POLYURETHANE FINISHES

TopShield PU425-S

SOLVENT-BASED ALIPHATIC POLYURETHANE CLEAR TOPCOAT

Rayson TopShield PU425-S is a two-component, solvent-based aliphatic polyurethane clear topcoat with excellent abrasion resistance, non-yellowing behaviour and outstanding weather durability for concrete, metal and stone.

TopShield PU425-S is the clear aliphatic polyurethane in the Rayson range, available in gloss, satin and matt. It seals and dustproofs concrete and hard mineral surfaces with a film that will not yellow, offering outstanding weather resistance and durability alongside excellent abrasion resistance and low dirt pick-up.

KEY PROPERTIES

- Non-yellowing aliphatic PU with outstanding weather resistance
- Excellent abrasion resistance with low dirt pick-up
- Clear gloss, satin or matt finishes (gloss 85 at 60°)
- Long pot life (~2 hours) for controlled application
- UV stability
- Abrasion resistance
- Chemical resistance
- Hygiene / washdown



Illustration — two-part set, Part A + Part B. Pack sizes: see this data sheet.

MIX RATIO	COVERAGE	POT LIFE	SURFACE DRY	PACK SIZE
4:1	On request	~2 hours	6 hours	5 Lt set
by volume	technical team	application control	at 25 °C	4 + 1 Lt

01 RECOMMENDED USES

- UV-resistant clear coating for concrete and metal
- Versatile topcoat finishes on hard surfaces such as stone and limestone
- Hygienic coatings for walls and floors
- Non-yellowing, high-abrasion-resistance protective finishes

02 SUITABLE SUBSTRATES

- Mechanically prepared concrete (minimum 28 days old, moisture content below 5%)
- Metal (prepared)
- Stone and limestone
- Walls and floors

03 SYSTEM ROLE

RAYSON TOPSHIELD PU425-S FINISH	This product, Part A 4 Lt; Part B 1 Lt
RAYSON PRIMER	Per system
PREPARED CONCRETE SUBSTRATE	RH ≤ 75%

Figure 1 — Typical system build-up (top to bottom). Layer thicknesses are system-dependent; confirm the specification for your project.

Technical data & application controls

Control the substrate, mix, application conditions and cure before handover.

SOURCE TECHNICAL DATA

SURFACE PREPARATION	New concrete should be at least 28 days old with moisture below 5%. Remove laitance and loose material; mechanically prepare damaged concrete to exposed aggregate. On existing concrete, prefer mechanical preparation followed by industrial vacuuming and degrease with industrial detergent; the substrate is sufficiently dry at surface relative humidity of 75% or lower.
MIXING / DILUTION	Two pre-weighed parts, mix ratio 4:1 by volume; stir parts separately, combine and mix with a slow-speed drill and paddle for 1–2 minutes; pot life approximately 2 hours
APPLICATION METHOD	Short-bristled brush, Roller
COVERAGE	Available from the Rayson technical team on request.
APPLICATION CONDITIONS	Minimum substrate temperature 5 °C; minimum mixing temperature 10 °C; minimum curing temperature 5 °C; keep floor dew point within 3 °C of atmospheric temperature.

CONDITIONS, PACKAGING & STORAGE

DRYING & CURING	Surface dry 6 hours at 25 °C
RECOAT INTERVAL	Available from the Rayson technical team on request.
FILM / THICKNESS	Applied at approximately 100 µm wet film per coat.
PACK SIZES	Part A 4 Lt can + Part B 1 Lt can
STORAGE	Store under cover in dry conditions, protected from temperature extremes.
SHELF LIFE	Approximately 12 months for the base; 6–12 months for the hardener, unopened.

04 APPLICATION WORKFLOW

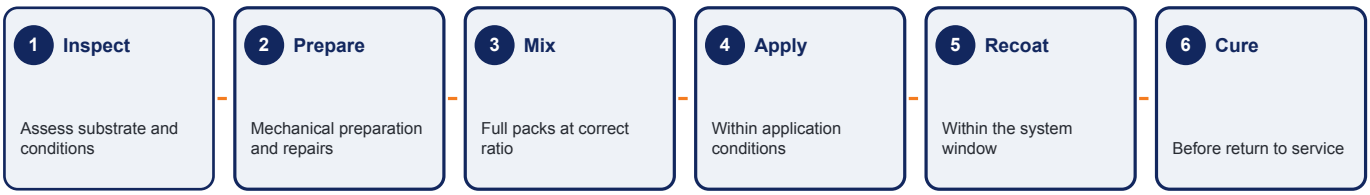


Figure 2 — Application workflow. Each stage is a hold point: confirm the previous stage is complete and within specification before proceeding.

Specify, apply and verify the system

05 RECOMMENDED SYSTEM

Clear protective finish

1. Prepare the substrate mechanically and prime where required with Rayson PrimeBond EP120-S
2. Apply minimum 2 coats of Rayson TopShield PU425-S, stripe-coating edges by brush

06 LIMITATIONS

- Minimum substrate temperature 5 °C; minimum mixing temperature 10 °C; minimum curing temperature 5 °C
- Mixed material must be used within its pot life; cures faster in hot weather and in large batches
- Solvent-based — provide adequate ventilation; not for occupied areas without ventilation control
- Thin-film clear coat — substrate defects and colour show through

07 HEALTH & SAFETY

Solvent-based product — flammable. Ensure good ventilation, keep away from ignition sources, and wear gloves, eye and respiratory protection. Avoid skin and eye contact. Keep out of reach of children. Consult the Safety Data Sheet (in preparation) before use.

DISCLAIMER

The information in this data sheet is given in good faith and reflects typical values and general good practice. Because site conditions and workmanship are beyond our control, Rayson gives no warranty implied from this document; users should verify suitability for their specific application and confirm they are working from the current issue. For project-specific advice, contact the Rayson technical team.

RAYSON HIGH PERFORMANCE COATINGS
Veritas Nova Private Limited · UEN 202650473C
Singapore
Tel / WhatsApp: +65 9821 9129
support@raysonpaint.com.sg
raysonpaint.com.sg/products/topshield-pu425/