

FlexProof 106

Flexible Polymer Waterproofing Compound

Revision: 2.3 - 29th August 2019
Code: 103-S

PRODUCT OVERVIEW

Newton FlexProof 106 is a highly advanced, single component, waterproofing compound for the waterproofing of joints that is supplied in two variants: FlexProof 106-X1 is a highly viscous, thixotropic paste that is suitable for the waterproofing of construction and vertical movement joints, whilst Newton FlexProof 106-NV has a lower viscosity and so is pourable and better suited where the application is to horizontal movement joints. Both variants form an elastomeric polymer that is rainproof in minutes and capable of handling severe building movements and deformations.

With a superb bond to most building materials and with very high levels of flexibility, FlexProof 106 is capable of resisting both negative side and positive side water-pressure at construction joints, even where movement is expected. The product has the ability to remain watertight against positive pressure even when resisting 20% expansion and compression and 10% shear, and so is especially useful where waterproofing is required within movement joints and at the interfaces of differing materials.

Backed by extensive MFPA test data, FlexProof 106 is also a constituent part of the [HydroBond System](#), which is supported by BDA Agrément® BAB 17-031/04/A.

APPLICATION



PROPERTIES

H - Hardness and Durability; E - Elasticity and Flexibility; V - Vapour Permeability; C - Curing and Drying; W - Working Time; U - UV Stability



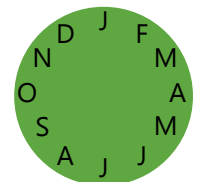
PACKAGING



COVERAGE



OUTDOOR SEASON



KEY BENEFITS

- Single component with no mixing or stirring
- Very flexible
- Excellent resistance to the high alkalinity of concrete
- Rain tight skin forms within a few minutes
- Resistant to temperature variations, maintaining its characteristics between -40° C and +90° C
- Resistant to both positive side and negative side water pressure

TYPICAL APPLICATIONS

- Waterproofing of construction and movement joints
- Flexible sealing mastic
- Waterproofing of joints between substrates subject to differential movement
- Detailing to Newton HydroBond System



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TECHNICAL DATA - X1 & NV Variants

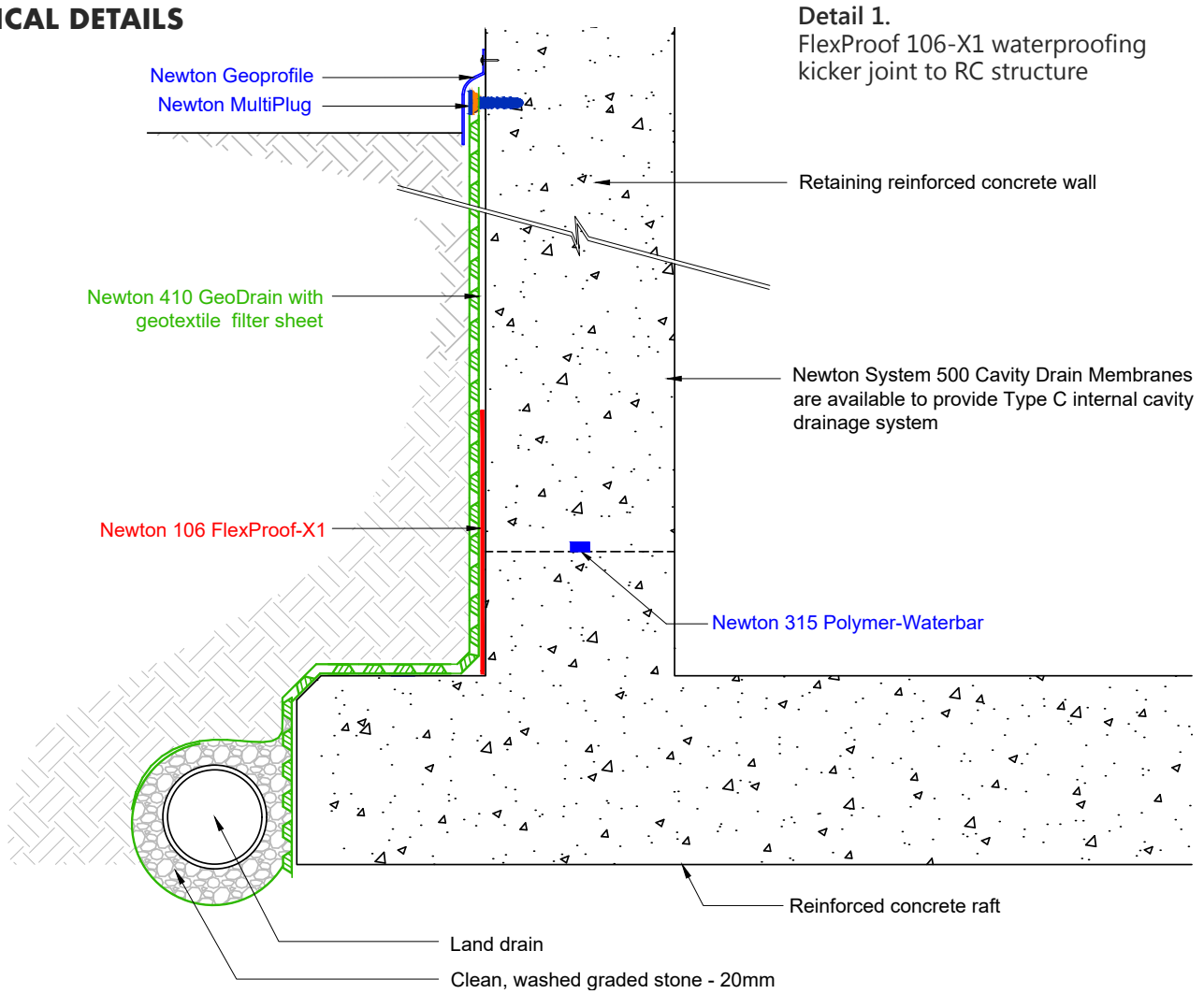
Features	Result		Units			
	X1	NV				
Form (paste)	Medium viscosity	Low viscosity				
Colour	Grey					
Density / Specific gravity	1.54	1.44				
Packaging - foil bag within bucket	15	7.5	kg			
Packaging - cartridge	290	N/A	ml			
Shelf life	12		Months			
Pot life	6		Months			
Application rate - over joints	3.85	N/A	kg/m ²			
Application rate - not to joints	3.0		kg/m ²			
Application rate - movement joints	Depth of 50% of the joint width					
Application method	Trowel/putty knife. Brush for detailing					
Minimum application temperature - substrate*	+1 (and rising)		°C			
Maximum application temperature - air	+35		°C			
Service temperature	-40 to +90		°C			
Odour	Slight polymer					
VOC	None					
Curing*	5°C	10°C	15°C	20°C	25°C	Units
To not be adulterated by light rain	15	12	10	10	5	Minutes
To not be adulterated by heavy rain	20	17	15	15	10	Minutes
Ready for protection boards	30	27	25	25	20	Minutes
Fully cured	5	4	4	3	3	Days
Cured Performance	Result		Units			Test Method
Colour	Grey					
Membrane thickness - over joints	2.5	N/A	mm			
Membrane thickness - not over joints	2.0		mm			
Adhesion to concrete	>450		KPa	EOTA TR-003		
Tensile strength	1.25	1.60	N/mm ²	BS EN 13813:2002		
Elasticity when breaking - 2 mm film	250	450	%	DIN EN 12311-2		
Resistance to dilute acid/alkaline	Excellent			DIN EN 1928		
Shore Hardness - A	40					
Watertightness	See data table on page 4			DIN EN 1928		
UV Resistance**	10		Years	EN ISO 11431:2002		
Reaction to fire classification - Euroclass	E			DIN EN 13501-1		

The above data, even if carried out according to regulated tests are indicative and may change when specific site conditions vary. *Figures are for 2.5 mm coating and are influenced by humidity and are therefore, indicative. ** EN ISO 11431:2002 specifies a method for the determination of the adhesion/cohesion properties of sealants after cyclic exposure to heat and artificial light followed by a period of exposure to water at a defined temperature. The 10-year figure is an extrapolation of the results of these tests. The product may weather to with a slight yellow tint, but the product itself will not be affected.

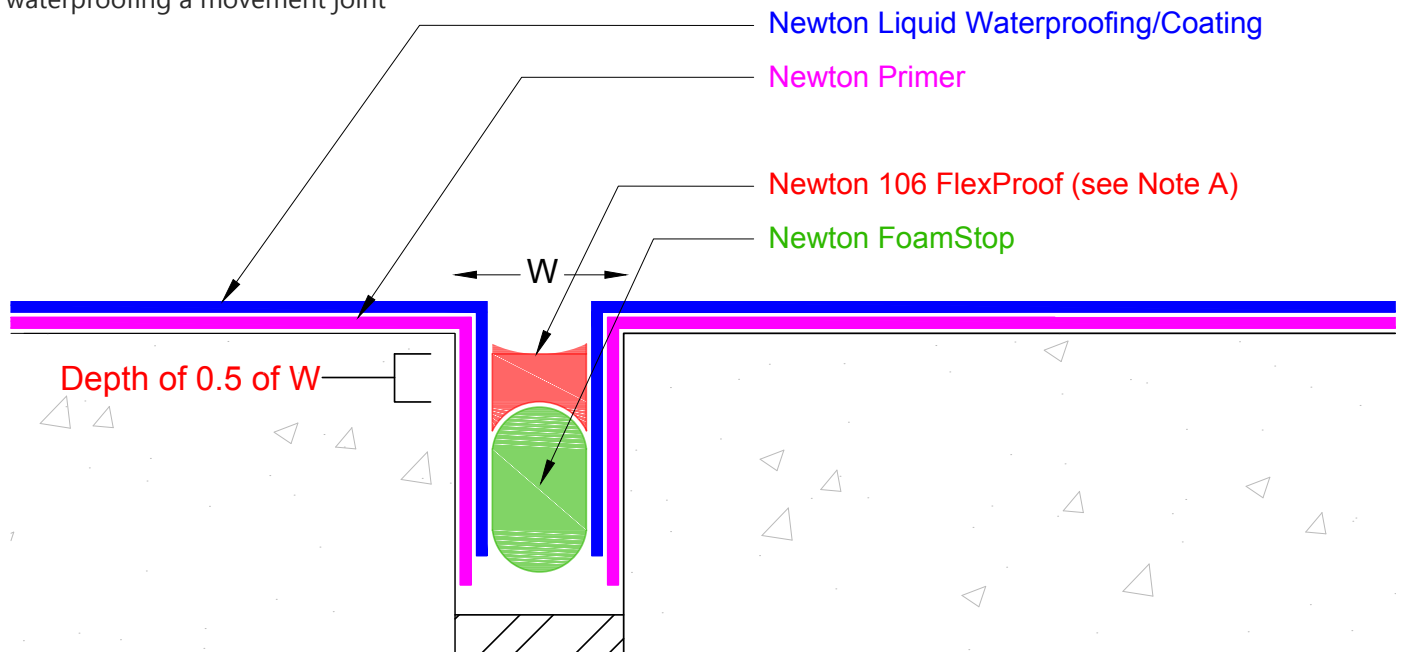
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TYPICAL DETAILS



Detail 2.
FlexProof 106 waterproofing a movement joint



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ACCREDITATIONS & APPROVALS

FlexProof 106 is independently tested by MFPA to confirm performance data to the requirements of various EU standards. Certificates available on request.

FlexProof 106 is also a constituent part of the [HydroBond System](#), which is supported by BDA Agrément® BAB 17-031/04/A.

There are no EU Harmonised Standards for the product and so there is no DoP or CE.

VARIANTS

FlexProof 106 is supplied in two variants of differing viscosities:

- **FlexProof-X1** is a medium-viscosity, thixotropic paste that is suitable for application to vertical surfaces and within vertical joints
- **FlexProof-NV** is a low viscosity, pourable material that is more suited to application to horizontal surfaces and movement joints

WATERPROOFING PERFORMANCE - JOINTS

FlexProof 106 has tremendous waterproofing capabilities and these can be increased further with the inclusion of FlexProof Scrim to reinforce the membrane at the construction joint. Please see table below for data on both non-reinforced and reinforced FlexProof-X1 when applied to construction joints.

2.5 mm membrane to positive pressure side of static RC construction joint			
Joint of up to 0.25 mm		Joint of up to 0.5 mm	
Reinforced	Not reinforced	Reinforced	Not reinforced
2 bar (20 m)	1 bar (10 m)	1 bar (10 m)	0.5 bar (5 m)

2.5 mm membrane to positive pressure side of non-static joint between pre-formed concrete elements or where pre-formed elements meet placed RC construction			
Joint of up to 0.5 mm		Joint of up to 1.0 mm	
Reinforced	Not reinforced	Reinforced	Not reinforced
1 bar (10 m)	0.5 bar (5 m)	0.5 bar (5 m)	N/A

Resistance to Water Pressure - 2.5 mm membrane to negative pressure side of Static Construction Joint in poured concrete construction - 916 FlexProof Primer required			
Joint of up to 0.25 mm		Joint of up to 0.5 mm	
Reinforced	Not reinforced	Reinforced	Not reinforced
0.5 bar (5 m)	N/A	0.3 bar (3 m)	N/A

NOTES:

The data within the tables above is based upon data produced by an independent testing laboratory. The resulting test certificate confirms that FlexProof-X1 was applied in a band of 300mm over a static joint of 0.25mm and resisted water pressure over a 28 day testing period of 5 bar (50m) when reinforced with Newton FlexProof Scrim, and 2.5 bar (25m) of water pressure when not reinforced. In a separate test for resistance to high alkalinity (as found in new concrete) performed at the same time, a sample of reinforced FlexProof-X1 withstood 4 bar (40m) of water pressure for a period of 72 hours over a joint of 5mm. The information within the tables above has been subjected to a reduction from the test data so as to account for site conditions not being as exact as within a laboratory, and a healthy safety margin. This, together with site experience of use of the product over many years allows us to publish the data you see above. The test certificate referred to above is available upon request.

SUITABLE SUBSTRATES

Correctly prepared substrates of:

- Concrete of at least 20 kN
- Concrete block walls with flush pointing
- Screed
- Metal
- Plastics
- Timber
- Glass

SUITABLE SURFACES

FlexProof 106 is suitable for sealing against positive water pressure to a large number of construction details and can resist both negative side and positive side water pressure to correctly specified, placed and prepared concrete.

METHOD OF APPLICATION

- Metal trowel
- Metal putty knife
- Brush - for detailing
- Poured directly from foil bag - NV variant only
- Cartridge gun - X1 variant only



SPECIALIST TOOLS REQUIRED

FlexProof 106 does not require specialist tools.

ANCILLARY PRODUCTS

- [FlexProof 916 Primer](#) - For the sealing of, and to take the suction out of dry porous surfaces
- FlexProof Scrim - Reinforcement scrim that improves resistance to water pressure over joints
- FoamStop - Foam backing rod
- [FlexProof 305 ActiveJoint](#) - Flexible EDPM joint protection profile

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LIFE EXPECTANCY

When fully covered and protected FlexProof 106 will provide, under normal conditions, a durable waterproof coating for the life of the building to which it is installed.

Where the product is exposed to UV and weathering the life expectancy should be at least 10-years, but because other factors in addition to UV will have a bearing on the life of the joint, the joint should be inspected during its life to ensure it is capable of performing as intended and a maintenance agreement should be agreed with the specialist installation contractor to include inspection of the joint during its service life. If the joint is found to be defective it should be replaced.

Where the product is subject to mechanical wear, such as exposed movement joints, the maintenance program should reflect the risk of potential damage and repairs should be carried out as necessary.

Although the finished product is resilient, where the movement joint is subject to UV, weathering or mechanical wear agents, it is impossible to confirm a life expectancy and consideration should be given to protecting the joint with FlexProof 305 ActiveJoint.



SPECIFICATION

Newton Waterproofing Systems work in partnership with RIBA NBS who publish our products on [NBS Source](#). The platform integrates seamlessly into project workflows, providing all product data from Newton's NBS BIM Objects, NBS Plus Clauses and RIBA Product Selector into one single source of product information.

NBS Source also hosts a large selection of Newton [case studies](#), as well as product [literature and certifications](#).

A wide range of drawings are available [on our website](#).

TRAINING AND COMPETENCY OF THE USER

FlexProof 106 should be installed by those with an understanding of the requirement to waterproof the building element to which the product is applied to. In addition they must have the knowledge and training to use the product as part of a coordinated approach to the waterproofing of the structure, which in many cases will require further waterproofing products in order to achieve the required habitable grade defined by BS 8102:2009.

APPLICATION RATE

Across Joints

3.85 kg/m² to a uniform thickness of 2.5 mm.

To flat surfaces

3.0 kg/m² to a uniform thickness of 2.0 mm.

Within Movement Joints

Depth of application to 50% of the joint width.

MOVEMENT JOINTS - FOAMSTOP

FoamStop is a compressible foam rod that is used to ensure that the FlexProof 106 is applied at the correct depth within the joint.

The diameter of FoamStop used should be approximately 150% of the width of the joint.

Joint Size (mm)	FoamStop Diameter (mm)	Depth of FoamStop into joint (mm)	Consumption per linear metre		
			FlexProof		Primer
			litres	ml	ml
5	10	2.5	0.0154	15.4	1.5
6	10	3	0.0221	22.1	1.8
7	10	3.5	0.0301	30.1	2.1
8	15	4	0.0394	39.4	2.4
9	15	4.5	0.0498	49.8	2.7
10	15	5	0.0615	61.5	3.0
11	15	5.5	0.0744	74.4	3.3
12	20	6	0.0886	88.6	3.6
13	20	6.5	0.1039	103.9	3.9
14	20	7	0.1205	120.5	4.2
15	20	7.5	0.1384	138.4	4.5
16	25	8	0.1574	157.4	4.8
17	25	8.5	0.1777	177.7	5.1
18	25	9	0.1993	199.3	5.4
19	25	9.5	0.2220	222.0	5.7
20	30	10	0.2460	246.0	6.0
21	30	10.5	0.2712	271.2	6.3
22	30	11	0.2977	297.7	6.6
23	30	11.5	0.3253	325.3	6.9
24	30	12	0.3542	354.2	7.2
25	40	12.5	0.3844	384.4	7.5
26	40	13	0.4157	415.7	7.8
27	40	13.5	0.4483	448.3	8.1
28	40	14	0.4822	482.2	8.4
29	40	14.5	0.5172	517.2	8.7
30	40	15	0.5535	553.5	9.0
31	50	15.5	0.5910	591.0	9.3
32	50	16	0.6298	629.8	9.6
33	50	16.5	0.6697	669.7	9.9
34	50	17	0.7109	710.9	10.2
35	50	17.5	0.7534	753.4	10.5
36	50	18	0.7970	797.0	10.8
37	50	18.5	0.8419	841.9	11.1
38	50	19	0.8881	888.1	11.4
39	50	19.5	0.9354	935.4	11.7
40	75	20	0.9840	984.0	12.0
41	75	20.5	1.0338	1033.8	12.3
42	75	21	1.0849	1084.9	12.6
43	75	2.5	1.1371	1137.1	12.9
44	75	22	1.1906	1190.6	13.2
45	75	22.5	1.2454	1245.4	13.5
46	75	23	1.3013	1301.3	13.8
47	75	23.5	1.3585	1358.5	14.1
48	75	24	1.4170	1417.0	14.4
49	75	24.5	1.4766	1476.6	14.7
50	75	25	1.5375	1537.5	15.0

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CONSTRUCTION

Concrete should be constructed to BS EN 1992-3 with the intention of providing a Type B form of waterproofing as described within BS 8102:2009.

The application of FlexProof 106 to the joints will enhance the waterproofing design by sealing the only places that the water is able to pass through well placed and correctly designed concrete: at the joints between the concrete sections.

Where movement joints are to be trafficked, they should be constructed with chamfered edges to prevent leading edge damage.

The application of FlexProof 106 within the movement joint will ensure the joint is watertight against positive water pressure with movement of up to 20% in compression and expansion and 10% shear.

SURFACE PREPARATION - CONCRETE WALLS

- The surface must be clean and free from dust, laitance, release agents, oils, paints or other forms of contamination. Jet washing with industrial machine and with a mild detergent (which later must be fully removed) is the minimum requirement and if contaminants are still present, more aggressive preparation, such as grit blasting, will be required
- If the product is to lap to horizontal surfaces, the laitance will need to be removed by mechanical grinding or grit-blasting
- Holes, cracks, voids and honeycombing should be filled and made good with [Hydroseal 203-RM](#)
- Pin holes and non-structural cracks that are between 0.5 mm and 2 mm wide and block walls should be filled with sand/cement using a bag rubbing technique

PRIMING

Priming with 916 FlexProof Primer is only required:

- Where the surface is open or very porous
- Where the concrete has been ground to mechanically remove laitance
- Where the product is to resist negative water pressure
- Where the product is applied onto or between [Hydroseal 107F](#)

Priming with 916 FlexProof Primer is strongly recommended where:

- The product is used within movement joints
- If the concrete is slightly dusting, priming will stabilise the substrate
- If, after grinding back, the substrate is still slightly contaminated, priming will prevent discolouration passing through the FlexProof 106

MIXING & STIRRING

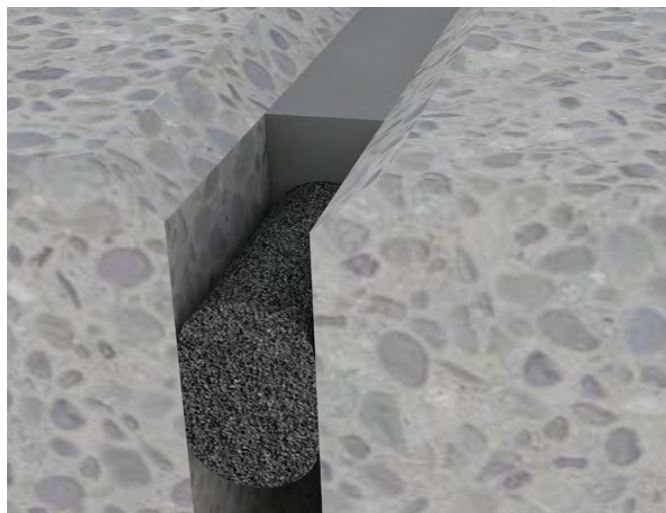
FlexProof 106 does not require mixing or stirring.



APPLICATION - CONSTRUCTION JOINTS

FlexProof 106-X1 is applied over joints in bands of 300 mm wide with the joint being central to the application.

- Mark out the area that the product will be applied to with tape. This defines the area and ensures neatness of application
- Open the bucket and remove the 15 kg foil bag. Cut a 100 mm corner from the bag. Pour the product from the foil bag
- Use trowel to spread the product to a uniform thickness of 2.5 mm (3.85kg/m²) to a band which is 150 mm either side of the construction joint (300 mm band in total)
- When the product is cured, remove the tape edges
- Where the application is to the negative pressure side, or to reinforce any joint or at changes in direction, bed FlexProof Scrim into the still tacky FlexProof-X1 and tamp in with the edge of a trowel until covered by the product
- Trowel to a finish



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APPLICATION - MOVEMENT JOINTS

Carefully insert the correctly sized FoamStop into the joint using a blunt chisel and a hammer.

Do not damage the FoamStop. Ends of the FoamStop should be butted - no adhesive joint of the butted ends is required. Mitre at changes in direction.

Apply tape to both sides of the joint. This defines the area and ensures neatness of application.

FlexProof can be either poured directly from the foil bag packaging or gunned from a cartridge with a mastic gun.

The method of application is dependent on the size of the movement joint. For narrower joints, use FlexProof 106-X1 cartridges. Alternatively, decant the product from the foil bag into an empty mastic gun cartridge and gun the product into the joint.

- Foil bag - Joints of 18-72 mm
- Cartridges - Joints of 5-18 mm

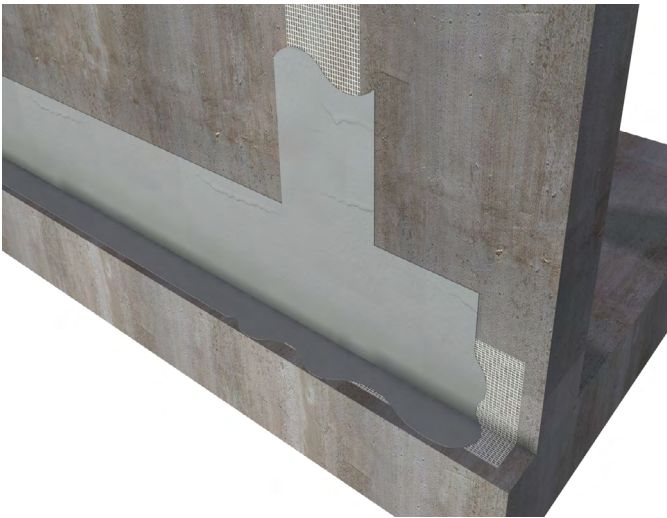
Open the bucket and remove foil bag. Cut corner off the bag to a size that is suitable for the width of the joint.

Pour sufficient product from the foil bag directly into the joint above the FoamStop to the correct depth.

A soapy wet knife can be used to smooth if required.

APPLICATION - DETAILING - HYDROBOND

Please refer to 403 HydroBond Installation Manuals.



POT LIFE & FURTHER USE

FlexProof 106 is a single-component product with no chemical curing reaction, therefore the product has no working pot life.

After pouring out the required amount of product, fold over the bag and place into and seal the lid of the bucket. Product will be usable even after about 6 months. If the product has skinned, simply remove the skin and the product below will be usable.

CURING

Curing is dependent on temperature and humidity. Full cure is dependent on depth. At 20° C, allow for a cure rate of 24 hours per 1 mm of product depth.



CLEANING

Product that has not cured can be simply wiped off tools with a rag or cloth. Xylene breaks down FlexProof 106 and can be used to assist cleaning, especially where the product has partly or fully cured.

PROTECTION OF THE MEMBRANE

When used to waterproof retained walls, FlexProof 106-X1 must be protected prior to back-fill. Suitable protection includes:

- Protection board
- [Fibran XPS 500-C](#) insulation
- [Hydrobond 410 GeoDrain](#)

When used as a general waterproofing sealant, mastic or detailing membrane, life expectancy will be greatly improved by protecting the membrane from direct UV exposure.

The simplest, most cost effective and aesthetically pleasing method is to broadcast sand or grit onto the still tacky product. Cast the sand or grit until no more sand or grit can be taken by the membrane. Leave to fully dry before lightly brushing off any excess.

Sands and grits can be purchased in a wide variety of colours, sizes and grades.

Movement joints can be protected with FlexProof 305 ActiveJoint. If this method is used, both the FoamStop and the FlexProof 106 will need to be placed further into the joint to accommodate the size of the FlexProof 305 ActiveJoint.

PACKAGING

FlexProof 106-X1 - 15 kg - Purchase code 106

FlexProof 106-X1 - 290 ml - Purchase code FP2

FlexProof 106-NV - 7.5 kg - Purchase FP4

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LIMITATIONS

- Do not apply at temperatures lower than +1°C or higher than +35°C
- Do not apply to wet substrate
- Do not apply over frozen substrate or over ice
- Not suitable as a vehicle or pedestrian traffic surface
- When applied over joints, do not apply too much product. Apply to a maximum thickness of 2.5 mm

COLOUR

Grey

CE LABEL

FlexProof 106 does not fall under any of the EU Harmonised Standards and so the product does not require a DoP and there is no CE label.

STORAGE

Store in dry conditions at temperatures between +5°C and +25°C with containers fully sealed. Do not expose to freezing conditions. Do not allow to freeze.

FlexProof 106 has a 12 month shelf life when stored in original, unopened containers in accordance with manufacturers instructions.

HEALTH & SAFETY

Product should only be used as directed. The [Safety Data Sheet](#) (SDS) should be carefully read prior to application of the material.

The SDS is available upon request from Newton Waterproofing or online via our website. Please see contact details below.

Use appropriate PPE for the environment the system is installed within. Use products only as stated within this Data Sheet and SDS.

Any specification/advice provided is only valid if used with products supplied by John Newton and Company Ltd (trading as Newton Waterproofing Systems). Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](#) for the latest versions.