POLYURETHANE FINISHES

TopShield PU430-W

WATER-BASED ALIPHATIC POLYURETHANE DISPERSION TOPCOAT

Rayson TopShield PU430-W is a two-component, water-based aliphatic polyurethane dispersion topcoat, crosslinked with a PUR hardener, for abrasion-resistant coloured finishes on concrete, metal and mineral surfaces.

TopShield PU430-W brings aliphatic polyurethane performance to water-based application. The pigmented polyurethane dispersion crosslinks with its PUR hardener into a film with excellent abrasion resistance, low dirt pick-up, good water repellence and pencil hardness above H — a working finish that dustproofs and protects the substrate.



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

KEY PROPERTIES

- Water-based aliphatic PU — UV-resistant, non-yellowing coloured finish
- Excellent abrasion resistance and low dirt pick-up
- Good water repellence with pencil hardness above H
- Hygienic, washable finish for walls and floors
- UV stability
- Abrasion resistance
- Hygiene / washdown

MIX RATIO	COVERAGE	POT LIFE	SURFACE DRY	PACK SIZE
9:1	On request	1–2 hours	6 hours	4/18 + 1/2 Lt
A:B by weight	technical team	application control	at 25 °C	per set

01 RECOMMENDED USES

- UV-resistant coloured coatings for concrete
- Topcoat finishes on hard surfaces such as stone and limestone
- Hygienic coatings for walls and floors
- Non-yellowing, high-abrasion-resistance finishes in commercial interiors

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 PU430-W FINISH	This product, 4 Lt / 18 Lt A; 1 Lt / 2 Lt B
RAYSON PRIMER / BODY COAT	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 at least 28 days old, moisture below 5%; remove laitance and loose material; mechanically prepare damaged concrete to exposed aggregate. On existing concrete, prefer mechanical preparation and industrial vacuuming; degrease with industrial detergent; substrate sufficiently dry at surface relative humidity of 75% or lower.
MIXING / DILUTION	Two pre-weighed parts, mix ratio 9:1 by weight; stir parts separately, combine and mix with a slow-speed drill and paddle for 1–2 minutes; pot life 1–2 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 or 18 Lt pail + Part B 1 Lt or 2 Lt pail
STORAGE	Store under cover in dry conditions, protected from temperature extremes.
SHELF LIFE	Approximately 12 months for Part A; 6 months for Part B, unopened.

04 APPLICATION WORKFLOW

1. **Inspect** — Assess substrate and conditions
2. **Prepare** — Mechanical preparation and repairs
3. **Mix** — Full packs at correct ratio
4. **Apply** — Within application conditions
5. **Recoat** — Within the system window
6. **Cure** — Before return to service

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

Coloured low-odour floor finish

1. Prime or seal with Rayson TopShield EP410-W (system pairing to be confirmed by the Rayson technical team)
2. Apply minimum 2 coats of Rayson TopShield PU430-W, 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 1–2 hour pot life; cures faster in hot weather and in large batches
- Hardener shelf life is shorter than the base and moisture-sensitive — store sealed and dry
- Thin-film topcoat — requires a sound, sealed substrate or system beneath

07 HEALTH & SAFETY

Low-odour water-based product. Wear gloves and eye protection; ensure reasonable ventilation. 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-pu430/