

Technical Data Sheet

Flamex PU

Fire rated, high performance, flexible, one-component, polyurethane sealant for external and internal applications

USES

Flamex PU is designed for sealing exterior and interior movement joints where a fire rating of up to 4 hours is required in:

- Expansion and construction joints
- Tilt-up construction
- Precast, blockwork and plasterboard
- Service penetrations (metal pipes) through walls
- Sealing in conjunction with fire collar or pillows
- Window and door frame perimeter joints
- Acoustic joint sealing

ADVANTAGES

- Fire rated up to 4 hours (AS1530 part 4, AS4072 part 1)
- Excellent UV resistance and durability
- Permanently flexible
- Accommodates 50% total joint movement
- Non-staining
- Paintable
- Single component - no mixing required
- Excellent adhesion with no primer
- Fast skinning time
- Long shelf life

DESCRIPTION

Flamex PU is a one component, low modulus, gun grade, non-sag, moisture-cure polyurethane sealant with outstanding UV resistance. Flamex PU is designed to cure into a fire rated, elastic weatherproof seal. Flamex PU will accommodate 50% total joint movement while maintaining excellent weatherability.

TECHNICAL SUPPORT

Parchem offers a technical support package to specifiers, end users and contractors, as well as on site technical assistance.

STANDARDS COMPLIANCE

1. AS1530 Part 4 - 1997 (Fire Resistance Tests of Elements of Building Construction) and AS4072 part 1 - 1992 (Service penetrations and control joints). Tested by BRANZ.
2. BS476 pt 20 1987 - Fire Testing for Building Materials.

LIMITATIONS

Flamex PU is not recommended for:

- (a) Use in continuous immersion conditions.
- (b) Use in contact with bitumens.
- (c) Horizontal joints in floors or decks where direct physical wear is encountered.

Flamex PU is designed for use only as recommended in the Uses section of this data sheet.

The fire rating of Flamex PU is specific to the tests quoted in this datasheet. Users should satisfy themselves that the test results are applicable to their own installations.

The chemical resistance of Flamex PU is limited and exposure to solvents, oils and other chemicals should be restricted to infrequent contact.



PROPERTIES

Form:	Non-slump thixotropic paste
Solids content:	97%
Density:	1.61 kg / litre
Typical hardness	
Shore A:	40 - 45
Colour:	Grey
Application temperature range:	5°C - 40°C
Service temperature range:	Minus 40°C to 90°C
Skin time:	1.5 - 2 hours @ 23°C, 50% RH
Cure speed:	3 mm in 24 hours @ 23°C, 50% RH

Movement accommodation

factor: +/- 25%

MOVEMENT ACCOMMODATION FACTOR (MAF)

The Movement Accommodation Factor is a figure quoted indicating the ability of a sealant to accommodate joint movement throughout the service life of that sealant, expressed as a percentage of the joint width at time of sealing.

Sealants may withstand considerably higher joint movements than their quoted MAF, but continued movements outside recommended levels may result in premature failure.

To calculate the desired joint width knowing the expected maximum working movement of joint:

$$W = \frac{M}{\text{MAF}/100} + M$$

W = joint width

M = expected maximum working movement of joint

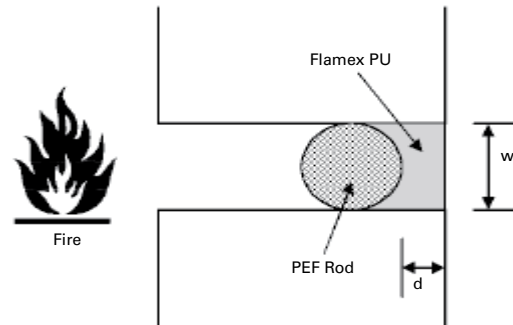
MAF = Movement Accommodation Factor of that sealant

DESIGN CRITERIA

Flamex PU may be used in joints from 5 mm to 40 mm wide. Joint depth should not be less than 10 mm. For joints over 20 mm wide, depth should be half of the width.

Refer to fire test data (Table 1) for correct joint size and orientation to achieve required fire rating.

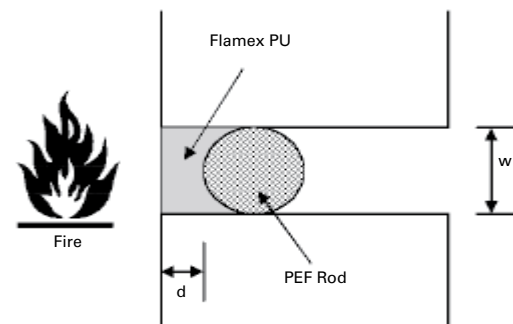
Diagram 1 Vertical and horizontal wall joints - single sided seal remote from fire



w = either 20mm (test specimen 5) or 40mm (test specimen 2)

d = 10mm or $w/2$, whichever is the greater

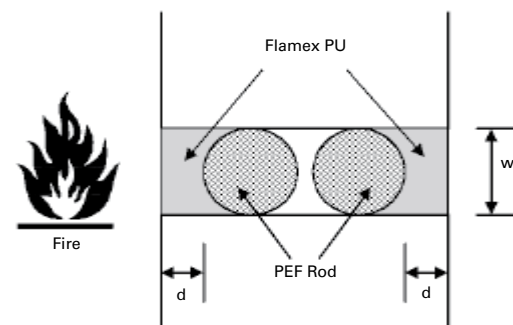
Diagram 2 Vertical and horizontal wall joints - single sided seal exposed to fire



w = either 20mm (test specimen 1) or 40mm (test specimen 3)

d = 10mm or $w/2$, whichever is the greater

Diagram 3 Vertical and horizontal wall joints - both sides sealed



w = either 20mm (test specimen 4) or 40mm (test specimen 6)

d = 10mm or $w/2$, whichever is the greater

Joint type (Seal orientation)	Diagram number	Fire test specimen number	Seal size (width x depth)	Integrity rating (minutes)	insulation rating (minutes) in concrete wall thickness at least		
					120 mm	150 mm	180 mm
Single side seal only on side remote from fire	1	5	20 x 10	240	60	60	60
		2	40 x 20	240	60	60	60
Single side seal only on side exposed to fire	2	1	20 x 10	240	90	120	180
		3	40 x 20	240	120	180	240
Both sides sealed	3	4	20 x 10	240	120	180	240
		6	40 x 20	240	120	180	240

INSTRUCTIONS FOR USE

PREPARATION

The joint surfaces must be thoroughly dry, clean, and free of frost, oil or grease. Remove all dirt, dust, laitance, loose material, mould release and curing agents, and foreign matter by rigorous wire brushing, grinding or grit blasting. Remove all rust, scale and protective lacquers from metal surfaces. Degrease non-porous (metal etc) surfaces with Fosroc Parchem Solvent.

The sealant should be supported by a polyethylene foam backing cord or strip such as Fosroc Expandafoam or PEF Rod.

Do not puncture the closed cell structure of closed cell polyethylene rod as bubbles could form and migrate to the surface of the curing sealant.

For construction or contraction joint slots a bond breaker or back up tape should be used.

Where a particularly neat finish is required, mask the face edges of the joint with masking tape before priming and remove after tooling is complete.

PRIMING

Flamex PU will adhere to most common construction substrates and perform in uncontaminated joints without the need of a primer. Substrates include but are not limited to concrete, marble, granite, anodised aluminium, mill finished aluminium, galvanised surfaces, glass fibre reinforced plastic (GRP), and wood.

For unusual applications or on surfaces of doubtful nature or quality, conduct an adhesion test or phone the Technical Services Hotline.

APPLICATION

Insert sachet into G-gun (600 ml).

Cut end off sachet and attach cap and nozzle.

Cut nozzle to desired bead size.

Extrude the sealant firmly into the joint.

Tool the sealant surface using a suitable curved tool. Apply adequate tool pressure to spread the sealant against the back-up material and into the joint faces.

Use only clean water to lubricate tool if required (DO NOT USE SOAP OR DETERGENT IN WATER).

Remove masking tape immediately after tooling, before skin begins to form.

CLEANING

Clean tools immediately after use with Fosroc Parchem Solvent.

ESTIMATING

PACKAGING

Flamex PU is supplied in 600 ml sachets.

COVERAGE

6 metres of a 10 mm x 10 mm joint per 600 ml sachet.

To work out coverage (excluding wastage) for other joint sizes use the following formula:

$$\frac{S}{W \times D} = \text{Lineal metres per pack}$$

S = Packaging size in millilitres

W = Sealant profile width in millimetres

D = Sealant depth in millimetres

STORAGE

Shelf life 12 months if stored in unopened sachets in cool dry conditions.

ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local Parchem sales office.

IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

PRODUCT DISCLAIMER

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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