



JOINT SEALANT — ONE-COMPONENT POLYURETHANE — ASTM C920 CLASS 25

Fly PU

One-component, gun-grade, non-sag moisture-cure polyurethane sealant for movement and construction joints

Accommodates $\pm 25\%$ joint movement and stays permanently elastic — the joint keeps working while the sealant holds the weather out.

DESCRIPTION

Fly PU is a one-component, gun-grade, non-sag polyurethane sealant that cures on contact with atmospheric moisture. It skins quickly, tools cleanly and cures to a tough, elastic seal with high cut and tear resistance, good UV stability and long-term weathering performance. It adheres to most common construction substrates without priming.

KEY ADVANTAGES

- Accommodates $\pm 25\%$ joint movement
- Permanently elastic with excellent weathering
- Adheres to most substrates without a primer
- Non-sag — holds its shape in vertical and overhead joints
- UV resistant and fast skinning
- Paintable once fully cured
- Low VOC and odourless
- Resistant to seawater and to dilute acids and alkalis

FIELDS OF APPLICATION

Fly PU seals movement and construction joints in concrete floors and walls, perimeter joints around windows and doors, roof and cladding lap seams, gutters and flashings, and joints around plant and equipment. In flooring it is used to seal saw-cut and construction joints after the floor coating has been applied.

TECHNICAL DATA

Property	Typical Value
Base	One-component moisture-cure polyurethane
Consistency	Gun grade, non-sag (ASTM C920 Grade NS)
Colour	Grey — other colours to order
Shore A hardness (ASTM C661)	30 ± 3
Skin-over time (23°C, 50% RH)	15 – 25 minutes
Tack-free time	≈ 1 hour
Cure rate (23°C, 50% RH)	≈ 2 mm per day
Movement accommodation factor	$\pm 25\%$
Tensile strength	≥ 1.3 N/mm ²
Peel strength on concrete	≥ 30 N



Property	Typical Value
Shrinkage	≤ 5%
VOC content	≤ 5 g/L
Application temperature	+5°C to +40°C
Joint width range	5 mm minimum — 25 mm maximum

Standards: Conforms to ASTM C920, Type S, Grade NS, Class 25. The equivalent European classification is EN ISO 11600 F-25; the LM or HM sub-class depends on the secant modulus to EN ISO 8339 and has not yet been determined.

JOINT DESIGN

Joint width must be at least four times the anticipated movement, and never less than 5 mm. For joints up to 10 mm wide the sealant depth equals the joint width. For wider joints the width-to-depth ratio is 2 : 1. The maximum joint width for Fly PU is 25 mm.

A closed-cell polyethylene backer rod controls the depth and forces the sealant into contact with both joint faces during tooling. Where the joint is too shallow for a backer rod, use a polyethylene bond-breaker tape so the sealant never bonds on three sides — three-sided adhesion tears the sealant as soon as the joint opens.

Joint width	Sealant depth	Backing
5 – 10 mm	Equal to width	Backer rod, or bond-breaker tape
12 mm	6 mm	Closed-cell backer rod
15 mm	8 mm	Closed-cell backer rod
20 mm	10 mm	Closed-cell backer rod
25 mm	12 mm	Closed-cell backer rod

In trafficked floor joints use a firmer backing — neoprene rod or polyethylene foam block — and recess the sealant surface 3 – 6 mm below the floor.

YIELD

Length of joint sealed by one 600 ml sausage, from $L = 600 / (\text{width} \times \text{depth})$, both in millimetres.

Depth	W 6 mm	W 10 mm	W 12 mm	W 15 mm	W 20 mm	W 25 mm
6 mm	16.7 m	10.0 m	8.3 m	6.7 m	5.0 m	4.0 m
8 mm	—	7.5 m	6.3 m	5.0 m	3.8 m	3.0 m
10 mm	—	6.0 m	5.0 m	4.0 m	3.0 m	2.4 m
12 mm	—	—	4.2 m	3.3 m	2.5 m	2.0 m
15 mm	—	—	—	2.7 m	2.0 m	1.6 m

Figures are theoretical. Allow for waste and for joints that are wider than nominal.



DIRECTIONS FOR USE

- 1. Substrate preparation:** Joint faces must be sound, clean and dry. Remove all release agents, dust, loose mortar, laitance, paint and any previous sealant by wire brushing, grinding or solvent washing as the contamination requires. Surface temperature should be below +40°C when the sealant is applied.
- 2. Backing:** Friction-fit a closed-cell polyethylene backer rod to the depth set by the joint design table, or apply bond-breaker tape where the joint is too shallow. All backing must be dry at the time of sealing.
- 3. Priming:** Fly PU adheres to most common construction substrates without a primer. Because site finishes vary, carry out an adhesion test on the actual materials of the job; where a primer proves necessary, use Fly Prime PA.
- 4. Application:** Mask both sides of the joint for a clean line. Gun the sealant into the joint in one continuous pass, filling from the back forward so no air is trapped, then tool firmly to press the sealant against both joint faces. Dry tooling gives the best result.
- 5. Cleaning:** Remove excess sealant and smears with xylene or mineral spirits before the sealant cures. Tools can be cleaned the same way.

MOVEMENT	PACKAGING	SHELF LIFE
± 25%	600 ml sausage · 20 per carton	12 months

REMARKS & SAFETY

Use only with adequate ventilation. Avoid contact with skin and eyes, and wash thoroughly after handling.

- Do not apply to damp or contaminated joint faces.
- Do not use Fly PU as a structural, load-transferring sealant.
- Rigid paints and coatings applied over a flexible sealant can lose adhesion as the sealant moves. Where a joint must be painted, test compatibility on site first.
- In cool weather, keep the sausages at room temperature for at least 24 hours before use.
- Store in tightly closed original packaging in a dry place between +5°C and +25°C. Shelf life is 12 months unopened; a sausage that has been opened must be used the same day.

Sequence note: in an epoxy flooring system the joints are sealed last. An epoxy coating must never be carried across a movement joint — the joint is re-cut through the coating after the topcoat has cured, then backed and sealed with Fly PU. A coating taken over a live joint will crack along it.