

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
 Rev. date:
 Rev.:
 Prepared by: PP
 Approved by: AK
 Page 1 of 6
 Approval: ETA - 15/0339
 DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

TECHNICAL DESCRIPTION OF THE PRODUCT

FIRESAFE Fire Wrap is a wrap for fire sealing of plastic pipes, aluminium pipes and metal pipes in walls and floors. FIRESAFE Fire Wrap is delivered in single pack to fit the exact pipe diameter, or roll of 18 m. (Wrap-n'-roll).

FIRESAFE Fire Wrap is a flexible strip with heat reactive components.

The graphite material in FIRESAFE Fire Wrap expands at a temperature of 180 °C, to 18 times the original volume.

FIRESAFE Fire Wrap can be installed in small openings as single fire sealing in walls and floors combined with FIRESAFE FT Acrylic or installed in large openings combined with FIRESAFE FT Board or in FIRESAFE GPG MORTAR.

For other installation details, see the installation instructions for FIRESAFE Fire Wrap and FIRESAFE FT Board.

| | |
|-----------------------|---|
| Product: | FIRESAFE Fire Wrap + Wrap-'n-roll, are also marketed under the product names GLAVA Fire Wrap |
| Description: | Flexible strip with heat reactive components |
| Intended use: | Service closure for pipe penetrations, to form a penetration seal in case of fire to reinstate the fire resistance of fire compartments |
| Certification: | Tested and certified by ETA-15/0339; fire resistance performances and assembly methods for uses in: |

| Constructive element ¹⁾ | |
|--|---|
| Fire rated walls: acc. EN 1363-1 | - standard flexible walls $\geq 100\text{mm}$: 50mm MS profiles with on 2 sides min. 2x12,5mm plaster board type F + insulation: rock wool $\geq 50\text{mm}$, density $\geq 100 \text{ kg/m}^3$ - standard rigid walls $\geq 100\text{mm}$: blockwork, (aerated) concrete or masonry, density $\geq 650 / \text{m}^3$ |
| Fire rated floors: acc. EN 1363-1 | - standard rigid floors $\geq 150\text{mm}$: (aerated) concrete, density $\geq 650 \text{ kg/ m}^3$ |
| ¹⁾ the supporting construction must be classified acc. EN 13501-2 for the required fire resistance period | |

FIRESAFE /

All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
 Rev. date:
 Rev.:
 Prepared by: PP
 Approved by: AK
 Page 2 of 6
 Approval: ETA - 15/0339
 DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

| PIPE PENETRATIONS | | Field of application: acc.to EN 13501-2 / 1366-3 | |
|---|----------------------------|---|--|
| FIRE RESISTANCE: acc. EN 13501-2 / 1366-3 EI 30 up to EI 180: Wrap + Wrap-'n-roll | Plastic pipes of PE/PP/PVC | Aluminum pipes Alu-PEX with Synth. rubber pipe isolation | Configuration * |
| | ≤ Ø 160mm | ≤ Ø75mm | See details and further applications in the installation manual for FIRESAFE Fire Wrap and FIRESAFE FT Board |
| Extended FoA, including: | | - aperture oversized allowance up to 15mm - always fit: cut to size - tested in FIRESAFE FT board + FIRESAFE GPG MORTAR | |

| Directions for use | |
|-----------------------|---|
| Important: | Application must follow DoP No. FIR/PP/WRA – 15-08-2017 |
| Equipment: | Knife and tape (Wrap-'n-roll) |
| Surface preparation: | - ensure that service elements are firmly anchored with constructive elements on either side the penetration opening. Must be clean, dry and degreased; remove any debris and dust - with uneven surfaces and small gaps, <u>first</u> seal with FIRESAFE FT Acrylic to improve smoke seal efficiency - if aperture > 30mm, use FIRESAFE FT Board or FIRESAFE GPG MORTAR around the pipe for tight- fit opening |
| Installation: | - apply on 2 sides (walls) or on 1 side (floors) - Wrap: wrap tight-fit around pipe, hold in position with tape. Wrap 'n-roll: cut to size; see table on page 5 and 6, wrap required layers tight-fit around pipe, hold in position with tape. Slide into place, flush with constructive element, yet still <u>visible</u> - apply smoke seal around the pipe with FIRESAFE FT Acrylic on either side |
| Finish & maintenance: | - FIRESAFE recommends to label each penetration with a fire sealing label which states; “the products used, fire resistance, date and made by”, which corresponds to the workers worklists. Routine inspections on damage and repairs on the penetrations ensure sound fire protection management. |



All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
Rev. date:
Rev.:
Prepared by: PP
Approved by: AK
Page 3 of 6
Approval: ETA - 15/0339
DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

| Specifications | |
|----------------------------------|---|
| Material: | Flexible strip with heat reactive components, intumescent |
| Colour: | Dark grey, in transparent ldPE sleeve (Wrap) |
| Fire resistance: | EI 30 up to EI 180, depending on application and configuration |
| Tested and classified acc: | EN 1366-3; EN 13501-1: Class F; EN 13501-2 |
| Use category: | Y1, internal use |
| application conditions: | Between +5 °C and +30 °C, max. 70% RH |
| Hardness: | Shore A: 85 |
| Adhesion: | Use tape for fastening around pipe |
| Packaging: | Wrap: per piece in cartons; Wrap-'n-roll: on rolls 18 m |
| Thickness: | 2mm per layers of Wrap |
| Standard height: | 50mm (Wrap-'n-roll) |
| Storage: | Store dry, between +5 °C and +30 °C, max. 70% RH, avoid condensation and UV |
| Shelf life: | Infinite, if stored acc. instructions |
| Activation temperature: | Approx. +180 °C |
| Flash point: | Not applicable |
| Release of dangerous substances: | None: non-formaldehyde, non-asbestos |
| Practical coverage: | Allow for limited loss factor with Wrap-'n-roll |

| Transport & storage: | |
|----------------------|--|
| Transport & storage: | <ul style="list-style-type: none">- During transport: keep dry; do not stack pallets- Store dry; best kept in cool, dark conditions- Store on level ground; do not stack pallets- HS code: 69031000 |

FIRESAFE /

All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
 Rev. date:
 Rev.:
 Prepared by: PP
 Approved by: AK
 Page 4 of 6
 Approval: ETA - 15/0339
 DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

| Plastic pipes Practical coverage Wrap-'n-roll | | | | | | | | |
|---|-----------|---------------------|---------------------------|---------------------------------|---------------------------|--------------------------------|------------------|----------------------------------|
| Pipe Ø (mm) | Pipe type | Pipe thickness (mm) | Wall type 1+2+3 | Wall type 2+3 in FS -GPG MORTAR | Floor type 4 | No. of layers Wrap in FT Board | Wrap length (mm) | No. of layers wrap in GPG MORTAR |
| 40 | PE | (3,4 up to 10,0) | EI 120 U/C | EI 120 U/C | EI 180 U/C | 2 | 252 | 1= 126mm |
| | PP | (2,7 up to 6,3) | | | | | | |
| 50 | PVC | (2,7 up to 10,0) | EI 120 U/C | In Mortar 200x1000 mm | EI 180 U/C | 2 | 314 | 1= 157mm |
| 63 | | | EI 120 U/C | | EI 180 U/C | 2 | 396 | 1= 198mm |
| 75 | | | EI 120 U/C | | EI 180 U/C | 2 | 471 | 1= 236mm |
| 80 | | | EI 120 U/C | | EI 120 U/C | 2 | 503 | 1= 252mm |
| 90 | | | EI 120 U/C | | EI 180 U/C | 2 | 566 | 1= 283mm |
| 110 | | | EI 120 U/C | | EI 90 U/C in 1 x FT Board | EI 180 U/C | 2 | 691 |
| 125 | PE | (3,9 up to 11,7) | EI 60 U/C | | EI 180U/C | 2 (walls) | 785 | |
| | PP | (3,1 up to 7,1) | | | | | | |
| | PVC | (3,1 up to 11,7) | | | | | | |
| 140 | PE | (4,9 up to 14,6) | | | EI 180 U/C | 3 | 1319 | |
| | PP | (4,0 up to 14,6) | | | | | | |
| | PVC | (4,0 up to 14,6) | | | | | | |
| 160 | PE | (4,9 up to 14,6) | | | EI 180 U/C | 3 | 1508 | |
| | PP | (4,0 up to 14,6) | | | | | | |
| | PVC | (4,0 up to 14,6) | | | | | | |
| 110 | PE | (3,4) | EI 30 U/C in 1 x FT Board | | EI 90 U/C | 2 | 691 | |
| | PVC | (3,2) | EI 60 U/C in 2 x FT Board | | | | | |

Wall type: 1 = standard flexible wall ≥ 100mm.
 Wall type: 2 = standard rigid wall ≥ 100mm.
 Wall type: 3 = standard rigid wall ≥ 150mm.
 Floor type: 4 = standard rigid floor ≥ 150mm.



All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
 Rev. date:
 Rev.:
 Prepared by: PP
 Approved by: AK
 Page 5 of 6
 Approval: ETA - 15/0339
 DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

| Aluminum pipes Alu- PEX with synth rubber pipe isolation. Practical coverage Wrap-1n-roll | | | | | | |
|---|---------------------|---|--------------------------------|--------------------------------|------------------|----------------------------------|
| Pipe \varnothing (mm) | Pipe thickness (mm) | Cellular rubber Armaflex AF or equivalent. Thickness 13 mm LS. Length: mm | Walls type 1+2+3 | No. of layers Wrap in FT Board | Wrap length (mm) | No. of layers wrap in GPG MORTAR |
| 16 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 264 | - |
| 18 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 277 | - |
| 20 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 289 | - |
| 25 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 321 | - |
| 32 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 365 | - |
| 40 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 415 | - |
| 50 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 478 | - |
| 63 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 559 | - |
| 75 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 2x FT Board | 2 | 635 | - |
| 75 | (2,0 up to 7,5) | 300 mm on each side of the wall. | EI 60 U/C in 100 mm GPG MORTAR | - | - | 1= 318mm |

Wall type: 1 = standard flexible wall \geq 100mm.
 Wall type: 2 = standard rigid wall \geq 100mm.
 Wall type: 3 = standard rigid wall \geq 150mm.

| Explanations of abbreviations for pipe end configuration and pipe insulation (ref. NS-EN 1366-3: 2009, Table 2): |
|--|
| C/U: Capped/Uncapped. Closed/open, supported by a fire-rated load-bearing system, non-ventilated pipe systems, e.g. cold and hot |
| Explanations of abbreviations for pipe insulation (ref. NS-EN 1366-3: 2009, Table 1): |
| LS: Specified insulation locally with specified length out from the wall/floor on both sides and in the penetration itself. |
| LS: Thickness and density of the pipe insulation in the tables can be increased but not reduced. |
| LS: Pipe insulation lengths can be increased but not reduced. |
| Pipes insulated with cellular rubber: The thickness of pipe insulation must not be changed. |
| Cellular-rubber insulation must have a fire rating of Euro Class B/B _s -s3, d0. |

FIRESAFE /

All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no

FIRESAFE Fire Wrap

PRODUCT DATA SHEET

Date: 15th of August 2017
Rev. date:
Rev.:
Prepared by: PP
Approved by: AK
Page 6 of 6
Approval: ETA - 15/0339
DoP.: FIR/PP/WRA - 15-08-2017
CE 0957

| | |
|------------------|---|
| Health & safety: | <ul style="list-style-type: none">- No specific restrictions- Work according to health & safety Directive and use appropriate PPE- This product is classified as not dangerous under Regulation 1272/2008 and is in compliance with CLP regulations |
|------------------|---|

| |
|---|
| PRODUCT INFORMATION |
| <p>An overview of intended uses (FoA) and principle configurations can be found in the installation instructions. Other documentation, including Material Safety Data Sheet (MSDS), Declaration of Performance (DoP) and installation instructions can be downloaded from www.firesafe.no</p> <p>Product certification by DoP: for more information, see certification of CE-marked construction products through ETA on www.eota.eu/;</p> <p>Always consult www.firesafe.no for the latest version of the Declaration of Performance (DoP), Product Data Sheet (PDS), and installation instructions, as product development and testing are continuous processes at Firesafe AS.</p> <p>Contact Firesafe AS, addressed to the Technical Department, for other EI requirements and other complex solutions. E-mail: firmapost@firesafe.no.</p> |



All information given in this data sheet, should be viewed as normative values obtained from tests and our collective knowledge and experience of the product. This information must not be used as the basis of or verification for other tests or systems. Firesafe AS takes no responsibility for other uses or incorrect uses of the product. The user is responsible for ensuring that the most recent version of this document is used. This can be checked on our website, www.firesafe.no. This document may not be copied without the written consent of Firesafe AS.

Firesafe AS, Robsrudskogen 15, PO Box 6411 Etterstad, NO-0605 Oslo, Norway
Telephone: +47 09 110. E-mail: firmapost@firesafe.no