

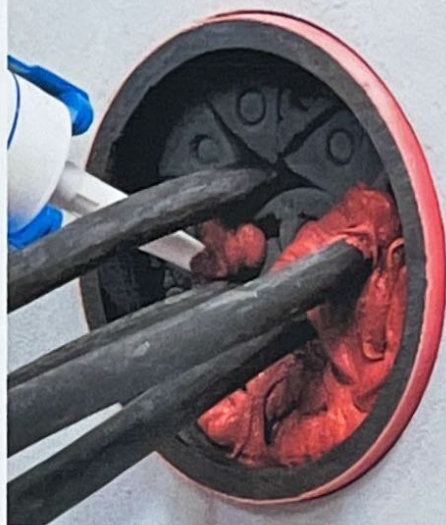
**APPENDIX V  
FILOSEAL PRODUCT  
DATA SHEET**



## FIL0seal+

### FEATURES

- Gas & Water Tight - Up to 1 Bar
- Resistant to: Hydrocarbons (Petrol, Diesel, Ethenol, LPG, Adblue)
- Resistant to: Methane, H2S, Chlorine, and many other gases (Nedlab)
- Resistant to Rats & Termites (Mastotermes Darwiniensis) Northern Australian termites.
- Excellent Adhesion
- Flexible one component adhesive & sealing compound (MD+)
- Non-Corrosive
- Non Hazardous
- Complies with ATEX regulations
- Seals all common materials
- Suitable for retrofit
- Re-enterable
- Wimes Compliant, (3.02 Clause, 7.4.3.2 d)



## FIL0seal+HD

*All the benefits of the FIL0seal+ with the addition of the following features:*

### FEATURES

- Gas & Water Tight - Up to 2 Bar
- Seals Large LV, MV, & HV cables
- 100kg Pulling force on the cables
- 10xd at 45°, with 1 bar pressure



## FIL0seal+HD FIRE

*All the benefits of the FIL0seal+HD with the addition of the following features:*

### FEATURES

- Fire Resistant up to 4 hours BS EN1366-3 2009 & AS1530.4-2014
- Wimes Compliant (3.02 Clause, 7.4.3.2 b)
- Tested to London Underground - LUL S1085
- Tested to European rail applications - BS EN 45545-2:2013
- Tested to French rail standard Cit NF F16-10
- Tested to Smoke index - ISO 5659-2:2012
- Tested to Oxygen index - BS EN ISO 4589-2:1999





## FILoSeal+

### universal re-enterable duct sealing system

duct opening up to Ø 200 mm

\*\*Larger sizes available upon request\*\*

Duct sealing system FiloSeal+ is a universal solution for sealing cables and pipes in ducts, drilled holes or transit frames.

The tri-flexible foam makes positioning and separation of the cables very simple while also providing a backing for the MD+ to be applied on to. FiloSeal+ is suitable for sealing any cable configuration or pipes contained in one duct and also allows easy re-entry of the seal to add or remove cables or pipes as required. The Filoform duct sealing system FiloSeal+ uses our MD+ sealant which is easily applied from a skeleton gun. The high quality, one component, flexible sealant "MD+" is based on a silicone compound that cures with air (Humidity).

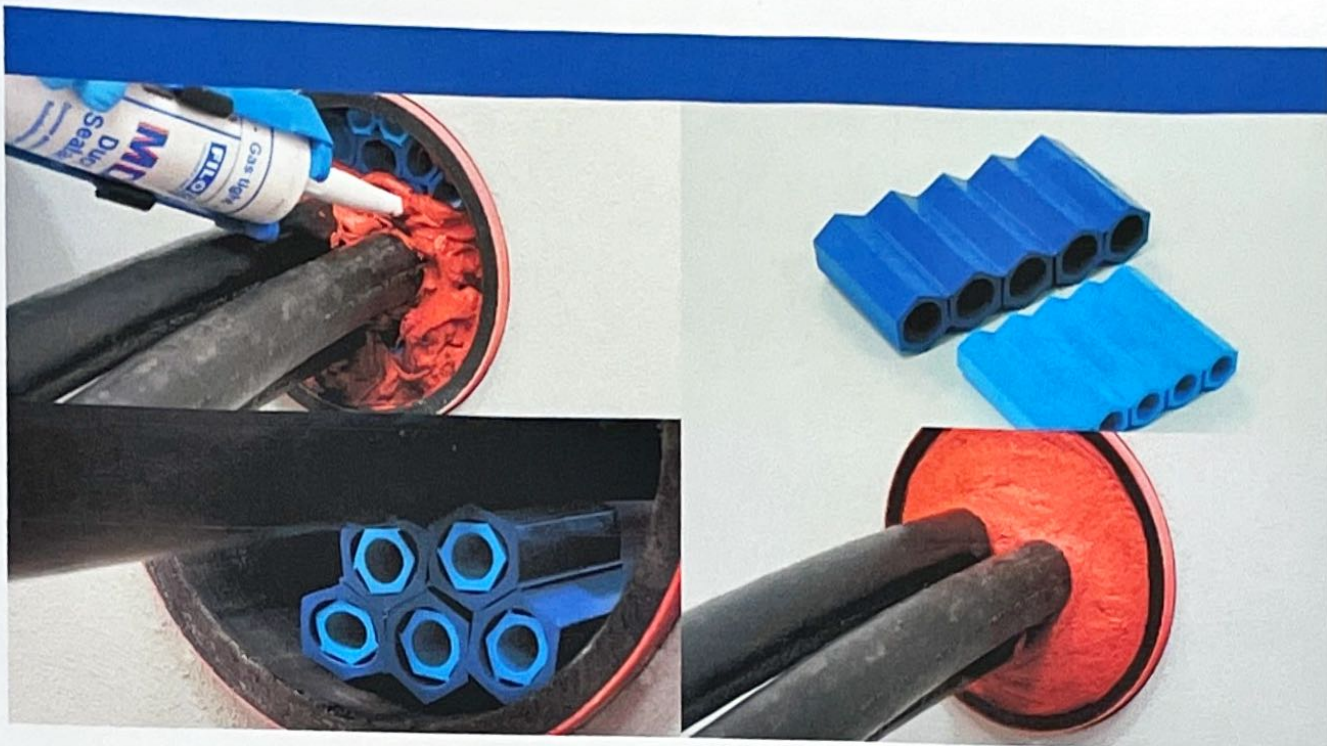
After application and full curing the thixotropic MD+ forms a plastic elastomer mass with special qualities effectively sealing and bonding, while providing a high level of durability.

#### FEATURES

- Flexible, one component, adhesive and sealing compound in a cartridge (310ml)
- High levels of Gas and Water tightness
- Excellent adhesion
- Resistant against Water, Alkaline, Chemical agents
- Resistant to Hydrocarbons
- Suitable for sealing underground cable ducts set out within the APEA 'Blue Book'
- Resistant to Hydrogen Sulphide / Methane and many other Gases (NedLab)
- Resistant to rats
- Resistant to termites (Mastotermes Darwiniensis) Northern Australian termites
- Non corrosive
- Solvent free
- Shock absorbing
- Non toxic, neutral and almost odourless
- Complies with ATEX regulations
- WIMES Compliant, (3.02 clause 7.4.3.2, d & e)
- Suitable for any shaped duct / bore hole / opening
- Seals all known materials, PVC & PE sheathed cables, PILC, (HD) PE pipes
- Suitable for renovations, can be installed retrospectively
- Up to 1 bar pressure resistance
- Quick & easy to install, especially in vertical ducts
- Non Hazardous
- Over 25 years of operational experience

Product Name	Duct diameter min.-max. (mm)	Maximum cable diameter in the duct (mm)	Order unit
FiloSeal+125 mm	Ø 125 max.	Ø 95 max.	per piece
FiloSeal+ 200 mm	Ø 200 max.	Ø 160 max.	per piece

For enquiries contact our sales department.



## FILoSeal+HD

universal re-enterable  
duct sealing system

duct opening up to Ø 250 mm

\*\*Larger sizes available upon request\*\*

- Up to 2 bar Pressure Resistance
- 100Kg pulling Force on the cables when sealed
- 10xd at 45°, with 1 bar pressure bending test

FiloSeal+HD provides a strong support system using the hexagonal tubes which builds up like a honeycomb structure. FiloSeal+HD is suitable for sealing any cable configuration or pipes contained in one duct and also allows easy re-entry of the seal to add or remove cables or pipes as required. The Filoform duct sealing system FiloSeal+HD uses our MD+ sealant which is easily applied from a skeleton gun. The high quality, one component, flexible sealant "MD+" is based on a silicon compound that cures with air (Humidity). The unique design of the hexagonal tubes makes positioning and separation of the cables very simple while also providing a strong backing for the MD+ to be applied on.

### FEATURES

- High levels of Gas and Water tightness
- Excellent adhesion, applicable to all common building materials
- Shows Fire resistance properties
- Resistant against Water, Alkaline, Chemical agents
- Resistant to Hydrogen Sulphide / Methane and many other Gases (NedLab)
- Non corrosive
- Solvent free
- Shock absorbing
- Non toxic, neutral and almost odourless
- Complies with ATEX regulations
- Suitable for any shaped duct / bore hole / opening
- Quick and easy installation
- Seals all known materials, PVC & PE sheathed cables, PILC, (HD) PE pipes
- Suitable for renovations, can be installed retrospectively
- Resistant to Rats
- Resistant to termites (Mastotermes Darwiniensis) Northern Australian termites
- Resistant to hydrocarbons

Product Name	Duct diameter min.-max. (mm)	Order unit
FiloSeal+HD - 75 mm > 110 mm	Ø 110 max.	per piece
FiloSeal+HD - 125 mm > 160 mm	Ø 160 max.	per piece
FiloSeal+HD - 180 mm	Ø 180 max.	per piece
FiloSeal+HD - 200 mm	Ø 200 max.	per piece
FiloSeal+HD - 225 mm	Ø 225 max.	per piece
FiloSeal+HD - 250 mm	Ø 250 max.	per piece

Watch the FiloSeal+HD productvideo online on our website.



## FILoSeal+HD FIRE

FiloSeal+HD FIRE provides a strong support system using our specially formulated material called Formite which builds up like a honeycomb structure.

FiloSeal+HD FIRE is suitable for sealing any cable configuration or pipes contained in one duct and also allows easy re-entry of the seal to add or remove cables or pipes as required.

The Filoform duct sealing system FiloSeal+HD FIRE uses our MD+ sealant which is easily applied from a skeleton gun. The high quality, one component, flexible sealant "MD+" is based on a silicon compound that cures with air (Humidity).

The unique design of the hexagonal tubes makes positioning and separation of the cables very simple while also providing a strong backing for the MD+ to be applied on.

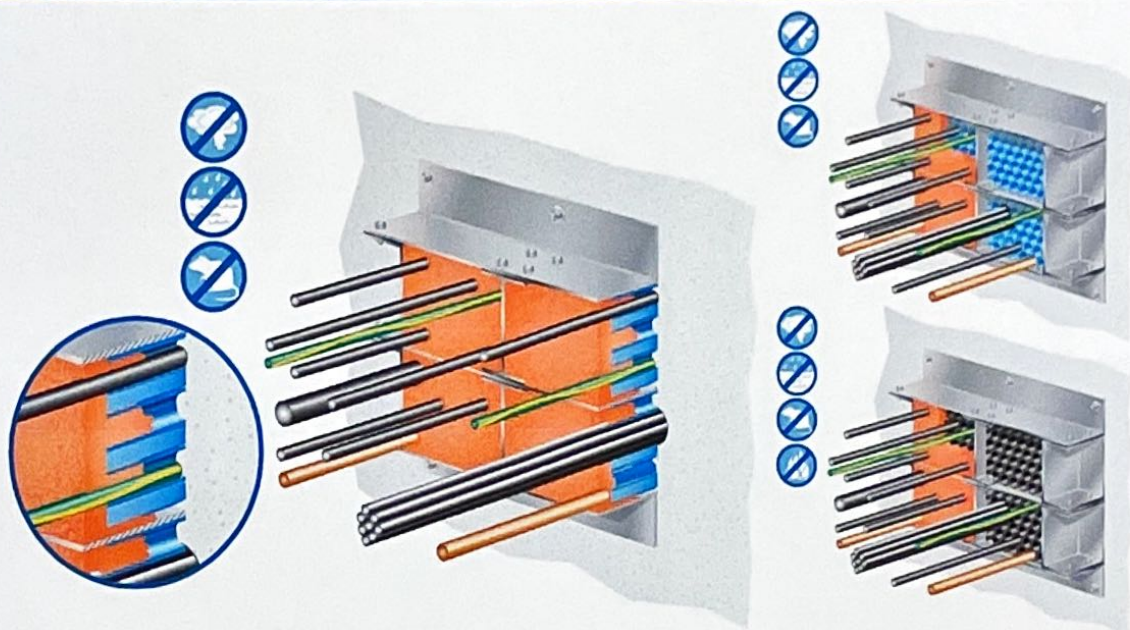
- Up to 4 hours fire resistance in ducts
- Tested to BS EN1366-3 2009 & AS1530.4-2014
- Tested to London Underground - LUL S1085
- Tested to European rail - BS EN 45545-2:2013
- Tested to French rail standard Cit NF F16-101
- Tested to Smoke index - ISO 5659-2:2012
- Tested to Oxygen index - BS EN ISO 4589-2:1999
- Up to 2 bar Pressure Resistance
- 100Kg pulling Force on the cables when sealed
- 10xd at 45°, with 1 bar pressure bending test

### FEATURES

- Gas & Water tight up to 2 bar
- Excellent adhesion, applicable to all common building materials
- Fire resistant to BS EN1366-3:2009 & AS1530.4-2014
- High Oxygen index
- Resistant against Water, Alkaline, Chemical agents
- Resistant to Hydrogen Sulphide / Methane and many other Gases (NedLab)
- Non corrosive
- Solvent free
- Shock absorbing
- Non toxic, neutral and almost odourless
- Complies with ATEX regulations
- Suitable for any shaped duct / bore hole / opening
- Quick and easy installation
- A complete kit
- Seals all known materials, PVC & PE sheathed cables, PILC, (HD) PE pipes
- Suitable for renovations, can be installed retrospectively
- Resistant to Rats
- Resistant to termites (Mastotermes Darwiniensis) Northern Australian termites

Product Name	Duct diameter min.-max. (mm)	Order unit
FiloSeal+HD FIRE - 75 mm > 110 mm	Ø 110 max.	per piece
FiloSeal+HD FIRE - 125 mm > 160 mm	Ø 160 max.	per piece
FiloSeal+HD FIRE - 180 mm	Ø 180 max.	per piece
FiloSeal+HD FIRE - 200 mm	Ø 200 max.	per piece
FiloSeal+HD FIRE - 225 mm	Ø 225 max.	per piece
FiloSeal+HD FIRE - 250 mm	Ø 250 max.	per piece

Watch the FiloSeal+HD product video online on our website.



## A frame

120 x 120 mm

The frames are modular in construction based around a working opening size of 120 x 120 and can be assembled in almost any size required. The frames are made of 6mm steel which is zinc plated to give a longer life.

Use of Filoseal+HD FIRE in these frames has been tested to BS EN1366-3:2009 & AS1530.4-2014 for a period of up to 4 hours on a standard installation. Frames are a worthy addition to the Filoseal+HD and HD FIRE ranges as they are a problem solver in the following situations:

1. Irregular openings in a wall – frame neatens the install
2. Walls of a poorer quality – frame stops reliance of seal bonding to structure
3. Ducts with too many cables – frame allows splaying of cables to obtain a proper seal.
4. Large cable runs such as a riser can be neatly sealed.

With this design of seal system, accompanied by these frames, the need for upfront design is minimized. With the offer of this style frame, we have performed all the tests we can on it to give you confidence in the system as a whole.

There is no need to get into complicated modular insert sizes as this system is filled with our widely approved Filoseal+HD and Filoseal+HD FIRE systems which need little to no upfront design in order to be incorporated into your project.

In order for us to quote you, please advise the wall opening size and layout of cables. We can work out your needs based upon this and provide a CAD based drawing of our solution.

The frames can be assembled around existing cable runs which minimizes (or should that be eliminates) down time of whatever your cables are connected to.

### FEATURES

- Minimal frame dimensions outside the wall aperture means fitting is easy.
- Modular frame to fit around existing cables or around over large connectors.
- Zinc plated for a longer life.
- Spare apertures can be used in the future.
- Fixing holes to be drilled by the user to suit their individual application.
- Design advice given by Filoform.

Designed to partner with the Filoseal+HD and Filoseal+HD FIRE, Filoform have created frames to

hold a seal where the space or structure will not allow fitting of a seal into the structure itself. All the features of Filoseal+HD and Filoseal+HD Fire can be applied, but the highlights are:

- Up to 4 hours fire resistance in transit frames (single side)
- Tested to BS EN1366-3:2009 & AS1530.4-2014
- Up to 2 bar Pressure Resistance
- 100Kg pulling Force on the cables when sealed
- 10xd at 45°, with 1 bar pressure bending test

# A frame

120 x 120 mm

## Cable Transit Frame Key

The modularity of the frame is based around two opening sizes; they are 120 x 120mm (type A) or 120 x 240mm (type B) which somewhat follows the frame sizing of regular transit systems. Obviously, for a larger hole, we build a multi-opening frame to suit the application.

Built frames - ( A Frame & B Frame)

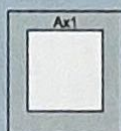
### Built frame size notation.

Frames of **Type A** (120 x 120 opening). For clarity, all frames are 120 wide, it is the height that changes.

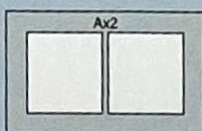
Frames types followed by an 'xn' notation means there are n number of openings set out horizontally in a row.

Frames types followed by a '+type A or B' notation mean the frames are stacked vertically on top of each other.

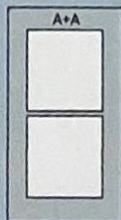
**So a frame denoted A+A+A x8 means there are 24 openings in total of size A, in columns of 3 high 8 times over.**



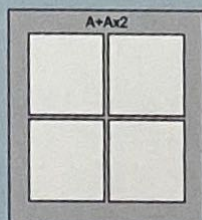
**A x 1** (1 opening, 120x120mm)



**A x 2** (2 openings, side by side 120x120mm)



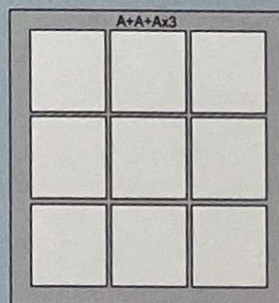
**A+A** (2 openings on top of each other 120x120)



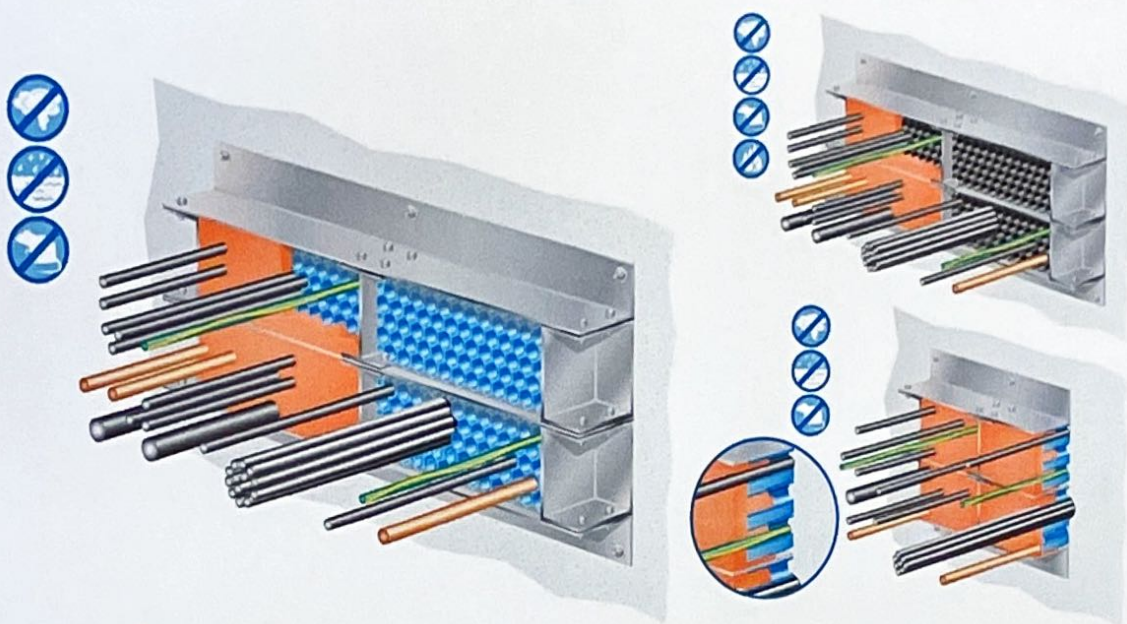
**A+A x 2** (4 openings, 2 in a row x 2 high 120x120mm)



**A+A+A** (3 openings on top of each other 120x120)



**A+A+A x 3** (9 openings, 3 in a row x 3 high 120x120mm)



## B frame

120 x 240 mm

The frames are modular in construction based around a working opening size of 240 x 120 and can be assembled in almost any size required. The frames are made of 6mm steel which is zinc plated to give a longer life.

Use of Filoseal+HD FIRE in these frames has been tested to BS EN1366-3:2009 & AS1530.4-2014 for a period of up to 4 hours on a standard installation.

Frames are a worthy addition to the Filoseal+HD and HD FIRE ranges as they are a problem solver in the following situations:

1. Irregular openings in a wall – frame neatens the install
2. Walls of a poorer quality – frame stops reliance of seal bonding to structure
3. Ducts with too many cables – frame allows splaying of cables to obtain a proper seal.
4. Large cable runs such as a riser can be neatly sealed.

With this design of seal system, accompanied by these frames, the need for upfront design is minimized. With the offer of this style frame, we have performed all the tests we can on it to give you confidence in the system as a whole.

There is no need to get into complicated modular insert sizes as this system is filled with our widely approved Filoseal+HD and Filoseal+HD FIRE systems which need little to no upfront design in order to be incorporated into your project.

In order for us to quote you, please advise the wall opening size and layout of cables. We can work out your needs based upon this and provide a CAD based drawing of our solution.

The frames can be assembled around existing cable runs which minimizes (or should that be eliminates) down time of whatever your cables are connected to.

### FEATURES

- Minimal frame dimensions outside the wall aperture means fitting is easy.
- Modular frame to fit around existing cables or around over large connectors.
- Zinc plated for a longer life.
- Spare apertures can be used in the future.
- Fixing holes to be drilled by the user to suit their individual application.
- Design advice given by Filoform.

Designed to partner with the Filoseal+HD and Filoseal+HD FIRE, Filoform have created frames to

hold a seal where the space or structure will not allow fitting of a seal into the structure itself. All the features of Filoseal+HD and Filoseal+HD Fire can be applied, but the highlights are:

- Up to 4 hours fire resistance in transit frames (single side)
- Tested to BS EN1366-3:2009 & AS1530.4-2014
- Up to 2 bar Pressure Resistance
- 100Kg pulling Force on the cables when sealed
- 10xd at 45°, with 1 bar pressure bending test



# B frame

120 x 240 mm

## Cable Transit Frame Key

The modularity of the frame is based around two opening sizes; they are 120 x 120mm (type A) or 120 x 240mm (type B) which somewhat follows the frame sizing of regular transit systems. Obviously, for a larger hole, we build a multi-opening frame to suit the application.

Built frames - ( A Frame & B Frame)

### Built frame size notation.

Frames of **Type B** (120 x 240 opening. For clarity, all frames are 120 wide, it is the height that changes.

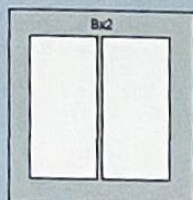
Frames types followed by an 'xn' notation means there are n number of openings set out horizontally in a row.

Frames types followed by a '+type A or B' notation mean the frames are stacked vertically on top of each other.

So a frame denoted **B+B+B x8** means there are 24 openings in total of size B, in columns of 3 high 8 times over.



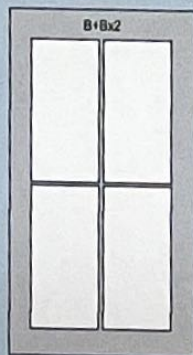
**B x 1** (1 opening, 120x240mm)



**B x 2** (2 openings, side by side 120x240mm)



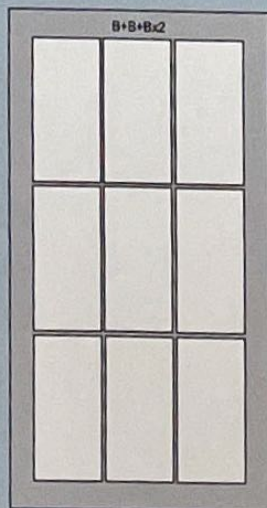
**B+B** (2 openings on top of each other 120x240)



**B+B x 2** (4 openings, 2 in a row x 2 high 120x240mm)



**B+B+B** (3 openings on top of each other 120x240)



**B+B+B x 3** (9 openings, 3 in a row x 3 high 120x240mm)



## Running Water Blocking Kit Can be used with FiloSeal+, FiloSeal+HD

One of the reasons why ducts are sealed is to prevent running water getting into a building or enclosure.

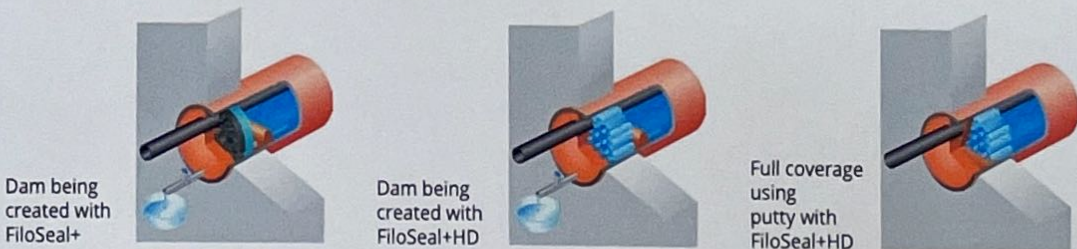
Often when faced with sealing a duct, this running water is still evident.

Our FiloSeal Running Water Block system provides the user with a method of preventing the water from ruining any permanent sealing system whilst that system is installed.

The kit provides a method of damming or blocking the water flow, **controlling it and stopping it.**

### FEATURES

- Mouldable putty
- Sticks to a wet surface
- Non hazardous
- Stops Water
- No shelf life
- Major problem solver
- Allows pressure release before adding a new cable or pipe in the future.



Dam being created with FiloSeal+

Dam being created with FiloSeal+HD

Full coverage using putty with FiloSeal+HD

Product Name	Description	Used with	Duct Size	Order Unit
FiloSeal - Water blocking kit - small	Water blocking kit with pipe & tap	FiloSeal+ 125mm	Up to 125mm	Per kit
FiloSeal+ Water blocking kit - large	Water blocking kit with pipe & tap	FiloSeal+ 200mm	125mm to 200mm	Per kit
FiloSeal+HD - Water Blocking kit - small	Water blocking kit with pipe & tap - Dam and full coverage can be achieved	FiloSeal+HD - 110mm	Up to 110mm	Per kit
FiloSeal+HD - Water Blocking kit - Large	Water blocking kit with pipe & tap - Dam and full coverage can be achieved	FiloSeal+HD - 160mm	125mm to 160mm	Per kit



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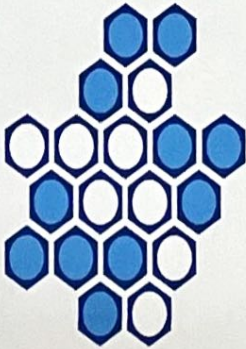
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E [verkauf@filoform.com](mailto:verkauf@filoform.com)  
W [www.filoform.de](http://www.filoform.de)

# FiloSeal+HD Duct Seal



Duct sealing system FiloSeal+HD is an engineered universal solution for sealing larger heavy cables and pipes in ducts, boreholes or transit frames.

Up to 2 bar Pressure Resistance  
100Kg pulling Force on the cables when sealed  
10xd at 45°, with 1 bar pressure bending test



## Features

- Flexible, one component, adhesive and sealing compound in a cartridge - (310ml)
- Kits are complete with backing and mastic to fill an empty duct of the quoted kit size
- High levels of Gas and Water tightness
- Excellent adhesion, applicable to all common building materials
- Shows Fire resistance properties
- Resistant against Water, Alkaline, Chemical agents
- Resistant to termites (*Mastotermes Darwiniensis*) Northern Australian termites
- Resistant to Rats
- Resistant to Hydrogen Sulphide / Methane and many other Gases (NedLab)
- Non-corrosive
- Solvent-free
- Shock absorbing
- Non-toxic, neutral and almost odourless
- Also suitable for limiting the EX-zones during transitions (observe chemical resistance)
- Complies with 2011 NEC Articles 225.27, 230.8, 300.5(G), 300.7 (A) on Raceway Seals, and 501.15 (B)(2)
- Suitable for any shaped duct/borehole/opening
- WIMES Compliant (3.02 2013 6.4.3.2 b)
- Quick and easy installation
- A complete kit
- Seals all known materials, PVC & PE sheathed cables, PILC, (HD) PE pipes
- Engineering duct sealing solution
- Suitable for renovations, can be installed retrospectively
- Over 25 years of operational experience

## More info

[Download: FiloSeal+ disclaimer](#)

View this product at: <https://www.filoform.co.uk/filoSeal-hd-re-enterable-duct-sealing>

# FiloSeal+HD Duct Seal

## Products

Art.nr.	Product Name	Duct diameter min.-max. (mm)	Order unit
280010	FiloSeal+HD - 75mm > 110mm	Ø 110 max.	per piece
280020	FiloSeal+HD - 125mm > 160mm	Ø 160 max.	per piece
280030	FiloSeal+HD - 180mm	Ø 180 max.	per piece
280040	FiloSeal+HD - 200mm	Ø 200 max.	per piece
280050	FiloSeal+HD - 225mm	Ø 225 max.	per piece
280060	FiloSeal+HD - 250mm	Ø 250 max.	per piece

**APPENDIX VI  
EXAMPLES OF  
VERIFICATION**





*Photographs 1 and 2: Check general condition of membrane for punctures / tears etc*



*Photograph 3: Confirm membrane product type and check joints between rolls of membrane to ensure 150mm overlap and presence of double-sided butyl tape (by touch – may not be visible) and girth jointing tape.*



*Photograph 4: Check top hat is sealed to membrane and pipework. If the formed top hat is not tight to the pipework, then also confirm presence of jubilee clip beneath butyl tape.*



*Photograph 5: Showing the process of Air Lance testing in progress to verify the quality of the welded seams along gas membrane joints. Check top hat is sealed to membrane and pipework.*

**APPENDIX VII  
VERIFICATION  
PROFORMA**







# Gas Protection Validation Site Record

Plot No: .....

Inspection date/time:	Inspected by:	Photographed:	✓/x
-----------------------	---------------	---------------	-----

✓/x	Notes/recommendations
	Membrane Type Correct
	Extent of Coverage Correct
	Underside of Membrane
	Slab / membrane condition
	Laps and joints
	Damp-proof course
	Service entries
	Folded Membrane Joint Taped & Inspected

This Plot has **PASSED/FAILED\*** inspection. (Any proposed remedial works will be noted in the "Remarks" column on this form).  
 An additional inspection visit IS/IS NOT\* required for this Plot.

Inspection by: ..... Signed: .....

**One record sheet to be completed for each plot – To be completed by ERGO Professional Inspecting.**

