation



ETA 22/0022

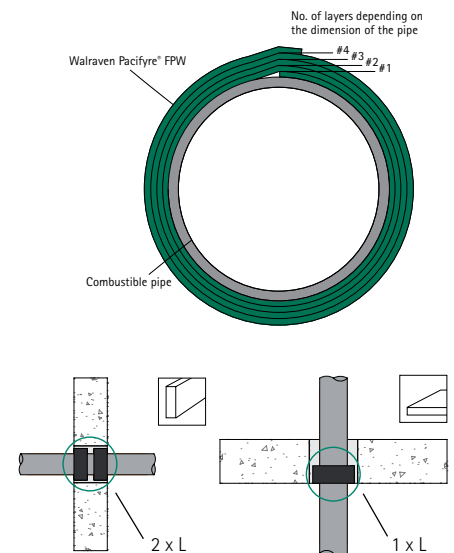
# Walraven Pacifyre® FPW Fire Protection Wrap

The most flexible fire protection wrap for plastic and multilayer pipes

## Consumption table

| Combustible pipes according to ETA 22/0022 |         |        |                                    |
|--|---------|--------|------------------------------------|
| Ø (mm)                                     | Layer # | L (mm) | Nr. of penetration with one roll # |
| 32   | 2       | 295    | 35                                 |
| 40   | 2       | 345    | 29                                 |
| 50   | 2       | 408    | 24                                 |
| 63   | 3       | 750    | 13                                 |
| 75   | 3       | 863    | 11                                 |
| 90   | 4       | 1366   | 7                                  |
| 110  | 4       | 1617   | 5                                  |
| 125  | 7       | 3314   | 2                                  |
| 140  | 7       | 3644   | 2                                  |
| 160  | 7       | 4083   | 2                                  |

\* Check application details in the Walraven Pacifyre® FPW Fire Protection Wrap Technical data sheet for the maximum allowed dimension per material



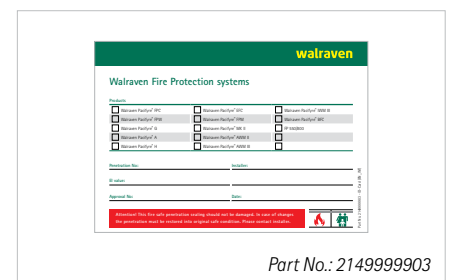
## Complementary products



- ≤ 10 mm Walraven Pacifyre® A acrylic sealant



- Mortar, plaster, cement (e.g. Walraven Pacifyre® FPM fire protection mortar)



- Walraven Pacifyre® ID-Card



## Installation instructions



1. Clean the pipe and check the dimensions.



2. Wrap around the required amount of layers of Walraven Pacifyre® FPW.



3. Close the gap between the wrap and the wall / floor with loose mineral wool.



4. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



5. Flatten the acrylic with a jointing knife or trowel.



6. Fill out and place the Walraven Pacifyre® ID-Card next to the penetration.

## Installation options



■ Combustible pipes made of different materials up to Ø 160 mm EI 120 U/U



■ Multilayer pipes with and without elastomeric foam insulation up to Ø 110 mm EI 120 U/C



■ Floor penetration with an installation of the Walraven Pacifyre® FPW just at the ceiling



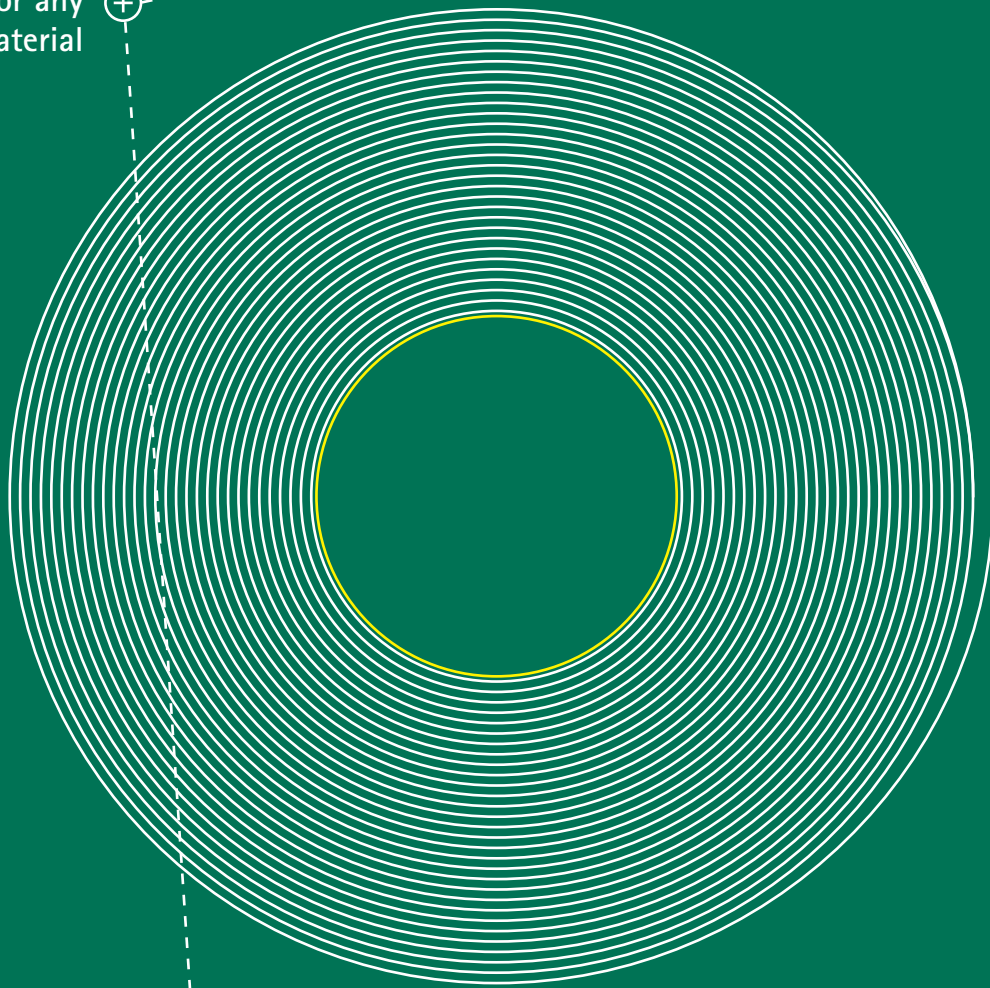
■ Penetration through flexible and rigid walls ≥ 100 mm

# Walraven Pacifyre® IWM III



⊕ Easy to install due to self adhesive strip

⊕ No need for any fixing material



⊕ Only one roll for multiple penetrations

⊕ High flexibility

# Walraven Pacifyre® IWM III Fire Strip

## The flexible fire strip for plastic and multilayer pipes

Walraven Pacifyre® IWM III fire strip was designed for plastic (combustible) pipes, pipe systems, apertures in walls (rigid or flexible walls) and rigid floors with passive fire protection requirements in accordance with the legislation.



### Features and benefits

- Allows for an installation with zero distance between pipes
- Easy to install without any additional fixing material due to self-adhesive strip
- Only one roll for numerous penetrations
- A small number of layers is required, so a smaller drill hole is possible
- Suitable for 40 mm shaft walls
- Suitable for damp conditions
- Easy on-site modification
- Also suitable for areas which are difficult to access, for example, corner penetrations
- With a fire resistance up to EI 120 U/U
- Tested according to EN 1366-3

### Approved for

#### Approved pipes / pipe systems:

- Noise reducing pipe systems (insulated or non-insulated) e.g.:
  - Friatec: Friaphon®, dBlue
  - Geberit: Silent-db20, Silent-PP
  - Wavin: Wavin AS, SiTech
  - PipeLife: PP Master
  - Rehau: Raupiano PLUS
- Combustible pipe systems (up to outer Ø 200 mm) in all common pipe materials, e.g.:
  - PVC
  - PP
  - PE
  - PE-X
  - ABS or ASA

- Multilayer pipes ≤ 110 mm (insulated or non-insulated)
- Pipes (up to outer Ø 200 mm) for central dust extraction and pneumatic dispatch systems

#### Approved insulation:

- Elastomeric foam ≤ 32 mm
- PE sound insulation ≤ 4 mm



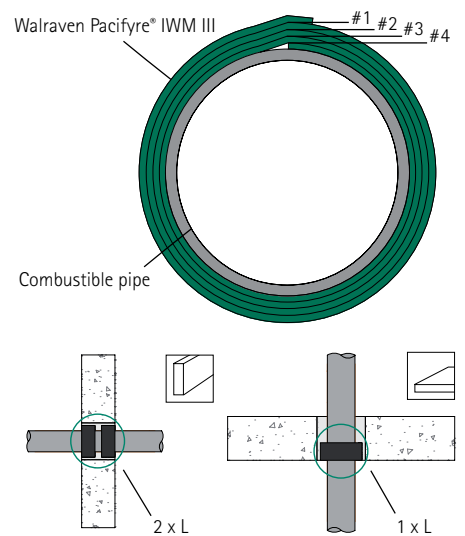
ETA 18/0918

# Walraven Pacifyre® IWM III Fire Strip

The flexible fire strip for plastic and multilayer pipes

## Consumption table

| Pipe-Ø |         | Without insulation |                                    |
|--------|---------|--------------------|------------------------------------|
| Ø (mm) | Layer # | L (mm)             | Nr. of penetration with one roll # |
| 16     | 2       | 126                | 99                                 |
| 20     | 2       | 151                | 83                                 |
| 25     | 2       | 183                | 68                                 |
| 32     | 2       | 227                | 55                                 |
| 40     | 2       | 277                | 45                                 |
| 50     | 2       | 340                | 37                                 |
|        | 3       | 528                | 24                                 |
|        | 4       | 733                | 17                                 |
| 63     | 3       | 651                | 19                                 |
|        | 4       | 896                | 14                                 |
|        | 6       | 1433               | 9                                  |
| 75     | 3       | 764                | 16                                 |
|        | 4       | 1047               | 12                                 |
|        | 5       | 1345               | 9                                  |
| 90     | 3       | 905                | 14                                 |
|        | 4       | 1235               | 10                                 |
|        | 5       | 1581               | 8                                  |
| 110    | 3       | 1094               | 11                                 |
|        | 4       | 1487               | 8                                  |
|        | 5       | 1895               | 7                                  |
|        | 6       | 2319               | 5                                  |
| 160    | 6       | 3262               | 4                                  |



\* Check application details in the Walraven Pacifyre® IWM III fire strip ETA 18-0918 for more detailed information

## Complementary products



■ Walraven Pacifyre® A acrylic sealant



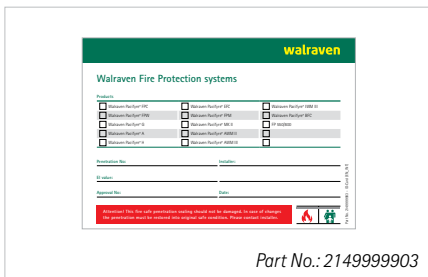
Part No.: 2180100030

■ Walraven Pacifyre® H hybrid sealant



Part No.: 2180015300

■ Walraven Pacifyre® FPM fire protection mortar



Part No.: 2149999903

■ Walraven Pacifyre® ID-Card

# Walraven Pacifyre® IWM III Fire Strip

The flexible fire strip for plastic and multilayer pipes

## Installation instructions

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1. Install pipe and if necessary apply noise insulation.



2. Wrap the strip around the pipe (for insulation) with an overlap of 20 mm (note the number of layers required).



3. Slide the strip into the wall / ceiling (ensuring it is flush to the surface).



4. Ensure smoke tight seal of the annular gap. Seal it with a gap filler like Walraven Pacifyre® A acrylic sealant, Pacifyre® H hybrid sealant or Walraven Pacifyre® FPM fire protection mortar (fill depth = 10 mm).



5. Double check the penetration.



6. Fill out and place the Walraven Pacifyre® ID-Card next to the penetration.

## Installation options



- Zero distance possible between pipe penetrations



- Plastic pipe ( $\varnothing \leq 200$  mm), insulated with elastomeric foam  $\leq 32$  mm



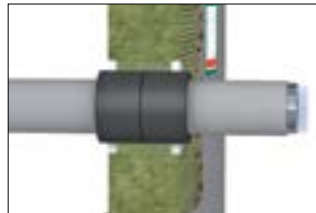
- Multilayer pipe ( $\varnothing \leq 110$  mm), non-insulated



- Multilayer pipe ( $\varnothing \leq 110$  mm), insulated with synthetic rubber  $\leq 32$  mm



- Plastic pipe ( $\varnothing \leq 200$  mm), in rigid and flexible walls



- Multilayer pipe ( $\varnothing \leq 110$  mm), in mineral wool board

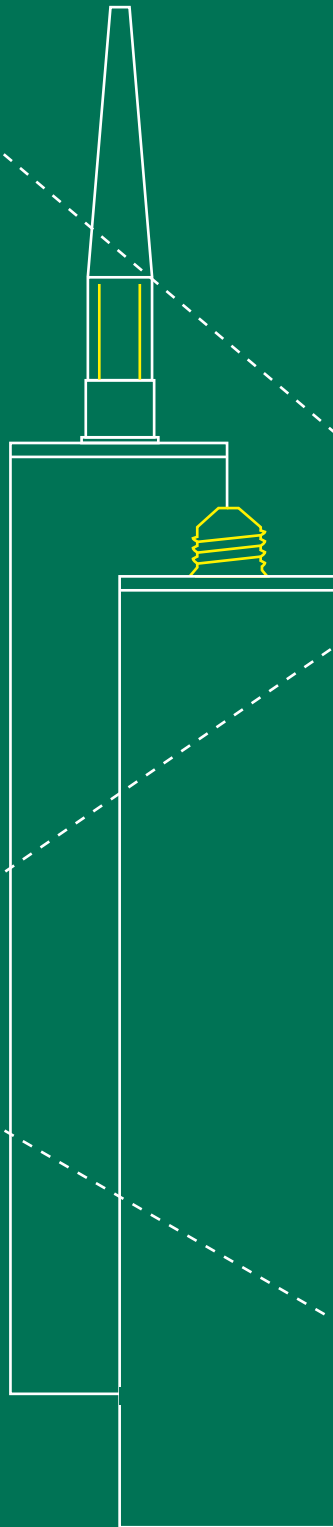


- Plastic pipe ( $\varnothing \leq 110$  mm), in gypsum shaft wall



- Plastic pipe ( $\varnothing \leq 200$  mm), in rigid floors  $\geq 150$  mm

Walraven Pacifyre® G



Easy to apply with a regular cartridge gun



Penetrations of multiple pipes in one opening



No additional product needed



# Walraven Pacifyre® G Graphite Fire Sealant

## The perfect fire protection sealant for small pipes & cables

An intumescent sealant that will heavily expand in case of fire. It is certified to be used as a penetration seal of small combustible pipes, multilayer, and metal pipes as well as small cable bundles.



### Features and benefits

- Easy to apply with a regular cartridge gun
- Suitable for application in a penetration with multiple pipes in one opening
- Small cable bundles up to  $\varnothing$  50 mm
- Fire sealant for combustible pipes, insulated and non-insulated multilayer pipes, insulated metal pipes and cables
- For application in flexible walls, rigid walls and rigid floors
- Suitable for combustible pipes with intended use as rainwater, sewage, gas, drinking water and heating or cooling
- Suitable for insulated metal pipes with an intended use as drinking water, heating or cooling
- With a fire resistance up to EI 120 U/U
- Tested according to en 1366-3

### Approved for

#### Wall application $\geq$ 100 mm

- PVC-U / PVC-C pipes up to  $\varnothing$  50 mm EI 120 U/C
- PE, PE X, ABS & SAN+PVC pipes up to  $\varnothing$  50 mm EI 120 U/U
- PP-H (DIN pipes up to  $\varnothing$  50 mm EI 120 U/U
- Multilayer pipes such as Alpex F50 and Uponor MLC up to  $\varnothing$  32 mm EI 120 U/C with and without synthetic rubber insulation
- Metal pipes such as copper, steel or stainless steel up to  $\varnothing$  35 mm EI 120 C/U with synthetic rubber insulation
- Small cable bundles up to  $\varnothing$  50 mm EI 120

#### Floor application $\geq$ 150 mm

- PVC-U / PVC C pipes up to  $\varnothing$  50 mm EI 120 U/C
- PE, PE X, ABS & SAN pipes up to  $\varnothing$  50 mm EI 120 U/U
- PP-H (DIN 8077) pipes up to  $\varnothing$  50 mm EI 120 U/U
- Multilayer pipes such as Alpex F50 and Uponor MLC up to  $\varnothing$  32 mm EI 12 U/C with and without synthetic rubber insulation
- Metal pipes such as copper, steel or stainless steel up to  $\varnothing$  35 mm EI 120 C/U with synthetic rubber insulation
- Small cable bundles up to  $\varnothing$  50 mm EI 120



ETA 22/0023

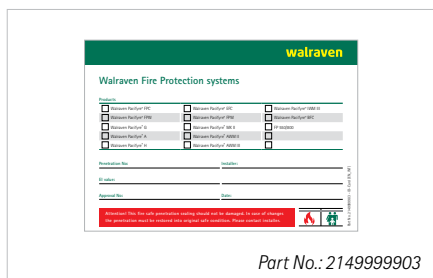
# Walraven Pacifyre® G Graphite Fire Sealant

The perfect fire protection sealant for smaller pipes & cables

## Selection table

| Product                                    | Part No.   | ETA         | DoP                  | Colour | Cont.  | Pack 1 |
|--|------------|-------------|----------------------|--------|--------|--------|
| Walraven Pacifyre® G graphite fire sealant | 2180100040 | ETA 22/0023 | DoP: 0749 CPR 22-023 | Grey   | 300 ml | 15     |

## Complementary products



- Walraven Pacifyre® ID-Card



- WIS dispenser gun

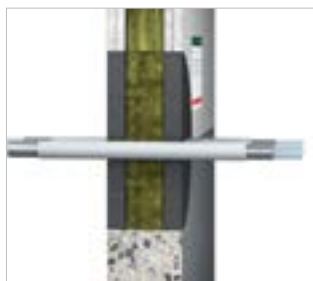
## Installation options



- Floor penetrations with combustible pipes made of different materials up to  $\varnothing$  50 mm EI 120 U/C.



- Floor penetrations with insulated composite plastic pipes including aluminium, with combustible insulation up to  $\varnothing$  32 mm EI 120 U/C.



- Wall penetrations with composite plastic pipes including aluminium up to  $\varnothing$  32 mm EI 120 U/C.



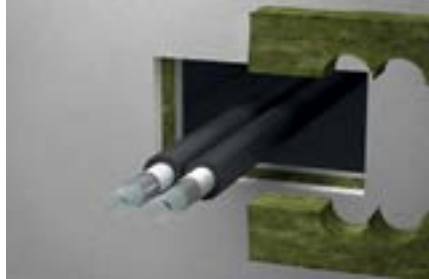
- Wall penetrations with sheathed cables up to 21 mm or cable bundles up to 50 mm EI 120.

## Installation instructions

---



1. Clean the opening and check the dimensions



2. Place the pre-cut mineral wool boards



3. Check that the distance from the surface of the wall to the board is 25 mm



4. Apply the Walraven Pacifyre® G graphite fire sealant

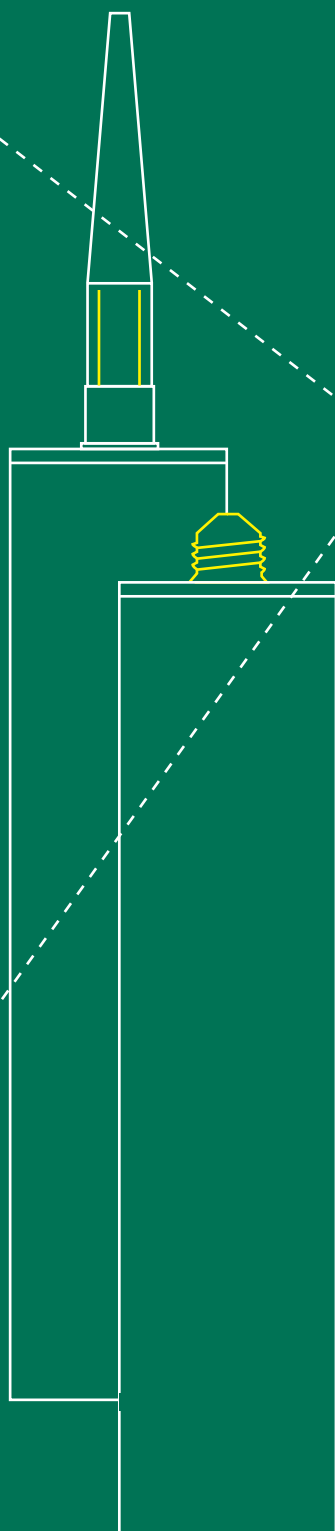


5. Flatten the Walraven Pacifyre® G graphite fire sealant with a jointing knife or trowel



6. Place the filled out Walraven Pacifyre® ID-Card next to the penetration

Walraven Pacifyre® A



Indoor emission level A+

Noise reduction (+)

# Walraven Pacifyre® A Acrylic Fire Sealant

The standard acrylic sealant with low indoor emission

Single component acrylic sealant for fire-resistant and smoke tight closing of linear building joints and pipe or cable penetration seals in walls and ceilings.



## Features and benefits

- Remains elastic after curing
- Colourfast, waterproof and paintable after curing
- Indoor emission level a+
- Sound reduction up to 62db
- For sealing annular joints around pipes, fire collars and fire sleeves or wraps
- Single insulated metal pipes up to dn200
- Multiple insulated metal pipes up to dn80
- Cable bundles up to  $\varnothing$  50 mm (max.  $\varnothing$  21 mm each cable)
- Shrinkage approx. 15% (din 52451)
- Temperature resistance from -20 °c to +80 °c
- Application temperature: +5 °c up to +30 °c
- Pipe and cable penetrations: tested according to EN 1366-3
- Linear gap seals: tested according to EN 1366-4

## Approved for

### Penetration application

Different kind of penetrations of metal pipes with mineral wool insulation:

- Single copper pipes up to  $\varnothing$  88.9 mm EI 120 C/U
- Multiple copper, steel and stainless steel pipes up to  $\varnothing$  54.0 mm EI 120 C/U
- Single steel and stainless steel pipes up to  $\varnothing$  219.1 mm EI 120 C/U
- Small cable bundles up to  $\varnothing$  50 mm EI 60 / E 120

*Walls  $\geq$  100 mm and floors  $\geq$  150 mm.*

### Linear joint application

Fire protection sealant for non-movement joints and seals:

- Vertical joints in rigid walls
- Vertical and horizontal joints in flexible walls
- Horizontal joints in rigid floor constructions
- Up to EI240
- Up to a width of 20 mm with a PU backer rod

*Flexible walls  $\geq$  75 mm, rigid walls  $\geq$  100 mm, floors  $\geq$  150 mm.*



ETA 22/0341

# Walraven Pacifyre® A Acrylic Fire Sealant

The standard acrylic sealant with low indoor emission

## Selection table

| Product                                   | Part No.   | ETA                       | DoP              | Colour | Cont.  | Pack 1 |
|---|------------|---------------------------|------------------|--------|--------|--------|
| Walraven Pacifyre® A acrylic fire sealant | 2180100010 | ETA 16/1008<br>ETA 22/037 | 0749 CPR 16-1008 | White  | 300 ml | 12     |

## Complementary products



■ Walraven Pacifyre® FPC fire collar



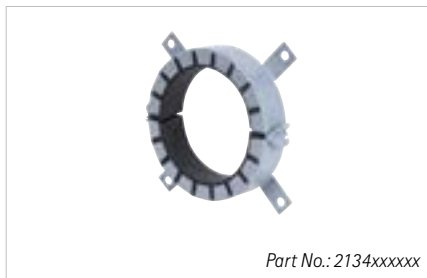
■ Walraven Pacifyre® EFC fire collar



■ Walraven Pacifyre® BFC fire collar



■ Walraven Pacifyre® MK II fire sleeve



■ Walraven Pacifyre® AWM II fire collar



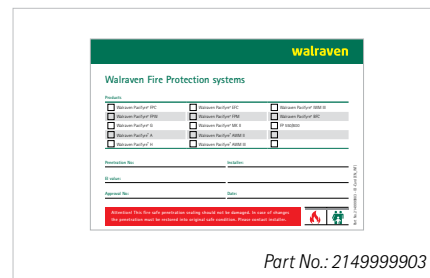
■ Walraven Pacifyre® FPW fire protection wrap



■ Walraven Pacifyre® IWM III fire strip



■ WIS dispenser gun



■ Walraven Pacifyre® ID-Card

## Installation instructions



1. Clean the opening and check the dimensions.



2. Place the pre-cut mineral wool boards.



3. Check that the distance from the surface of the wall to the board is 25 mm.



4. Apply the Walraven Pacifyre® A acrylic sealant.



5. Flatten the Walraven Pacifyre® A acrylic sealant with a jointing knife or trowel.



6. Place the filled out Walraven Pacifyre® ID-Card next to the penetration.

## Installation options



■ Sealing linear construction joint

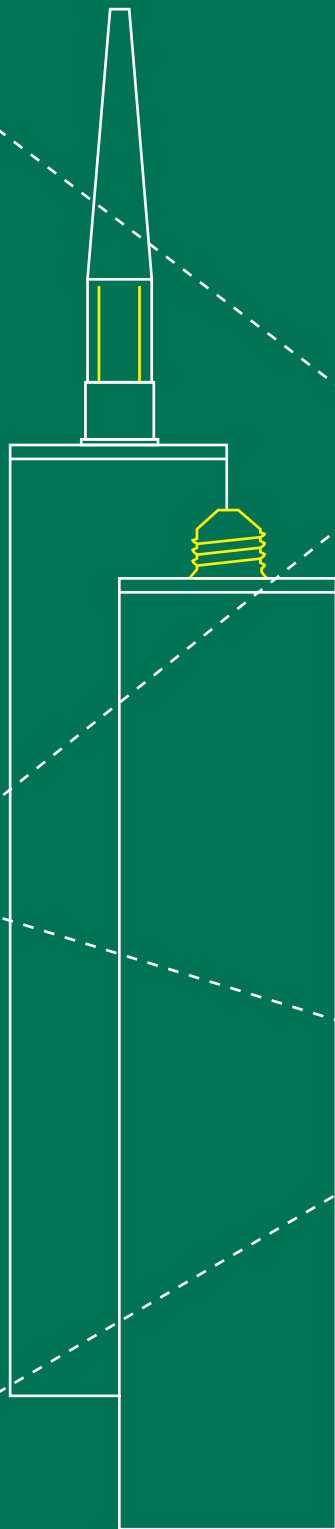


■ Close a gap with loose mineral wool and seal it with Walraven Pacifyre® A acrylic sealant (fill depth = 10 mm)



■ Ensure smoke tight seal of the annular hole

Walraven Pacifyre® H



+ Good adhesion to most substrates

+ Easy to apply with a regular cartridge gun

+ Paintable after curing

+ Suitable for joint with movement



# Walraven Pacifyre® H Hybrid Sealant

## Paintable sealant for linear joints and penetration seals

For sealing annular joint seals around pipes, fire collars, and fire sleeves or wraps. Suitable for linear joints in walls and floors with max. 25% movement.



### Features and benefits

- Good adhesion to most substrates
- Easy to apply with a regular cartridge gun
- Colour fast, UV-stable and paintable after curing
- Remains permanently elastic after curing
- Indoor emission level A+
- No blistering in hot or humid weather conditions
- 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
- Skin formation in approx. 20 min.
- Fire class E (EN 13501-1)
- Up to EI 240 for linear joint seals and penetration seals
- Tested and approved according to EN 1366-4 and EN 1366-3

### Approved for

- Linear joints with a max. width of 20 mm in flexible wall.
- Linear joints with a max width of 30 mm in a rigid wall.
- As a penetration seal around pipes in combination with Walraven Pacifyre® MKII, Walraven Pacifyre® EFC and Walraven Pacifyre® BFC.



ETA 16/1009

# Walraven Pacifyre® H Hybrid Sealant

Paintable sealant for linear joints and penetration seals

## Selection table

| Product                             | Part No.   | ETA         | DoP              | Cont.  | Pack 1 |
|-------------------------------------|------------|-------------|------------------|--------|--------|
| Walraven Pacifyre® H hybrid sealant | 2180100030 | ETA 16/1009 | 0749 CPR 16-1009 | 290 ml | 12     |

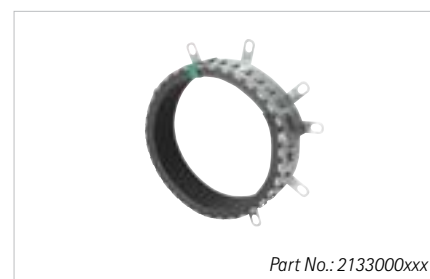
## Complementary products



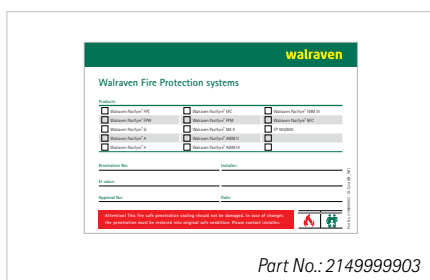
■ Walraven Pacifyre® MK II fire sleeve



■ Walraven Pacifyre® EFC fire collar



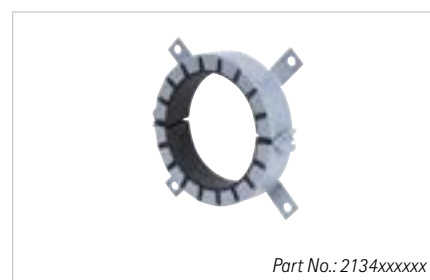
■ Walraven Pacifyre® BFC fire collar



■ Walraven Pacifyre® ID-Card



■ WIS dispenser gun



■ Walraven Pacifyre® AWM II fire collar

## Installation instructions

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1. Slide the sleeve into the aperture and centre it.



2. Put some mineral wool as backfilling, fill 25 mm in the depth with the Walraven Pacifyre® H hybrid sealant.



3. Fix Walraven Pacifyre® ID-Card.

## Installation options

---



■ Sealing linear construction joints



■ Close a gap with loose mineral wool and seal it with Walraven Pacifyre® H hybrid sealant (fill depth = 10 mm)



■ Ensure smoke tight seal of the annular hole

# Walraven Pacifyre® Product Selector

Our **Walraven Pacifyre®** Product Selector is here to assist you in making the right decision!



Do you sometimes find it challenging to choose the appropriate product(s) for your passive fire protection projects?

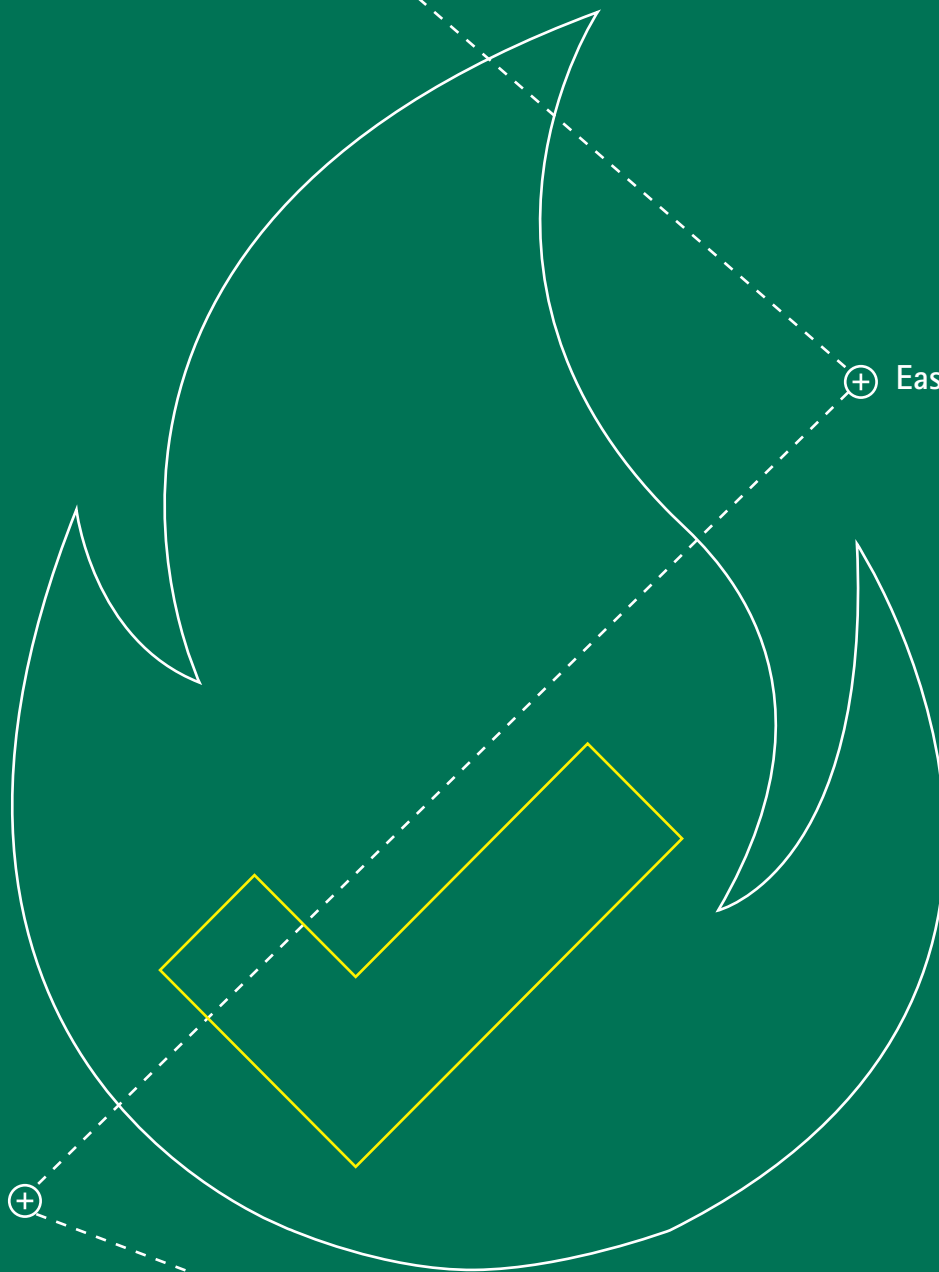
Whether you need to seal a joint or a penetration, our Walraven Pacifyre® Product Selector is here to assist you in making the right decision! By selecting various essential parameters, our Walraven Pacifyre® Product Selector will provide the best product options to meet the requirement and be certified for your specific situation. In the unlikely event that no solution is given, our specialists are happy to help you further.



[walraven.com/selector/](http://walraven.com/selector/)



## Other Walraven fire tested solutions



⊕ Easy to install

⊕ Tested and certified

⊕ Complete solution

# Other Walraven fire tested solutions



■ Fire test Walraven Fixing Systems

**It is vital to ensure that all passageways, escape routes, and exits in a building are free from any obstructions or obstacles. This is essential for the safety of the building's occupants in the event of an emergency such as a fire. The occupants should be able to find a way out quickly and easily without any delays.**

It has been observed in recent years that more and more pipes are being installed in escape routes. In such installations, a fire-resistant suspended ceiling is often fixed to hide the pipes. However, it is essential to note that suspended ceilings should not be mechanically loaded during a fire. This means that nothing should fall on or put pressure on the suspended ceiling, as it can cause the ceiling to break or crack, damaging the fire compartmentation and affecting the escape route.

Thus, the fastening materials used in these installations must be tested for their fire-safe technical properties. This includes all the products that comprise the total fastening system, including the plugs and anchors used.

If fire-safe tested fastening materials are used and installed correctly, the escape routes can be used confidently during a fire. At Walraven, we consider the fire safety requirements when designing our product range. Our fastening systems are tested in accordance with RAL GZ-655, RAL GZ-656, and NEN-EN 1363, Part 1. This enables the safe and secure installation of pipes in fire-protective spaces between floor panels and ceilings.



# Fire safety tested Walraven Clamps



| Product  | Size (mm) | Connecting nut | Part No. | RAL-GZ 656 Cert. No. |
|--|-----------|----------------|----------|----------------------|
| <br>Walraven BISMAT® Flash                                | 15 - 63   | M8             | 3373XXX  | 2011-09              |
|  | 15 - 63   | M8             | 3374XXX  | 2011-09              |
| <br>Walraven BISMAT® 2000                                 | 15 - 63   | M8             | 3413 XX  | 2011-10              |
|  | 15 - 63   | M8 / M10       | 3403XXX  | 2011-10              |
| <br>Walraven BISMAT® 2000                                 | 57 - 114  | M8 / M10       | 3403XXX  | 2011-10              |
| <br>Walraven BISMAT® 2000 'S'                           | 15 - 63   | M8             | 34140XX  | 2011-11              |
|  | 15 - 63   | M8 / M10       | 34040XX  | 2011-11              |
| <br>Walraven HD1501<br>Walraven BIS UltraProtect® 1000* | 15 - 64   | M8 / M10       | 331380XX | 2011-14              |
|  | 65 - 227  | M10 / M12      | 33148XXX | 2011-14              |
|  | 159 -227  | M16            | 33168XXX | 2011-14              |
|  | 15 - 227  | G½"            | 33178XXX | 2011-14              |
| <br>Walraven HD500<br>Walraven BIS UltraProtect® 1000*  | 15 - 71   | M8 / M10       | 330380XX | 2011-05              |
|  | 72 - 227  | M10 / M12      | 33048XXX | 2011-05              |
|  | 15 - 227  | G½"            | 33078XXX | 2011-05              |



\* The product is part of the Walraven BIS UltraProtect® 1000 system and is proven to be suitable for corrosive environments. The surface protection effortlessly withstands a salt spray test of at least 1000 hours in line with ISO 9227, until the occurrence of maximum 5% red rust and with a layer thickness of 50 - 80 µm.











Chemical Anchors

WVSF 200

|   |   |   |   |  |
|---|---|---|---|--|
| ✓ | ✓ | ✓ | ✓ |  |
|---|---|---|---|--|

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|-------------|-------------|-------------|-------------|-------------|
| ETA-16/0971 | ETA-16/0783 | ETA-16/0783 | ETA-16/0783 | ETA-16/0783 |
|-------------|-------------|-------------|-------------|-------------|

|   |   |   |   |   |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|

|          |                       |  |
|----------|-----------------------|--|
| Material | Zinc Plated           |  |
|          | Zinc-flake Coated     |  |
|          | Stainless Steel (SSt) |  |

|            |                      |   |
|------------|----------------------|---|
| Substrates | Non-cracked Concrete | ✓ |
|            | Cracked Concrete     | ✓ |
|            | Hollow core slab     |   |
|            | Silicate Brick       |   |
|            | Solid Brick          |   |
|            | Hollow Brick         |   |
|            | Aerated Concrete     |   |
|            | Stone                |   |

|               |         |                            |
|---------------|---------|----------------------------|
| Certification | ETA     | ETA-16/0543<br>ETA-16/0544 |
|               | Seismic | C1                         |
|               | Fire    | ✓                          |



# Fire safety tested Walraven RapidStrut® Rail system

Walraven BIS UltraProtect® 1000\*, Pre-galvanized, Zinc Plated


| Product   | Surface protection                           | Size                            | Part No.                                       |           |
|---|--|---------------------------------|--|-----------|
|    | Walraven RapidStrut® Fixing Rail             | Walraven BIS UltraProtect® 1000 | 41   H (41 x 41 x 2.5 mm)                      | 65018X47  |
|   |  |                                 | 62   H (41 x 62 x 2.5 mm)                      | 65018X67  |
|    | Walraven RapidStrut® Fixing Rail             | Pre-galvanized                  | 41   H (41 x 41 x 2.5 mm)                      | 6505X45   |
|   |  |                                 | 62   H (41 x 62 x 2.5 mm)                      | 6505X65   |
|    | Walraven RapidStrut® Base Plate G2           | Walraven BIS UltraProtect® 1000 | For Walraven RapidStrut®<br>21, 41, 51, 62, 82 | 665885400 |
|    | Walraven RapidStrut® Base Plate G2           | Zinc plated                     | For Walraven RapidStrut®<br>21, 41, 51, 62, 82 | 66583804  |
|    | Walraven RapidStrut® Cantilever Arm          | Walraven BIS UltraProtect® 1000 | 41   H (41 x 41 x 2.5 mm)                      | 660841XX  |
|    | Walraven RapidStrut® Hammerfix G2            | Walraven BIS UltraProtect® 1000 | M10  | 6527850XX |
|   |  |                                 | M12  | 65278520X |
|  | Walraven RapidStrut® Slide Nuts G2           | Walraven BIS UltraProtect® 1000 | M10  | 665185110 |
|   |  |                                 | M12  | 665185112 |
|  | Walraven RapidStrut® Slide Nuts Plastic Tabs | Walraven BIS UltraProtect® 1000 | M10  | 651868010 |
|   |  |                                 | M12  | 651868012 |
|  | Walraven RapidStrut® Slide Nuts Plastic Tabs | Zinc plated                     | M10  | 6518610   |
|   |  |                                 | M12  | 6518612   |
|  | Walraven RapidStrut® Slide Nut               | Zinc plated                     | M10  | 6517010   |
|   |  |                                 | M12  | 6517012   |
|  | Walraven RapidStrut® Slide Nut               | Walraven BIS UltraProtect® 1000 | M10  | 65188010  |
|   |  |                                 | M12  | 65188012  |
|  | Walraven RapidStrut® Washer – U-shaped       | Walraven BIS UltraProtect® 1000 | Ø 11   | 66588010  |
|   |  |                                 | Ø 13   | 66588012  |
|  | Walraven Hexagon Nut                         | Zinc plated                     | M10  | 6123010   |
|   |  |                                 | M12  | 6123012   |
|  | Walraven Hexagon Nut                         | Walraven BIS UltraProtect® 1000 | M10  | 61281010  |
|   |  |                                 | M12  | 61281012  |
|  | Walraven Threaded Rod                        | Zinc plated                     | M10  | 6303X10   |
|   |  |                                 | M12  | 6303X12   |
|  | Walraven Threaded Rod                        | Walraven BIS UltraProtect® 1000 | M10  | 6308X010  |
|   |  |                                 | M12  | 6308X012  |

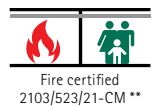
\* The product is part of the Walraven BIS UltraProtect® 1000 system and is proven to be suitable for corrosive environments. The surface protection effortlessly withstands a salt spray test of at least 1000 hours in line with ISO 9227, until the occurrence of maximum 5% red rust and with a layer thickness of 50 - 80 µm.



# Fire safety tested Walraven RapidStrut® Rail system

## Stainless Steel

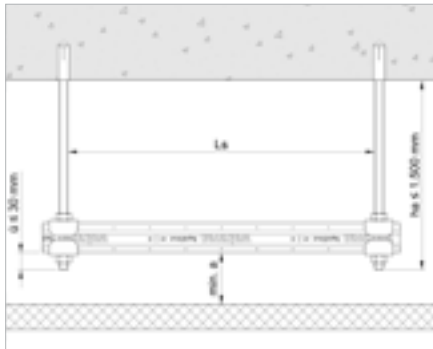
| Product  | Size   | Part No.               |
|--|--|------------------------|
|  Walraven RapidStrut® Stainless Steel Fixing Rail           | 41 x 41 x 2.5 mm   | 6507X27                |
|  Walraven RapidStrut® Stainless Steel Base Plate G2         | For Walraven RapidStrut® Fixing Rail<br>up to 82 mm height | 665875400              |
|  Walraven RapidStrut® Stainless Steel Cantilever Arm        | 41 x 41 x 2.5 mm   | 660786X<br>660787X     |
|  Walraven RapidStrut® Washer – U-shaped                     | Ø 11<br>Ø 13   | 6571010<br>6571012     |
|  Walraven RapidStrut® Stainless Steel Tee-Bolt              | M10<br>M12   | 6527744<br>6527754     |
|  Walraven RapidStrut® Stainless Steel Slide Nut G2          | M10  | 665175110              |
|  Walraven Stainless Steel Hexagon Nut                     | M10<br>M12   | 6127010<br>6127012     |
|  Walraven WIS Threaded Rod SSt                            | M10<br>M12   | 63079110<br>63079112   |
|  Walraven RapidStrut® Stainless Steel Slide Nut           | M10<br>M12   | 6517710<br>6517712     |
|  Walraven RapidStrut® Stainless Steel Slide Nut with Tabs | M10<br>M12   | 651867010<br>651867012 |



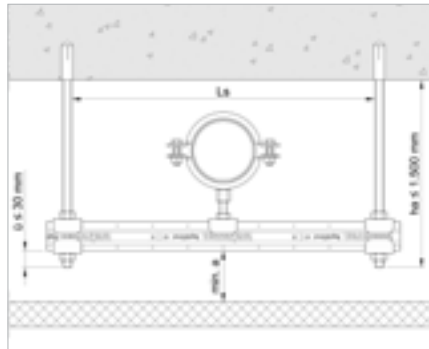
\*\* Tested and certified by MPA Braunschweig / Germany:

Assessment of loaded Walraven RapidStrut® Fixing Rails combined with threaded rods fixed to solid structural elements with regard to loadbearing capacity and deformation under exposure to fire along the standard temperature-time curve (ETK) in accordance with DIN EN 1361-1.

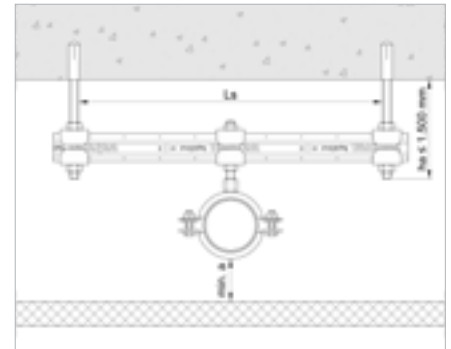
## Tested and certified installation situations



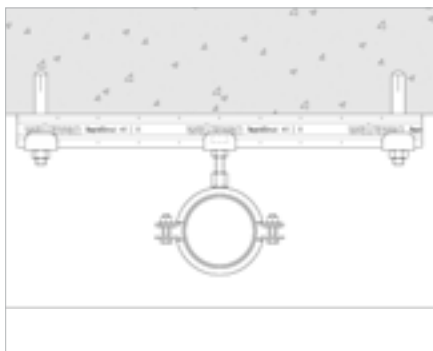
■ Channel suspended from the ceiling



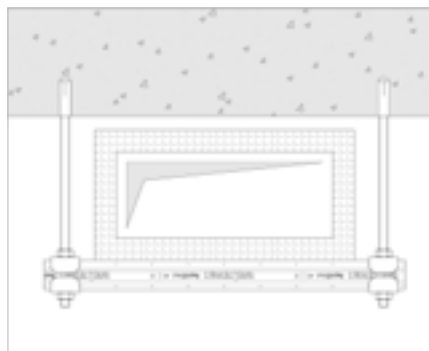
■ Channel suspended from the ceiling with pipe clamps above the channel



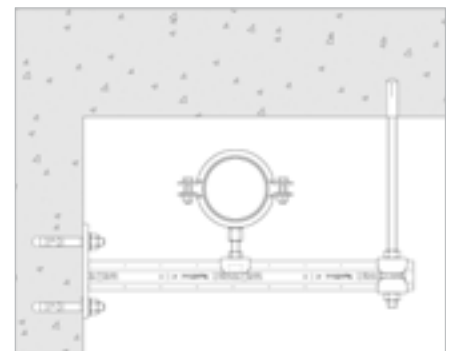
■ Channel suspended from the ceiling with pipe clamps below the channel



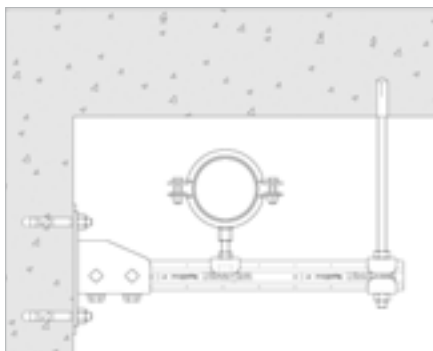
■ Channel fixed directly to the ceiling with pipe clamp below



■ Channel suspended from the ceiling with airduct channel above



■ Cantilever arm fixed to the wall, suspended from the ceiling and pipe clamp above



■ Rail Baseplate fixed to the wall, with horizontal channel, suspended from the ceiling and pipe clamp above

Note: The built-in guidelines of the general building regulations must be adhered to.



# Sprinkler Systems

Automatic sprinkler systems are nowadays the most widely used fire protection systems in the world. For over a hundred years, sprinkler systems have proven their reliability and optimal protection against fire. Sprinkler systems were previously mainly used to limit fire and fire damage in industrial facilities, but further technological developments have broadened the application.

Over the years, sprinklers have become increasingly sensitive, so sprinkler systems now also serve as specific fire protection for individuals. Limiting damage to the environment and directly suppressing the fire, thereby preventing a calamity in the early stages of the fire, are important factors driving the increasing use of sprinkler systems.

The wide application of sprinkler systems is found in, among other things, industrial facilities, high storage of goods, protection of value concentrations, storage of hazardous substances, aircraft hangars, ships, offshore platforms, garages, and process industry, but also increasingly in: shopping centres, department stores, hotels, office buildings, hospitals, nursing homes, schools and libraries.

This growing application will continue to evolve due to new sprinkler protection methodologies, which will play a significant



role in designing even more cost-effective automatic fire protection installations in the future.

Sprinklers have proven their reliability multiple times over the years. Survival chances in a building with a sprinkler system installed are better than in a building without such an installation. It has often happened that the sprinkler system has extinguished the (incipient) fire before the fire brigade arrives.

## Spacing and placement of fittings

---

A sprinkler system consists of water pipes with sprinklers mounted on them. As soon as a sprinkler starts spraying water, water flows at the beginning of the piping system, causing an alarm valve or flow switch to detect a fire somewhere. This detection is reported to the building's users via the fire alarm control panel and usually to the regional fire service as well.









The sprinklers have a fusible link that breaks at a certain temperature, causing the water to impinge on a deflector plate, distributing the water widely across the space. Sprinklers are available in different temperatures, indicated by a colour code. The sprinkler sprays water around under the ceiling. This is important because, during a fire, hot gases accumulate against the ceiling. By not only extinguishing the fire but also cooling these hot gases with water, the situation in the space becomes safer quickly.

### Installation of sprinkler systems









The installation and fixing of a sprinkler system must be carried out in accordance with standard CEA 4001. When installing sprinkler systems, VdS-approved pipe fixings are frequently prescribed in Europe. Walraven offers a wide range of VdS-approved pipe fixings.



## Overview of sprinkler fixings

| Pipe fixings  |  |                              |                      |                      |           |
|---|--|------------------------------|----------------------|----------------------|-----------|
| Product   |  | Size                         | Connecting nut       | Part No.             | Cert. No. |
|    | <b>Walraven Sprinkler Clamp TA41</b><br>Sendzimir galvanised                                   | 1/2" - 8"<br>23 - 221 mm     | M10, M12             | 4535XXX              | FM<br>UL  |
|    | <b>Walraven Sprinkler Clamp FM   VdS</b><br>Sendzimir galvanised                               | 3/4" - 8"<br>26.9 - 219.1 mm | M8, M10,<br>M12, M16 | 45555XXX<br>45565XXX | FM<br>VdS |
|    | <b>Walraven Sprinkler Clamp HD500</b><br>Walraven BIS UltraProtect® 1000*<br>Electrogalvanised | 3/4" - 8"                    | M8, M10,<br>M12, M16 |                      | VdS       |
| Anchors   |  |                              |                      |                      |           |
| Product   |  | Size                         | Connecting nut       | Part No.             | Cert. No. |
|  | <b>WDI1R Drop-in Anchor</b><br>Electrogalvanised   |                              | M8 - M12             | 61032XX              | CEA 4001  |
|  | <b>WCA1 Ceiling Anchor</b><br>Electrogalvanised  |                              | M8, M10              | 60964XX              | CEA 4001  |
|  | <b>WGB-M Aerated Concrete Anchor</b><br>Electrogalvanised                                      |                              | M10 - M12            | 610351X              | VdS 2001  |
|  | <b>WTB1 Throughbolt Anchor</b><br>Electrogalvanised  |                              | M8 - M16             | 609831XXX            | CEA 4001  |
|  | <b>WCS1N Concrete Screw Anchor</b><br>Electrogalvanised  | L = 35 mm<br>L = 55 mm       | M8, M10<br>M8, M10   | 6243330X             | CEA 4001  |

Products for pipe fixings

| Product  | Size   | Part No.            | Cert. No.             |
|--|--|---------------------|-----------------------|
|  <b>Walraven Beam Clamp Model C</b><br>Electrogalvanised  | M8 - M12<br>Ø 9 - 13 mm<br>Up to flange thickness 26 mm  | 60XXXXX             | VdS<br>FM             |
|  <b>Walraven Safety Strap for Beam Clamp Model C</b><br>Pre-galvanized                          | Ø 10.5 mm   L 350 mm<br>Ø 12.5 mm   L 400 mm   | 601511X             | CEA 4001              |
|  <b>Walraven Swivel Beam Clamp Model P</b><br>Electrogalvanised                                 | M10<br>Up to flange thickness 17 mm  | 6078010             | VdS<br>CEA 4001<br>FM |
|  <b>Walraven Strut 'Heavy Duty' Beam Clamp</b><br>Galvanised                                    | Up to flange thickness 35 mm   | 6072002             | CEA 4001              |
|  <b>Walraven Roofing Sheet Hanger VdS</b><br>Electrogalvanised                                  | M8 - M10<br>Ø 13 mm  | 67850XX             | VdS                   |
|  <b>Walraven Toggle Plug</b><br>Electrogalvanised  | M10 x 100 mm   | 067060X             | VdS                   |
|  <b>Walraven U-Clamp</b>  | M8 - M20   | 2084XXXXXX          | CEA 4001              |
|  <b>Walraven RapidStrut® Fixing rail</b><br>Walraven BIS UltraProtect® 1000<br>Pre-galvanized | 41   H (41 x 41 x 2.5 mm)<br>62   H (41 x 62 x 2.5 mm)<br>82   H (41 x 82 x 2.5 mm)<br>62   H - Double | 65018XXX<br>6505XXX | CEA 4001              |
|  <b>Walraven RapidStrut® Cantilever Arm</b><br>Walraven BIS UltraProtect® 1000                | 41   H (41 x 41 x 2.5 mm)  | 660841XX            | CEA 4001              |
|  <b>Walraven RapidStrut® G2 Accessoires</b><br>Walraven BIS UltraProtect® 1000                |  | 665XXXXXX           | CEA 4001              |
|  <b>Walraven Wall Plate 670</b><br>Electrogalvanised  | M8 - 1"  | 67X30XX             | CEA 4001              |
|  <b>Walraven Threaded Rod</b><br>Walraven BIS UltraProtect® 1000<br>Pre-galvanized            | M8 - M24<br>1.000 mm   | 63X3XXX             | CEA 4001              |

**Note:**

VdS 2100 VdS rules for water extinguishing systems - specifications and testing methods for component parts, edition 1988-05  
CEA 4001 VdS CEA guidelines for sprinkler systems: planning and installation, edition 2018-01 (06)

# Application diagrams

## Sprinkler fixing solutions from the structural shell to the pipe

| Structural shell (substrate)/ component | Aerated Concrete  | Concrete   | Steel Beam   | Trapezoidal Sheet  |
|---|---|--|--|--|
| Shell anchoring/ component attachment   | <p>WGB-M Aerated Concrete Anchor</p>  <p>VdS</p>                            | <p>Heavy Duty Anchor CEA 4001</p> <p>WDI1R Drop-in Anchor</p>  <p>WHC Hollow Ceiling Anchor Easy</p>  <p>WTB1 Bolt Anchor</p>  <p>W-LX-N Concrete Screw</p>  | <p>Walraven Beam Clamp Model C</p>  <p>UL LISTED FM APPROVED VdS</p> <p>Walraven Swivel Beam Clamp Model P</p>  <p>FM APPROVED</p> | <p>Walraven Trapezoidal Sheet Hanger VdS</p>  <p>VdS</p> <p>Walraven Toggle Anchor</p>  <p>VdS</p> |
| Attachment parts/ threaded components   | <p>Walraven Threaded Rods and Pins</p>                                    |  |  |  |
| Pipe fixings                            | <p>Walraven Sprinkler Clamp HD500</p> <p>M8, M10, M12, M16</p>  <p>VdS</p> |  | <p>Walraven Sprinkler Hanger FM   VdS</p> <p>M8, M10, M12, M16</p>  <p>FM APPROVED VdS</p>  |  |

# Technical Support and Advice





**Our Fire Protection Specialist** is ready to guide you through the selection and installation of the correct fire stop products for your project. You can take advantage of our knowledge about the regulations, our easy-to-install, quality products and our advice and support throughout your project.

Call : +31 297 23 30 00

Email : [export@walraven.com](mailto:export@walraven.com)

# Walraven Pacifyre® Selection chart

Introducing the Walraven Pacifyre Selection Chart – your go-to tool for finding the correct information easily.

This chart is designed to help you navigate our Walraven Pacifyre® Portfolio.

The data is organised by the component in which your penetration occurs and then by the type of material that will penetrate the component. Simply click on the scenario that matches your application, and you will be directed to the relevant information.

|                                |                |
|--------------------------------|----------------|
| Cables                         | Rigid Floors   |
| Combustible pipes, insulated   |                |
| Combustible pipes, uninsulated |                |
| Metal pipes, insulated         |                |
| Aircon bundles                 | Flexible walls |
| Cables                         |                |
| Combustible pipes, insulated   |                |
| Combustible pipes, uninsulated |                |
| Metal pipes, insulated         |                |
| Aircon bundles                 | Rigid walls    |
| Cables                         |                |
| Combustible pipes, insulated   |                |
| Combustible pipes, uninsulated |                |
| Metal pipes, insulated         |                |
| Combustible pipes, uninsulated | Shaft walls    |

# Rigid floors

| Cables   |              |                |                               |                      |                      | Rigid floors |                          |
|----------|--------------|----------------|-------------------------------|----------------------|----------------------|--------------|--------------------------|
| Material | Service type | Max. dimension | With or without cable carrier | Max. fire resistance | Product              | Part No.     | Substrate thickness (mm) |
| Any type | Cable bundle | 100            | With                          | EI 90                | Tangit FP 550 2C     | 2181550      | ≥150                     |
| Any type | Cable bundle | 100            | Without                       | EI 90                | Tangit FP 550 2C     | 2181550      | ≥150                     |
| Any type | Single cable | Any dimension  | With                          | EI 90                | Tangit FP 550 2C     | 2181550      | ≥150                     |
| Any type | Single cable | Any dimension  | Without                       | EI 90                | Tangit FP 550 2C     | 2181550      | ≥150                     |
| Sheathed | Single cable | 21             | Without                       | EI 90                | Walraven Pacifyre® A | 2180100010   | ≥150                     |
| Sheathed | Single cable | 21             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040   | ≥150                     |
| Sheathed | Cable bundle | 30             | Without                       | EI 90                | Walraven Pacifyre® A | 2180100010   | ≥150                     |
| Sheathed | Cable bundle | 50             | Without                       | EI 60                | Walraven Pacifyre® A | 2180100010   | ≥150                     |
| Sheathed | Cable bundle | 50             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040   | ≥150                     |

| Combustible pipes, insulated       |                  |                      |                            |            |                          | Rigid floors |  |
|------------------------------------|------------------|----------------------|----------------------------|------------|--------------------------|--------------|--|
| Material                           | Max. dimension   | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |              |  |
| Alpex                              | 75               | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |              |  |
| Alpex Duo                          | 63               | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |              |  |
| Alpex Duo                          | 40 - 75          | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |              |  |
| Aquatherm Blue Pipe SDR 11 MF RP   | 160              | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |              |  |
| Aquatherm Blue Pipe SDR 11 MF RP   | 355              | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |              |  |
| Aquatherm Blue Pipe SDR 17,6 MF RP | 160              | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |              |  |
| Aquatherm Blue Pipe SDR 17,6 MF RP | 355              | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |              |  |
| Aquatherm Blue Pipe SDR 9 MF RP    | 32               | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥150                     |              |  |
| Aquatherm Green Pipe               | 110              | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |              |  |
| Aquatherm Green Pipe SDR 11 S      | 200              | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥200                     |              |  |
| Aquatherm Green Pipe SDR 11 S      | 315              | EI 120               | Walraven Pacifyre® AWM II  | 2134315315 | ≥300                     |              |  |
| Aquatherm Green Pipe SDR 6 S       | 110              | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |              |  |
| Aquatherm Green Pipe SDR 7,4 S     | 63               | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥150                     |              |  |
| Aquatherm Green Pipe SDR 9 MF RP   | 90               | EI 120               | Walraven Pacifyre® AWM II  | 2134090092 | ≥150                     |              |  |
| Aquatherm Green Pipe SDR 9 MF RP   | 160              | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥200                     |              |  |
| Aquatherm Green Pipe SDR 9 MF RP   | 355              | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |              |  |
| Coolfit                            | 125 - 630        | EI 120               | Walraven Pacifyre® AWM II  | 2134125125 | ≥300                     |              |  |
| Coolfit                            | 140/75 - 315/225 | EI 90                | Walraven Pacifyre® AWM II  | 2134225280 | ≥300                     |              |  |
| Coolfit                            | 180 - 110        | EI 90                | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |              |  |
| Coolfit                            | 315 - 225        | EI 120               | Walraven Pacifyre® AWM II  | 2134225315 | ≥300                     |              |  |
| Coolfit                            | 90 - 125         | EI 120               | Walraven Pacifyre® AWM III | 2135125125 | ≥100                     |              |  |
| Coolfit 2.0                        | 110 - 160        | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |              |  |
| Coolfit 2.0                        | 140 - 200        | EI 90                | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |              |  |
| Coolfit 4.0                        | 355 - 500        | EI 120               | Walraven Pacifyre® AWM II  | 2134500500 | ≥150                     |              |  |
| Coolfit 4.0F                       | 225 - 315        | EI 120               | Walraven Pacifyre® AWM II  | 2134315315 | ≥150                     |              |  |
| Frankische Alpex F50 PROFIL        | 32               | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |              |  |
| Frankische Alpex F50 PROFIL        | 32               | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |              |  |
| Frankische Alpex L                 | 32               | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |              |  |
| Frankische Alpex L                 | 32               | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |              |  |
| Fusiotherm                         | 110              | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |              |  |
| PE                                 | 110              | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |              |  |
| PVC                                | 110              | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |              |  |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid floors

## Combustible pipes, insulated

**Rigid floors**

| Material            | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|---------------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Uponor Unipipe MLCP | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| Uponor Unipipe MLCP | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Uponor Unipipe MLCP | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Uponor Unipipe MLCP | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Uponor Unipipe MLCP | 32 - 75        | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |

## Combustible pipes, uninsulated

**Rigid floors**

| Material                           | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------------|----------------|----------------------|----------------------------|------------|--------------------------|
| ABS                                | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| ABS                                | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| ABS                                | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥300                     |
| ABS                                | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| ABS                                | 110 - 160      | EI 60                | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Alpex                              | 75             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Alpex Duo                          | 75             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | 250            | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥200                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | 250            | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥200                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | 315            | EI 45                | Walraven Pacifyre® AWM II  | 2134315315 | ≥200                     |
| Aquatherm Blue Pipe SDR 9 MF RP    | 32             | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥150                     |
| Aquatherm Blue Pipe SDR 9 MF RP OT | 250            | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥150                     |
| Aquatherm Green Pipe               | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| Aquatherm Green Pipe               | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Aquatherm Green Pipe               | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Aquatherm Green Pipe               | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Aquatherm Green Pipe SDR 11 S      | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| Aquatherm Green Pipe SDR 11 S      | 315            | EI 120               | Walraven Pacifyre® AWM II  | 2134315315 | ≥200                     |
| Aquatherm Green Pipe SDR 6 S       | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Aquatherm Green Pipe SDR 7,4 S     | 63             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥150                     |
| Aquatherm Green Pipe SDR 9 MF RP   | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| Aquatherm Green Pipe SDR 9 MF RP   | 355            | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥200                     |
| Blue Power                         | 50             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Blue Power                         | 50 - 110       | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Conel Drain                        | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Conel Drainpipes                   | 75             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Conel Drainpipes                   | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥150                     |
| Frankische Alpex F50 PROFI         | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| Frankische Alpex F50 PROFI         | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Frankische Alpex L                 | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| Frankische Alpex L                 | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Fusiotherm                         | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Geberit Silent PP                  | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| Geberit Silent PP                  | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

**Rigid Floors**
**Flexible walls**
**Rigid walls**
**Shaft walls**



# Rigid floors

## Combustible pipes, uninsulated

| Material                      | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|-------------------------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Geberit Silent PP             | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Geberit Silent PP             | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Geberit Silent PP             | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Geberit Silent PP             | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Geberit Silent PP             | 40 - 110       | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |
| Geberit Silent Pro            | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Geberit Silent Pro            | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Geberit Silent Pro            | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Georg Fischer Silenta Premium | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Georg Fischer Silenta Premium | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Georg Fischer Silenta Premium | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Multilayer with aluminium     | 75             | EI 120               | Walraven Pacifyre® MKII    | 2154075077 | ≥150                     |
| Ostendorf Skolan dB           | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| PE                            | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| PE                            | 75             | EI 240               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PE                            | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PE                            | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PE                            | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PE                            | 160            | EI 180               | Walraven Pacifyre® BFC     | 2133000160 | ≥150                     |
| PE                            | 160            | EI 120               | Walraven Pacifyre® MKII    | 2158159161 | ≥150                     |
| PE                            | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥300                     |
| PE                            | 280            | EI 120               | Walraven Pacifyre® FPC     | 2122000250 | ≥150                     |
| PE                            | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| PE                            | 110 - 160      | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PE                            | 110 - 160      | EI 60                | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PE                            | 280 - 315      | EI 90                | Walraven Pacifyre® FPC     | 2122000315 | ≥150                     |
| PE                            | 75 - 110       | EI 180               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PE-HD                         | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| PE-HD                         | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| Pelletschlauch PUR - Cu       | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥150                     |
| Pelletschlauch PVC - Cu       | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥150                     |
| PE-X                          | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| PE-X                          | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PE-X                          | 280            | EI 90                | Walraven Pacifyre® FPC     | 2122000280 | ≥150                     |
| PE-X                          | 110 - 160      | EI 60                | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PE-X                          | 280 - 315      | EI 90                | Walraven Pacifyre® FPC     | 2122000315 | ≥150                     |
| Polokal 3S                    | 125            | EI 120               | Walraven Pacifyre® AWM II  | 2134125125 | ≥150                     |
| Polokal NG                    | 160            | EI 90                | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Polokal XS                    | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Polokal XS                    | 160            | EI 90                | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Poloplast POLO-KAL 3S         | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Poloplast POLO-KAL 3S         | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Poloplast POLO-KAL NG         | 75             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Poloplast POLO-KAL NG         | 75             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Poloplast POLO-KAL NG         | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |

## Rigid floors

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid floors

## Combustible pipes, uninsulated

## Rigid floors

| Material              | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|-----------------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Poloplast POLO-KAL NG | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Poloplast POLO-KAL NG | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Poloplast POLO-KAL NG | 110 - 160      | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PP                    | 75             | EI 240               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PP                    | 110            | EI 180               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| PP                    | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PP                    | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PP                    | 160            | EI 120               | Walraven Pacifyre® MKII    | 2158159161 | ≥150                     |
| PP                    | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥300                     |
| PP                    | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PP                    | 110 - 160      | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PP                    | 200 - 315      | EI 90                | Walraven Pacifyre® AWM II  | 2134225315 | ≥300                     |
| PP                    | 40 - 110       | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |
| PP                    | 75 - 110       | EI 180               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PP-H                  | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| PP-H                  | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PP-H                  | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| PP-H                  | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| PP-H                  | 315            | EI 120               | Walraven Pacifyre® AWM II  | 2134315315 | ≥300                     |
| PVC                   | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| PVC                   | 110            | EI 180               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| PVC                   | 110            | EI 240               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| PVC                   | 110            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |
| PVC                   | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PVC                   | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥150                     |
| PVC                   | 160            | EI 240               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| PVC                   | 160            | EI 120               | Walraven Pacifyre® MKII    | 2158159161 | ≥150                     |
| PVC                   | 160            | EI 90                | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| PVC                   | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| PVC                   | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥150                     |
| PVC                   | 315            | EI 120               | Walraven Pacifyre® FPC     | 2122000315 | ≥150                     |
| PVC                   | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥100                     |
| PVC                   | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| PVC                   | 110 - 160      | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Rehau Raupiano light  | 110            | EI 90                | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Rehau Raupiano Plus   | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Rehau Raupiano Plus   | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Rehau Raupiano plus   | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Rehau Raupiano Plus   | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Rehau Raupiano plus   | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| SAN+PVC               | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| SAN+PVC               | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| SAN+PVC               | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥300                     |
| SAN+PVC               | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid floors

## Combustible pipes, uninsulated

Rigid floors

| Material            | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|---------------------|----------------|----------------------|----------------------------|------------|--------------------------|
| SAN+PVC             | 110 - 160      | EI 60                | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Uponor Unipipe MLCP | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥150                     |
| Uponor Unipipe MLCP | 50             | EI 120               | Walraven Pacifyre® BFC     | 2133000050 | ≥150                     |
| Uponor Unipipe MLCP | 50             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Uponor Unipipe MLCP | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Uponor Unipipe MLCP | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Uponor Unipipe MLCP | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Uponor Unipipe MLCP | 50 - 110       | EI 90                | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| Uponor Unipipe MLCP | 50 - 110       | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Valsir TriPLUS      | 50             | EI 90                | Walraven Pacifyre® AWM II  | 2134050052 | ≥150                     |
| Wavin AS+           | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Wavin AS+           | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Wavin SiTech        | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥150                     |
| Wavin SiTech        | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥150                     |
| Wavin SiTech+       | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥150                     |
| Wavin SiTech+       | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Wavin SiTech+       | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥150                     |
| Wavin SiTech+       | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥150                     |
| Wavin SiTech+       | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Wavin SiTech+       | 110 - 160      | EI 60                | Walraven Pacifyre® EFC     | 2132100600 | ≥150                     |
| Wavin SiTech+       | 50 - 110       | EI 60                | Walraven Pacifyre® BFC     | 2133000160 | ≥150                     |
| Wavin SiTech+       | 50 - 110       | EI 90                | Tangit FP 550 2C           | 2181550    | ≥150                     |

## Metal pipes, insulated

Rigid floors

| Material        | Max. dimension | Max. fire resistance | Product                | Part No.   | Substrate thickness (mm) |
|-----------------|----------------|----------------------|------------------------|------------|--------------------------|
| Copper          | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Copper          | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Copper          | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Copper          | 88.9           | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Copper          | 88.9           | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Stainless steel | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Stainless steel | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Steel           | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Steel           | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Steel           | 139.7          | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Steel           | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Steel           | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Flexible walls

## Aircon bundles

### Flexible walls

| Material      | Service type            | Max. dimension | Max. fire resistance | Product              | Part No.   | Substrate thickness (mm) |
|---------------|-------------------------|----------------|----------------------|----------------------|------------|--------------------------|
| Aircon bundle | PVC pipe                | 11             | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Sheathed cable          | 14             | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | PVC pipe                | 24             | EI 60                | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Copper pipe (insulated) | 15.87          | EI 60                | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Copper pipe (insulated) | 9.65           | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |

## Cables

### Flexible walls

| Material        | Service type | Max. dimension | With or without cable carrier | Max. fire resistance | Product              | Part No.   | Substrate thickness (mm) |
|-----------------|--------------|----------------|-------------------------------|----------------------|----------------------|------------|--------------------------|
| <b>Any type</b> | Single cable | 80             | Without                       | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Any type        | Cable bundle | 100            | Without                       | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Sheathed        | Single cable | 21             | Without                       | EI 60                | Walraven Pacifyre® A | 2180100010 | ≥100                     |
| Sheathed        | Single cable | 21             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Sheathed        | Cable bundle | 50             | Without                       | EI 60                | Walraven Pacifyre® A | 2180100010 | ≥100                     |
| Sheathed        | Cable bundle | 50             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |

## Combustible pipes, insulated

### Flexible walls

| Material                           | Service type | Max. dimension  | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------------|--------------|-----------------|----------------------|----------------------------|------------|--------------------------|
| Alpex                              | Plastic pipe | 16              | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Alpex                              | Plastic pipe | 50              | EI 60                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Alpex                              | Plastic pipe | 75              | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Alpex Duo                          | Plastic pipe | 40              | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥120                     |
| Alpex Duo                          | Plastic pipe | 40 - 75         | EI 90                | Walraven Pacifyre® IWM III | 2136050125 | ≥120                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | Plastic pipe | 160             | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP    | Plastic pipe | 32              | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP OT | Plastic pipe | 32              | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Green Pipe SDR 11 S      | Plastic pipe | 160             | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Aquatherm Green Pipe SDR 6 S       | Plastic pipe | 110             | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Aquatherm Green Pipe SDR 7,4 S     | Plastic pipe | 63              | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Aquatherm Green Pipe SDR 9 MF RP   | Plastic pipe | 160             | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Coolfit                            | Plastic pipe | 90/25 - 180/110 | EI 120               | Walraven Pacifyre® AWM II  | 2134180180 | ≥100                     |
| Coolfit 2.0                        | Plastic pipe | 140 - 200       | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Coolfit 4.0                        | Plastic pipe | 110 - 180       | EI 120               | Walraven Pacifyre® AWM II  | 2134180180 | ≥100                     |
| Coolfit 4.0                        | Plastic pipe | 63 - 110        | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Frankische Alpex F50 PROFI         | Plastic pipe | 32              | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex F50 PROFI         | Plastic pipe | 63              | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex L                 | Plastic pipe | 32              | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex L                 | Plastic pipe | 63              | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Fusiotherm                         | Plastic pipe | 50              | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Flexible walls

## Combustible pipes, insulated

Flexible walls

| Material                     | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Fusiotherm                   | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Fusiotherm                   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PE                           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Plastic with aluminium layer | Plastic pipe | 75             | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PP                           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 16             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Uponor Unipipe MLCP          | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Uponor Unipipe MLCP          | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Uponor Unipipe MLCP          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |

## Combustible pipes, uninsulated

Flexible walls

| Material                           | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| ABS                                | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| ABS                                | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| ABS                                | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| ABS                                | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| ABS                                | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| ABS                                | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Alplex Duo                         | Plastic pipe | 40             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥120                     |
| Alplex Duo                         | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥120                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP    | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP OT | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Green Pipe SDR 11 S      | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Green Pipe SDR 6 S       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Aquatherm Green Pipe SDR 7,4 S     | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Aquatherm Green Pipe SDR 9 MF RP   | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| ASA                                | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| Blue Power                         | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Blue Power                         | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| COES Blue Power                    | Plastic pipe | 90             | EI 120               | Walraven Pacifyre® AWM II  | 2134090092 | ≥100                     |
| COES Blue Power                    | Plastic pipe | 110            | EI 90                | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Conel Drain                        | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Conel Drainpipes                   | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Conel Drainpipes                   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Flexible walls

## Combustible pipes, uninsulated

## Flexible walls

| Material                      | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|-------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Conel Drainpipes              | Plastic pipe | 75 - 110       | EI 90                | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex F50 PROFI    | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex F50 PROFI    | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex L            | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex L            | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Fusiotherm                    | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Geberit Silent dB20           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Geberit Silent dB20           | Plastic pipe | 160            | EI 90                | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent PP             | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Geberit Silent PP             | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Geberit Silent PP             | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| Geberit Silent PP             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent PP             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Geberit Silent PP             | Plastic pipe | 125 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Geberit Silent Pro            | Plastic pipe | 90             | EI 90                | Walraven Pacifyre® FPC     | 2122000090 | ≥100                     |
| Geberit Silent Pro            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Geberit Silent Pro            | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent Pro            | Plastic pipe | 90 - 160       | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Georg Fischer Silenta Premium | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Georg Fischer Silenta Premium | Plastic pipe | 135            | EI 120               | Walraven Pacifyre® AWM II  | 2134135135 | ≥100                     |
| Georg Fischer Silenta Premium | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| KeKelit Phonex AS             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Multilayer with aluminium     | Plastic pipe | 75             | EI 45                | Walraven Pacifyre® MKII    | 2154075077 | ≥100                     |
| Multilayer with aluminium     | Plastic pipe | 17 - 32        | EI 90                | Walraven Pacifyre® MKII    | 2154024026 | ≥100                     |
| PB                            | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PE                            | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PE                            | Plastic pipe | 110            | EI 90                | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PE                            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PE                            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PE                            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PE                            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PE                            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® MKII    | 2154108110 | ≥100                     |
| PE                            | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PE                            | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| PE                            | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PE                            | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PE                            | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| PE                            | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PE                            | Plastic pipe | 110 - 160      | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PE                            | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PE                            | Plastic pipe | 164 - 180      | EI 90                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| PE-HD                         | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Pelletschlauch PUR - Cu       | Plastic pipe | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Pelletschlauch PVC - Cu       | Plastic pipe | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Flexible walls

## Combustible pipes, uninsulated

## Flexible walls

| Material               | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| PE-X                   | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PE-X                   | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| PE-X                   | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Pipelife Master 3 Plus | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Polokal 3S             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Polokal NG             | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Polokal XS             | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Poloplast POLO-KAL 3S  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Poloplast POLO-KAL 3S  | Plastic pipe | 110 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Poloplast POLO-KAL 3S  | Plastic pipe | 75 - 110       | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Poloplast POLO-KAL NG  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 110 - 125      | EI 90                | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 125 - 160      | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 40 - 110       | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| Poloplast POLO-KAL NG  | Plastic pipe | 50 - 160       | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Poloplast POLO-KAL NG  | Plastic pipe | 50 - 75        | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PP                     | Plastic pipe | 110            | EI 90                | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PP                     | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PP                     | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PP                     | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PP                     | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PP                     | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| PP                     | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM III | 2135160160 | ≥100                     |
| PP                     | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PP                     | Plastic pipe | 180            | EI 90                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| PP                     | Plastic pipe | 110 - 160      | EI 90                | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| PP-H                   | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PP-H                   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PP-H                   | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| PP-H                   | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| PVC                    | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® BFC     | 2133000050 | ≥100                     |
| PVC                    | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PVC                    | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                    | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                    | Plastic pipe | 125            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PVC                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| PVC                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| PVC                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM III | 2135160160 | ≥100                     |
| PVC                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| PVC                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| PVC                    | Plastic pipe | 160            | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Flexible walls

## Combustible pipes, uninsulated

## Flexible walls

| Material             | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|----------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PVC                  | Plastic pipe | 180            | EI 90                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| Rehau Raupiano light | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Rehau Raupiano plus  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Rehau Raupiano plus  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Rehau Raupiano plus  | Plastic pipe | 110 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| SAN+PVC              | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| SAN+PVC              | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| SAN+PVC              | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| SAN+PVC              | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| SAN+PVC              | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Triplus              | Plastic pipe | 90             | EI 120               | Walraven Pacifyre® BFC     | 2133000090 | ≥100                     |
| Triplus              | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Uponor Unipipe MLCP  | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Uponor Unipipe MLCP  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Valsir TriPLUS       | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin AS             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin AS+            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Wavin AS+            | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Wavin AS+            | Plastic pipe | 110 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin SiTech+        | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥94                      |
| Wavin SiTech+        | Plastic pipe | 110 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |

## Metal pipes

## Flexible walls

| Material        | Service type | Max. dimension | Max. fire resistance | Product                | Part No.   | Substrate thickness (mm) |
|-----------------|--------------|----------------|----------------------|------------------------|------------|--------------------------|
| Copper          | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |
| Copper          | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Copper          | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |
| Copper          | Metal pipe   | 88.9           | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Copper          | Metal pipe   | 88.9           | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |
| Stainless steel | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls



# Flexible walls

## Metal pipes

## Flexible walls

| Material        | Service type | Max. dimension | Max. fire resistance | Product                | Part No.   | Substrate thickness (mm) |
|-----------------|--------------|----------------|----------------------|------------------------|------------|--------------------------|
| Stainless steel | Metal pipe   | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |
| Steel           | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |
| Steel           | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Steel           | Metal pipe   | 139.7          | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Steel           | Metal pipe   | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Steel           | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥94                      |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Aircon bundles

Rigid walls

| Material      | Service type            | Max. dimension | Max. fire resistance | Product              | Part No.   | Substrate thickness (mm) |
|---------------|-------------------------|----------------|----------------------|----------------------|------------|--------------------------|
| Aircon bundle | PVC pipe                | 11             | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Sheathed cable          | 14             | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | PVC pipe                | 24             | EI 60                | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Copper pipe (insulated) | 15.87          | EI 60                | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Aircon bundle | Copper pipe (insulated) | 9.65           | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |

## Cables

Rigid walls

| Material        | Service type | Max. dimension | With or without cable carrier | Max. fire resistance | Product              | Part No.   | Substrate thickness (mm) |
|-----------------|--------------|----------------|-------------------------------|----------------------|----------------------|------------|--------------------------|
| <b>Any type</b> | Single cable | 80             | With                          | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Any type        | Single cable | 80             | Without                       | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Any type        | Cable bundle | 100            | With                          | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Any type        | Cable bundle | 100            | Without                       | EI 90                | Tangit FP 550 2C     | 2181550    | ≥100                     |
| Sheathed        | Single cable | 21             | Without                       | EI 60                | Walraven Pacifyre® A | 2180100010 | ≥100                     |
| Sheathed        | Single cable | 21             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |
| Sheathed        | Cable bundle | 50             | Without                       | EI 60                | Walraven Pacifyre® A | 2180100010 | ≥100                     |
| Sheathed        | Cable bundle | 50             | Without                       | EI 120               | Walraven Pacifyre® G | 2180100040 | ≥100                     |

## Combustible pipes, insulated

Rigid walls

| Material                            | Service type | Max. dimension    | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|-------------------------------------|--------------|-------------------|----------------------|----------------------------|------------|--------------------------|
| Alpex                               | Plastic pipe | 16                | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Alpex                               | Plastic pipe | 50                | EI 60                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Alpex                               | Plastic pipe | 75                | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Alpex Duo                           | Plastic pipe | 75                | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Blue Pipe SDR 11 MF RP    | Plastic pipe | 160               | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Aquatherm Blue Pipe SDR 11 MF RP    | Plastic pipe | 200               | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥300                     |
| Aquatherm Blue Pipe SDR 11 MF RP    | Plastic pipe | 355               | EI 90                | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |
| Aquatherm Blue Pipe SDR 11 MF RP OT | Plastic pipe | 250               | EI 90                | Walraven Pacifyre® AWM II  | 2134250250 | ≥240                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP  | Plastic pipe | 160               | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP  | Plastic pipe | 200               | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥240                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP  | Plastic pipe | 355               | EI 90                | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |
| Aquatherm Blue Pipe SDR 9 MF RP     | Plastic pipe | 32                | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP OT  | Plastic pipe | 32                | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Green Pipe                | Plastic pipe | 110               | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Green Pipe SDR 11 S       | Plastic pipe | 160               | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Aquatherm Green Pipe SDR 11 S       | Plastic pipe | 200               | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥240                     |
| Aquatherm Green Pipe SDR 6 S        | Plastic pipe | 110               | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Aquatherm Green Pipe SDR 7,4 S      | Plastic pipe | 63                | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Aquatherm Green Pipe SDR 9 MF RP    | Plastic pipe | 200               | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥240                     |
| Aquatherm Green Pipe SDR 9 MF RP    | Plastic pipe | 355               | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥300                     |
| Coolfit                             | Plastic pipe | 280/200 - 315/225 | EI 90                | Walraven Pacifyre® AWM II  | 2134225315 | ≥300                     |
| Coolfit                             | Plastic pipe | 90/25 - 250/160   | EI 120               | Walraven Pacifyre® AWM II  | 2134225250 | ≥300                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Combustible pipes, insulated

| Material                     | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Coolfit 2.0                  | Plastic pipe | 140 - 200      | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Coolfit 4.0                  | Plastic pipe | 110 - 180      | EI 120               | Walraven Pacifyre® AWM II  | 2134180180 | ≥100                     |
| Coolfit 4.0                  | Plastic pipe | 160 - 250      | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥240                     |
| Coolfit 4.0                  | Plastic pipe | 355 - 500      | EI 90                | Walraven Pacifyre® AWM II  | 2134500500 | ≥300                     |
| Coolfit 4.0F                 | Plastic pipe | 250 - 355      | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥240                     |
| Coolfit 4.0F                 | Plastic pipe | 63 - 110       | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Frankische Alpex F50 PROFI   | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex F50 PROFI   | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex L           | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex L           | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PE                           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Plastic with aluminium layer | Plastic pipe | 75             | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PP                           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Uponor Unipipe MLCP          | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |

## Combustible pipes, uninsulated

| Material                           | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|------------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| ABS                                | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| ABS                                | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| ABS                                | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| ABS                                | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| ABS                                | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| ABS                                | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| ABS                                | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| ABS                                | Plastic pipe | 200 - 400      | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| Alpex Duo                          | Plastic pipe | 40             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Alpex Duo                          | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | Plastic pipe | 250            | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥240                     |
| Aquatherm Blue Pipe SDR 11 MF RP   | Plastic pipe | 355            | EI 90                | Walraven Pacifyre® AWM II  | 2134355355 | ≥240                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | Plastic pipe | 250            | EI 120               | Walraven Pacifyre® AWM II  | 2134250250 | ≥100                     |
| Aquatherm Blue Pipe SDR 17,6 MF RP | Plastic pipe | 355            | EI 45                | Walraven Pacifyre® AWM II  | 2134355355 | ≥240                     |
| Aquatherm Blue Pipe SDR 9 MF RP    | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Blue Pipe SDR 9 MF RP OT | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® AWM II  | 2134032034 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000090 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Aquatherm Green Pipe               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |

## Rigid walls

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Combustible pipes, uninsulated

## Rigid walls

| Material                         | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|----------------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Aquatherm Green Pipe SDR 11 S    | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Green Pipe SDR 11 S    | Plastic pipe | 315            | EI 90                | Walraven Pacifyre® AWM II  | 2134315315 | ≥240                     |
| Aquatherm Green Pipe SDR 6 S     | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Aquatherm Green Pipe SDR 7,4 S   | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Aquatherm Green Pipe SDR 9 MF RP | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| Aquatherm Green Pipe SDR 9 MF RP | Plastic pipe | 355            | EI 120               | Walraven Pacifyre® AWM II  | 2134355355 | ≥240                     |
| ASA                              | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| Blue Power                       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Blue Power                       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| COES Blue Power                  | Plastic pipe | 90             | EI 120               | Walraven Pacifyre® AWM II  | 2134090092 | ≥100                     |
| COES Blue Power                  | Plastic pipe | 110            | EI 90                | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Conel Drain                      | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Conel Drainpipes                 | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Conel Drainpipes                 | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Conel Drainpipes                 | Plastic pipe | 75 - 110       | EI 90                | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex F50 PROFI       | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex F50 PROFI       | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Frankische Alpex L               | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Frankische Alpex L               | Plastic pipe | 63             | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Fusiotherm                       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Geberit Silent dB20              | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Geberit Silent dB20              | Plastic pipe | 160            | EI 90                | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Geberit Silent PP                | Plastic pipe | 125 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Geberit Silent Pro               | Plastic pipe | 75             | EI 90                | Walraven Pacifyre® FPC     | 2122000090 | ≥100                     |
| Geberit Silent Pro               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Geberit Silent Pro               | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Geberit Silent Pro               | Plastic pipe | 110 - 125      | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥150                     |
| Geberit Silent Pro               | Plastic pipe | 125 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Geberit Silent Pro               | Plastic pipe | 90 - 110       | EI 90                | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Georg Fischer Silenta Premium    | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Georg Fischer Silenta Premium    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Georg Fischer Silenta Premium    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| KeKelit Phonex AS                | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Multilayer with aluminium        | Plastic pipe | 75             | EI 120               | Walraven Pacifyre® MKII    | 2154075077 | ≥100                     |
| PB                               | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PE                               | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PE                               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PE                               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PE                               | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Combustible pipes, uninsulated

## Rigid walls

| Material                | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|-------------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| PE                      | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| PE                      | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PE                      | Plastic pipe | 160            | EI 60                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PE                      | Plastic pipe | 160            | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PE                      | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® MKII    | 2158159161 | ≥100                     |
| PE                      | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PE                      | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| PE                      | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PE                      | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| PE                      | Plastic pipe | 164 - 180      | EI 90                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| PE                      | Plastic pipe | 200 - 400      | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| PE-HD                   | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PE-HD                   | Plastic pipe | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| Pelletschlauch PUR - Cu | Plastic pipe | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| Pelletschlauch PVC - Cu | Plastic pipe | 60             | EI 120               | Walraven Pacifyre® AWM II  | 2134063065 | ≥100                     |
| PE-X                    | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PE-X                    | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| PE-X                    | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PE-X                    | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| Pipelife Master 3 Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Polokal 3S              | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Polokal NG              | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Polokal XS              | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® AWM II  | 2134110112 | ≥100                     |
| Poloplast POLO-KAL 3S   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Poloplast POLO-KAL 3S   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Poloplast POLO-KAL 3S   | Plastic pipe | 110 - 125      | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥150                     |
| Poloplast POLO-KAL 3S   | Plastic pipe | 125 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPC     | 2122000110 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 110 - 125      | EI 90                | Walraven Pacifyre® FPC     | 2122000125 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 125 - 160      | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 40 - 110       | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 50 - 75        | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Poloplast POLO-KAL NG   | Plastic pipe | 75 - 160       | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PP                      | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® BFC     | 2133000050 | ≥100                     |
| PP                      | Plastic pipe | 58             | EI 120               | Walraven Pacifyre® MKII    | 2154054056 | ≥100                     |
| PP                      | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PP                      | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PP                      | Plastic pipe | 140            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PP                      | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PP                      | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| PP                      | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Combustible pipes, uninsulated

## Rigid walls

| Material             | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|----------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| PP                   | Plastic pipe | 110 - 160      | EI 90                | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| PP                   | Plastic pipe | 164 - 180      | EI 60                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| PP                   | Plastic pipe | 50 - 63        | EI 90                | Walraven Pacifyre® BFC     | 2133000063 | ≥100                     |
| PP                   | Plastic pipe | 58 - 61        | EI 60                | Walraven Pacifyre® MKII    | 2154057059 | ≥100                     |
| PP                   | Plastic pipe | 61 - 160       | EI 60                | Walraven Pacifyre® MKII    | 2158159161 | ≥100                     |
| PP                   | Plastic pipe | 63 - 110       | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| PP-H                 | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PP-H                 | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PP-H                 | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| PP-H                 | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PVC                  | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® MKII    | 2154030032 | ≥100                     |
| PVC                  | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| PVC                  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| PVC                  | Plastic pipe | 125            | EI 90                | Tangit FP 550 2C           | 2181550    | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 90                | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| PVC                  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| PVC                  | Plastic pipe | 180            | EI 240               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| PVC                  | Plastic pipe | 200            | EI 240               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PVC                  | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| PVC                  | Plastic pipe | 400            | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| PVC                  | Plastic pipe | 164 - 180      | EI 90                | Walraven Pacifyre® MKII    | 2158180182 | ≥100                     |
| PVC                  | Plastic pipe | 200 - 400      | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| PVC                  | Plastic pipe | 32 - 44        | EI 90                | Walraven Pacifyre® MKII    | 2154039041 | ≥100                     |
| PVC                  | Plastic pipe | 44 - 160       | EI 120               | Walraven Pacifyre® MKII    | 2158159161 | ≥100                     |
| Rehau Raupiano light | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Rehau Raupiano plus  | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Rehau Raupiano plus  | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥150                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® BFC     | 2133000160 | ≥100                     |
| Rehau Raupiano Plus  | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Rehau Raupiano plus  | Plastic pipe | 125 - 160      | EI 90                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| SAN+PVC              | Plastic pipe | 50             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| SAN+PVC              | Plastic pipe | 125            | EI 60                | Walraven Pacifyre® FPC     | 2122000140 | ≥150                     |
| SAN+PVC              | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| SAN+PVC              | Plastic pipe | 180            | EI 120               | Walraven Pacifyre® AWM III | 2135180180 | ≥100                     |
| SAN+PVC              | Plastic pipe | 200            | EI 120               | Walraven Pacifyre® AWM II  | 2134200200 | ≥100                     |
| SAN+PVC              | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥150                     |
| SAN+PVC              | Plastic pipe | 200 - 400      | EI 120               | Walraven Pacifyre® AWM II  | 2134400400 | ≥300                     |
| SAN+PVC              | Plastic pipe | 32 - 50        | EI 240               | Walraven Pacifyre® AWM III | 2135050052 | ≥300                     |
| Triplus              | Plastic pipe | 90             | EI 120               | Walraven Pacifyre® BFC     | 2133000090 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Rigid walls

## Combustible pipes, uninsulated

### Rigid walls

| Material            | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|---------------------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| Triplus             | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Uponor Unipipe MLCP | Plastic pipe | 32             | EI 120               | Walraven Pacifyre® G       | 2180100040 | ≥100                     |
| Uponor Unipipe MLCP | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Uponor Unipipe MLCP | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Valsir TriPLUS      | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin AS            | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin AS+           | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Wavin AS+           | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥150                     |
| Wavin AS+           | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® BFC     | 2133000110 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® FPW     | 2122250920 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 125            | EI 120               | Walraven Pacifyre® FPC     | 2122000125 | ≥150                     |
| Wavin SiTech+       | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® AWM II  | 2134160160 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 160            | EI 120               | Walraven Pacifyre® EFC     | 2132100600 | ≥100                     |
| Wavin SiTech+       | Plastic pipe | 125 - 160      | EI 60                | Walraven Pacifyre® FPC     | 2122000160 | ≥100                     |

## Metal pipes

### Rigid walls

| Material        | Service type | Max. dimension | Max. fire resistance | Product                | Part No.   | Substrate thickness (mm) |
|-----------------|--------------|----------------|----------------------|------------------------|------------|--------------------------|
| Copper          | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Copper          | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Copper          | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Copper          | Metal pipe   | 88.9           | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Copper          | Metal pipe   | 88.9           | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Stainless steel | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Stainless steel | Metal pipe   | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Stainless steel | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Steel           | Metal pipe   | 28             | EI 120               | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |
| Steel           | Metal pipe   | 35             | EI 120               | Walraven Pacifyre® G   | 2180100040 | ≥100                     |
| Steel           | Metal pipe   | 139.7          | EI 90                | Tangit FP 550 2C       | 2181550    | ≥100                     |
| Steel           | Metal pipe   | 219.1          | EI 120               | Walraven Pacifyre® A   | 2180100010 | ≥100                     |
| Steel           | Metal pipe   | 28 - 108       | EI 60                | Walraven Pacifyre® EFC | 2132100600 | ≥100                     |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls

# Shaft walls

## Combustible pipes, uninsulated

## Shaft walls

| Material | Service type | Max. dimension | Max. fire resistance | Product                    | Part No.   | Substrate thickness (mm) |
|----------|--------------|----------------|----------------------|----------------------------|------------|--------------------------|
| PE       | Plastic pipe | 50             | EI 90                | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |
| PE       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |
| PP       | Plastic pipe | 50             | EI 90                | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |
| PP       | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |
| PVC      | Plastic pipe | 50             | EI 90                | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |
| PVC      | Plastic pipe | 110            | EI 120               | Walraven Pacifyre® IWM III | 2136050125 | ≥2x20                    |

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Aircon bundles

Cables

Combustible pipes, insulated

Combustible pipes, uninsulated

Metal pipes, insulated

Combustible pipes, uninsulated

Rigid Floors

Flexible walls

Rigid walls

Shaft walls





## 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!

### Singapore South East Asia & Pacific

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