POLYURETHANE FINISHES

TopShield PU435-W

WATER-BASED ALIPHATIC POLYURETHANE DISPERSION CLEAR COAT

Rayson TopShield PU435-W is a two-component, water-based aliphatic polyurethane dispersion clear coat, crosslinked with a solvent-free hardener, giving a non-yellowing, abrasion-resistant finish in gloss, satin or matt.

TopShield PU435-W is the water-based polyurethane clear coat of the TopShield family. The aliphatic polyurethane dispersion crosslinks with a solvent-free hardener into a non-yellowing film with excellent abrasion resistance, low dirt pick-up and good water repellence — pencil hardness above H and gloss of 85 at 60° in the gloss grade.

KEY PROPERTIES

- Low VOC, low odour — suited to occupied buildings
- Non-yellowing aliphatic PU clear coat in gloss, satin or matt
- Excellent abrasion resistance and low dirt pick-up
- Solvent-free hardener system
- UV stability
- Abrasion resistance
- Low odour
- 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
9:1	On request	~2 hours	6 hours	20 kg set
A:B by weight	technical team	application control	at 25 °C	18 + 2 kg

01 RECOMMENDED USES

- UV-resistant clear sealing of concrete floors
- Topcoat finishes on hard surfaces such as stone and limestone
- Hygienic coatings for walls and floors
- Non-yellowing protective finishes in occupied 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



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 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	18 kg pail (base) + 2 kg pail (hardener)
STORAGE	Store under cover in dry conditions, protected from temperature extremes.
SHELF LIFE	Approximately 12 months for Part A; 6–12 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

Clear low-odour floor seal

1. Prepare the substrate mechanically and vacuum clean
2. Apply minimum 2 coats of Rayson TopShield PU435-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 pot life; cures faster in hot weather and in large batches
- Hardener has a shorter shelf life than the base — store sealed and dry
- Clear coat — substrate appearance and defects show through

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.

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