

ANCILLARY · TECHNICAL DESIGN GUIDE

Adhesives & Sealants

A two-product EPS-bonding accessory line: a paintable one-part acrylic cornice sealant (DB Acrylic) and a solvent-free two-component polyurethane panel adhesive (PU6) — neither is an insulation material.

Overview

Technopol SA's "Adhesives & Sealants" is not a single product but a two-item accessory line developed to work alongside the company's EPS (expanded polystyrene) range. DB Acrylic Sealant is a one-part, white, high-quality sealant based on an acrylic dispersion that cures by evaporation of its water phase to a soft, plastic-elastic rubber; it serves both as the fixing adhesive for EPS cornices and as a general-purpose interior/exterior joint sealant. PU6 (supplied as "PU Part A + B Adhesive") is a two-component, solvent-free polyurethane adhesive engineered specifically for laminating polystyrene sandwich panels in the cold-room and insulated-panel industry.

The two products differ fundamentally in chemistry and role. DB Acrylic is ready-to-use from cartridge or pail: apply, tool, let the water evaporate, and it skins over into a flexible, paintable rubber. PU6 is a reactive two-part system metered and mixed on site — Part A is a straw-coloured, high-viscosity castor-oil (vegetable-oil triglyceride) liquid with a limestone (CaCO₃) filler; Part B is a dark-brown diphenylmethane diisocyanate (MDI, "Cosmonate M-200"). Mixed at 6:1 by weight, they cure to a rigid, water-resistant, gap-filling glue-line with no solvent and no shrinkage.

PU6 is the structural workhorse of the pair, developing a bond tensile strength of 8-10 MPa at 25 °C, staying flexible to -45 °C and bonding a wide range of substrates. Neither product is an insulation material, so thermal (λ / R / U), density-grade and compressive-strength ratings do not apply, and neither carries a reaction-to-fire (Euroclass) or fire-resistance (REI) class of its own.

Key specifications

Property	Value	Standard
Product build-up	DB Acrylic Sealant (one-part white acrylic dispersion, cures to soft plastic-elastic rubber) + PU6 (two-part solvent-free polyurethane / MDI adhesive)	—
PU6 bond tensile strength	8–10 MPa (at 25 °C)	—
PU6 component density (mass per litre, liquid)	Part A 1.62; Part B 1.23 kg/L	—
PU6 service temperature / heat resistance	–40 to +50 service; bond heat-resistant to 148 short-term; stays flexible to –45 °C	—
PU6 mixing ratio & spread rate	6:1 by weight (4.5:1 by volume); apply 300–400 g/m ² to one bonding surface	—
PU6 pot life & cure	Pot life 20–30 min (20 °C, 50% RH); clamp within 20 min for min. 4 h; full cure 7 days at 25 °C	—
Reaction-to-fire / fire-resistance class	None — no Euroclass or REI rating of its own; mixed PU6 rated non-combustible / non-hazardous for shipping only	—
Pack sizes & coverage	PU6 combination packs 6 / 36 / 300 kg; DB 280 ml cartridge & 5 kg pail (5 kg ≈ 50 m / 20 cornice lengths)	—

Materials & build-up

The line comprises two chemically distinct products with no shared chemistry — one physically curing water-borne sealant and one reactive two-part urethane adhesive.

- DB Acrylic Sealant — one-part sealant based on an acrylic dispersion, white; contains no reactive hardener and cures physically by water evaporation to a soft plastic-elastic rubber; non-corrosive when cured; over-paintable with water-based paints (cartridge branded "ACRYL-W" on the marketing sheet).
- PU6 Part A — light straw-coloured, high-viscosity oily liquid of vegetable-oil triglycerides (castor oil) with a limestone (CaCO₃) filler; non-hazardous; solids settle on storage, so Part A must be agitated/stirred before decanting for consistent gel times.
- PU6 Part B — dark-brown liquid; imported MDI (diphenylmethane diisocyanate), grade "Cosmonate M-200" (Kumho Mitsui Chemicals).
- Mixed PU6 is a thixotropic, free-flowing straw-coloured syrup that cures dimensionally stable (no shrinkage) with excellent gap-filling and water resistance once set.

Applications

Match the product to the job: DB Acrylic is the flexible cornice-fixing and joint sealant; PU6 is the structural laminating adhesive for sandwich panels and dissimilar-substrate bonding.

- DB Acrylic — fixing EPS cornices (the designated cornice adhesive; pail $\approx$ 20 lengths); sealing joints between cornices, stairs, walls, ceilings and skirtings; sealing windowsills and wooden/metal window frames; sealing concrete and brickwork joints.
- PU6 — laminating polystyrene sandwich panels for cold rooms and insulated panels (its primary engineered use).
- PU6 — bonding EPS to wood, galvanised iron, "Chromadek", GRP and Perspex sheeting; also suitable for PIC and polyurethane foam substrates.
- PU6 — bonding PVC to masonry, and rubber sheeting to concrete/brick, in flooring applications.

Installation & handling

DB Acrylic is ready to use from cartridge or pail: apply, tool the joint and allow it to cure by water evaporation to a paintable plastic-elastic rubber; over-paint with water-based paints only.

PU6 is site-mixed and time-critical — errors in ratio, mixing or clamping compromise the bond.

- Ensure lamination surfaces are free of oil, dust and moisture; for galvanised iron and GRP, first remove all wax/oil with a degreaser.
- Agitate/stir Part A thoroughly before decanting (settled solids affect gel time).
- Mix Part A and Part B strictly at 6:1 by weight for $\sim$ 2 minutes to a light-brown homogeneous mixture; never decant A and B with the same measuring device; mix in a separate container.
- Apply 300-400 g/m² to one bonding surface only; when bonding styrene to another substrate, apply the adhesive to the non-styrene substrate.
- Apply clamping pressure within 20 minutes of mixing and hold a minimum of 4 hours.
- Do not use below 5 °C (curing greatly extended below 10 °C); protect Part B from freezing and, if it crystallises, warm gently in hot water before use.
- Safety — PU6 Part B is an MDI isocyanate: GHS signal word DANGER (H315/H317/H319/H332/H334; Carc. Cat. 2, Resp. Sens. Cat. 1, Skin Sens. Cat. 1). Use isocyanate-appropriate PPE and ventilation and follow the SDS. Part A is non-hazardous.

Dimensions & availability

These are liquid/paste products sold by mass or cartridge volume — panel-style dimensions, thickness ranges, tolerances and span/load tables do not apply.

- PU6 — supplied as combination packs (Part A + Part B) of 6 kg, 36 kg or 300 kg.
- DB Acrylic — 280 ml cartridge plus a pail; the pail net weight is inconsistent across Technopol documents (current web brochure states 5 kg; the "Bonding Beyond Boundaries" marketing sheet labels it 4 kg) and cannot be resolved from the documents alone.
- DB cornice-adhesive coverage — pail $\approx$ 50 m (20 cornice lengths); 280 ml cartridge $\approx$ 5 m (2 lengths).

Fire behaviour

Neither product carries a reaction-to-fire (Euroclass) classification, and neither carries a fire-resistance (REI, minutes) rating; this is stated explicitly and must not be generalised.

When these adhesives are used inside an EPS assembly, the fire behaviour of that assembly is governed by the panel/board system and its own test evidence, not by the adhesive.

- The only fire-related figure on the PU6 datasheet is a shipping classification of "non-combustible, non-hazardous" — a transport/handling descriptor for the mixed adhesive, NOT a tested reaction-to-fire class and NOT a fire-resistance rating.
- MSDS flammability data (Part A): flash point 229 °C closed cup; auto-ignition 449 °C — these are safety-data flammability figures, not a fire class.
- The corpus EPS fire-test reports (FireTestresults / FTC-FT series) cover EPS boards and panels only; they do not test the adhesive or sealant and cannot be cited as evidence of any fire class for this product.

Design considerations & limitations

- Not an insulation product — do not attribute λ (thermal conductivity), R-value, U-value, density grade or compressive strength to these adhesives; none is published, and only PU6's uncured liquid mass-per-litre exists as a "density" figure.
- PU6 is site-mixed and time-critical: strict 6:1 weight ratio, 20-30 min pot life, clamp within 20 min and hold ≥ 4 h; errors in ratio, mixing or clamping compromise the bond.
- PU6 temperature windows are firm — must not be applied below 5 °C (curing greatly extended below 10 °C); service range -40 to +50 °C; the 148 °C heat resistance is a short-term bond figure, not a continuous rating.
- Isocyanate hazard — PU6 Part B requires isocyanate-appropriate PPE and ventilation (respiratory/skin sensitiser, Carc. Cat. 2); Part A is benign.
- The PU6 8-10 MPa bond tensile strength is from the manufacturer datasheet only; no independent laboratory test report number substantiates it, and the brochure's "lab-tested" claim carries no report reference.
- Treat as having no fire class; rely on the surrounding assembly's own tested fire evidence.
- DB Acrylic data are limited to the brochure/spec table — no standalone DB datasheet exists, so its density, VOC, skin/tack-free time, full-cure time, service-temperature range, movement capability, joint-width range and shelf life are unpublished.
- The manufacturer disclaims fitness for a specific use — verify performance for the actual substrate and conditions; the datasheet data do not relieve the user from their own testing.
- No SANS or EN product standard is cited for either product, and no Agrément SA certificate applies to this line (Agrément SA 2020/609 covers the LiteCore Building System only).