



FULAFLEX 550 PU LM

Description

Fulaflex 550 PU LM is a one-component moisture-curing low modulus Class A polyurethane sealant with excellent joint movement capabilities. It cures into a flexible, durable and weather resistant sealant and exhibits excellent adhesion to a wide range of substrates. Fulaflex 550 PU LM is low in VOC (<60g/L) and satisfies the requirements for the Green Building Council of Australia (GBCA).

Benefits

- Easy application, simple clean up – minimal mess
- Excellent adhesion to many surfaces
- Excellent UV resistance
- Paintable
- Low modulus
- Low VOC – ca. 58g/L
- Excellent flexibility (tested to ± 35% ISO 9047)
- Fast curing after skinning – Ideal for applications requiring a fast turnaround
- Non-hazardous according to Safe Work Australia criteria

Uses

- Building joints with high movement
- Joints in pre-cast and tilt-up concrete elements
- Connection joints between windows, doorframes and walls
- Joints in brickwork, masonry and blockwork
- Perimeter fillets in waterproofing membrane systems

- External applications where a high performance joint and UV stability is required that can also be painted

Conformance Standard

Fulaflex 550 PU LM meets the requirements of ASTM C 920, Type S, Grade NS, Class 25, use T1, NT, A and M.

Fulaflex 550 PU LM has been certified according to:

- ISO 11600/F/25LM and DIN 18540/F
- BS 6920-1:2000 Potable Water
- ASTM 793-91 and DIN 11431

Compatible Substrates

Concrete	Cement Sheet
Ceramic	Masonry
Polyurethane	Plasterboard
Polystyrene	Steel
Aluminum (uncoated)	Timber
Plastic and coated metals (Pre-Test)	Glass*

*Not suitable for external glazing

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Performance Data

Property	Data
Specific Gravity	ca. 1.30
Sag	0mm (25mm x 12mm joint)
Tooling Time	ca.40 minutes @ 23°C & 50% RH
Skinning Time	ca. 40-60min, 23°C, 50% RH
Cure Rate	ca. 2-3mm/day (23°C)
Hardness (Shore A)	ca. 30
Shrinkage	4% Max
Max Elongation	>700%
Flexibility (ISO 9047)	± 35%
Elastic Recovery	ca. 99% @ 100% extension
Modulus – 50%	ca. 0.60MPa
Modulus – 100%	ca. 0.70MPa
Modulus - Max	ca. 2.20MPa
Service Temperature	-40°C to +90°C

Coverage (600ml sausage)

Joint Width mm	Joint Depth mm	Yield (Linear metres)
6 (min)	6	16.7
10	10	6.0
12	12	4.2
18	12	2.7
24	12	2.1
30 (max)	15	1.5

Surface Preparation

All surfaces must be clean, dry, sound and free of dust, oil, old sealant or other contamination.

Lightly contaminated surfaces should be wiped with Isopropyl Alcohol (IPA) using the 2-rag wipe method. Apply IPA to a clean lint-free cloth and wipe onto the surface to be cleaned to solubilize and remove the majority of the contaminant. A clean dry cloth should then be applied to remove remaining contamination and dry the surface. Ensure wet cleaner is not allowed to dry on surface. For more heavily contaminated surfaces or where the IPA does not remove the contaminant, a generic wax and grease remover should be applied using the same 2-rag wipe method. Once this has been completed the surface should be given a final clean with IPA using the 2-rag wipe method to ensure the surface is adequately prepared. Adhesion to metals and some surface finishes can be further improved by light abrasion prior to cleaning with IPA using the 2 rag-wipe method. Manufacturers of plastics should be consulted about suitable cleaning solvents. Adhesion to plastics should be pre-tested. Mask either side of joint to produce a neat finish.

Use a suitable sized foam backing rod or polyethylene bond breaker tape to prevent three sided joint contact impeding the free and even deformation of the sealant in a cyclic joint. Open-cell polyurethane foam is recommended. Use a size 25% wider than the joint width that will compress when inserted into the joint.

Priming – For difficult substrates

In conditions where a primer is necessary prior to application of Fulaflex 550 PU LM, HB Fuller recommends the application of TEC Multipurpose Primer on approved substrates. Apply primer as detailed on the TEC Multipurpose primer datasheet, allowing time to cure, before applying Fulaflex 550 PU LM

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as per guidelines. All surfaces should be cleaned prior to the application of TEC Multipurpose Primer.

Product Application

Insert the sausage into the applicator gun and make a small incision at the extrusion end of the sausage. Fit the barrel end and nozzle, with the nozzle cut to deliver the appropriate bead size.

Gun Fulaflex 550 PU LM by pressing the trigger to continuously fill the joint - while ensuring that air does not get trapped in the sealant/joint. After filling an appropriate length of joint, smooth the sealant with a spatula or trowel, pressing the sealant into the joint to form the required finish while ensuring the sealant fills the joint and is complete contact with the substrates. The application tool should contact the entire surface that is required to be tooled, and may be dipped in solution of detergent/soap and water (approx. 1:5 ratio), ensuring that the solution does not get into the bonding areas

Good joint design in the construction industry necessitates a joint width equal to 4 times the anticipated movement of building components. The theoretically derived 2:1 movement factor is based on thermal movement alone and doesn't allow for variances found at the job site and therefore should not be used. The 4:1 design factor accommodates both thermal movement and wide variations in tolerances of construction materials, fabrication and erection often found in the field.

This will also accommodate joints installed narrower than originally designed.

In standard expansion joints, the joint should be minimum 6mm width. For joints between 6mm and 12mm width, the depth of the sealant should be the same as the width.

Joint Configurations – Depth vs width

Joint Width mm	Joint Depth mm
6 to 12mm	Same as width
12 to 24mm	12mm
24 to 30mm	Half width

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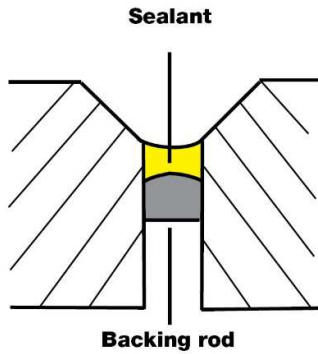
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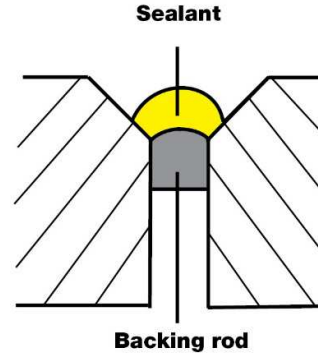
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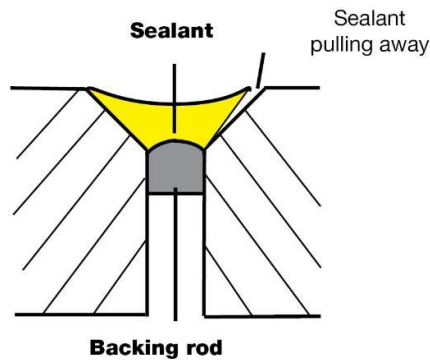
Correct and incorrect joint designs



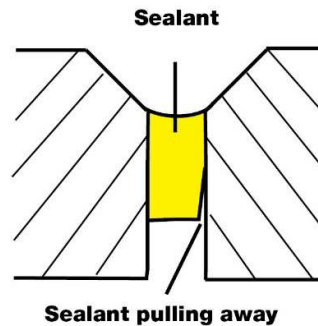
Correct
Sealant applied on backing rod using correct sealant dimensions



Correct
Alternative method of installation preserves ability of sealant to expand and contract



Wrong
Sealant applied onto chamfered edge where concrete may be weak



Wrong
Sealant extends too deep into joint leading to tearing away from sides or splitting

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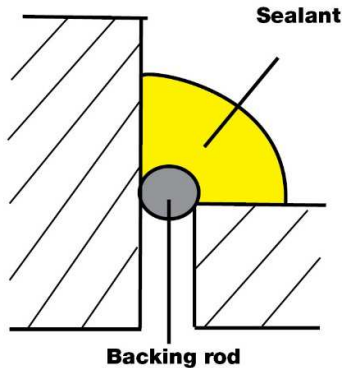
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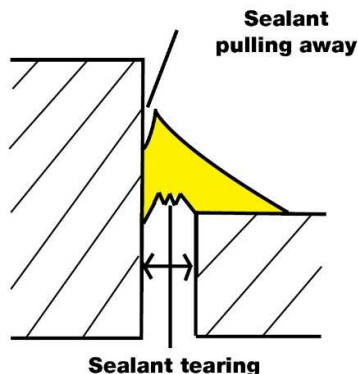
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Correct
Sealant applied between two walls with backing rod to support movement



Wrong
Sealant applied without backing rod, or where excessive movement occurs, allows sealant to split away from the wall edges and tear

Painting

FULAFLEX 550 PU LM may be painted with most water based paints and other paint systems including waterproof membranes, once a firm skin has developed.

However, test if unsure when industrial grade coatings are used, to ensure that:

- The coating bonds to Fulaflex 550 PU LM satisfactorily
- The coating does not affect the curing of Fulaflex 550 PU LM (e.g. allows moisture to reach the sealant surface if applied over a non-porous surface where the sealant is painted prior to full cure)
- That Fulaflex 550 PU LM does not affect the cure of the coating (e.g. result in a sticky surface). Some solvent based coatings may remain sticky for extended periods of time.
- The coating does not craze after application over Fulaflex 550 PU LM

Most coating systems are incapable of achieving similar rates of flexibility as Fulaflex 550 PU LM. As such, surface coatings may crack as a result of cyclic joint movement. HB Fuller recommend the use of a premium quality acrylic emulsion paint over Fulaflex 550 PU LM.

Chemical Resistance

Resistant to intermittent exposure to salt water, grease, oils, fuels, defrosting liquid, detergents, aliphatic fats, mildew, weak acids and bases (pre testing required).

Curing

The rate of cure depends on the air temperature and humidity, the cross sectional area of the bead of sealant and the surface

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area of sealant exposed to the air. At 23°C and 50% relative humidity cure rate is 2-3mm / 24 hours. In general, low humidity and/or low temperature will result in longer cure times. Thicker sections of sealant will have longer cure times. A small surface area in relation to the volume of sealant will also extend the cure time.

Shelf Life

12 months unopened packaging in a cool and dry storage area at temperatures between +5C and +25C.

Clean Up

Best results are obtained by masking prior to sealing to avoid the necessity for clean up. However, if sealant is applied to areas where it is unwanted, clean up uncured sealant using toluene*, xylene*, methyl ethyl ketone*, acetone* or mineral turpentine* and a cloth. Take precautions to avoid staining substrates when using solvents. Cured sealant should be removed by abrasion or trimmed with a sharp knife. Do not undercut seal.

Safety Information

This product is not considered to be hazardous according to criteria of SWA. Avoid contact with skin and eyes. Store in a dry place below 30°C. Keep out of reach of children. A MSDS is available from the H.B. Fuller representative in your state, HB Fuller Australia customer service, or downloadable from the HB Fuller web site, www.hbfuller.com.au. For Poisons Information Centre phone 13 11 26.

Limitations

- Not for use in water retaining structures unless used in conjunction with waterproofing membrane.
- Fulaflex 550 PU LM Sealant should not be applied to frost-bearing surfaces or if temperature will fall below zero degrees Celsius.
- When painted with oxidative drying paints disturbances in the drying of the paint may occur.
- Because of the diversity of paints available it is recommended to complete a compatibility test before application.
- Do not attempt to finish/tool the sealant in a joint using the chemicals described in the clean-up section, as they will irreversibly affect the sealant. Only use these chemicals to clean up uncured sealant from tools and equipment.
- Not for use in joints contaminated with oil, grease, wax, dust, corrosion, tar, asphalt, loose aggregate, frost, dampness, form-release agents or other such coatings impregnations.
- Not for exposure to harsh chemicals – Fulaflex 550 PU LM does have some level of chemical resistance, pre-testing for contact with chemicals is recommended
- Not suitable for glazing with glass, acrylic or Polycarbonate sheets. Refer other comments with regard to glass in substrates and surface preparation sections.
- Not for use on Marble or other highly porous stone without pre-testing for staining.
- Not recommended for use on bituminous surfaces or on materials that bleed oils, plasticisers or solvents, as this will affect adhesion.

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- Open cell backing rod is recommended. Always take care when handling closed cell polyethylene backer rod during installation, so as not to pierce the rod.
- The presence of other curing sealant technologies in the vicinity (such as some silicones and MS Polymers), or exposure to alcohol during curing may prevent FULAFLEX 550 PU LM from curing.

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Version 12
TDS Date: 29/11/2017

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