POLYURETHANE FINISHES

TopShield PU440-W

WATER-BASED ALIPHATIC URETHANE FLOOR TOPCOAT

Rayson TopShield PU440-W is a two-component, water-based aliphatic urethane floor topcoat — low-VOC, low-odour and UV-resistant — that can be combined with broadcast aggregate for an anti-slip finish.

TopShield PU440-W is the finish coat of the Rayson water-based floor system. The two-component aliphatic urethane cures to a high-strength film with excellent abrasion resistance, low dirt pick-up, pencil hardness above H and gloss of 85 at 60° in the gloss grade — while staying low-VOC and low-odour for occupied buildings.

KEY PROPERTIES

- Low VOC and low odour — occupied-building friendly
- Excellent abrasion and staining resistance (Class 5, preliminary testing)
- Non-yellowing with 1,000 h QUV weathering performance (preliminary testing)
- Fast trafficable time supports overnight programmes
- UV stability
- Abrasion resistance
- Low odour
- Anti-slip
- Fast return to service
- 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 or 9:1	On request	6 hours	2 hours	4/18 + 1/2 kg
A:B by weight	technical team	at 25 °C	at 28 °C	per set

01 RECOMMENDED USES

- UV-resistant topcoat for concrete floors
- Topcoat finishes on hard surfaces such as stone and limestone
- Hygienic coatings for walls and floors
- Anti-slip walkway and ramp systems with broadcast aggregate

02 SUITABLE SUBSTRATES

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

03 SYSTEM ROLE

RAYSON TOPSHIELD PU440-W FINISH	This product
RAYSON PRIMEBOND AC130-W PRIMER	Recommended primer
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; wash oil and grease with industrial detergent; substrate sufficiently dry at surface relative humidity of 75% or lower.
MIXING / DILUTION	Two pre-weighed parts, mix ratio as shown on the supplied set size (4:1 or 9:1 A:B by weight); stir parts separately, combine and mix with a slow-speed drill and paddle until uniform; pot life 6 hours at 25 °C
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 2 hours at 28 °C; trafficable after 3 hours
RECOAT INTERVAL	Available from the Rayson technical team on request.
FILM / THICKNESS	Available from the Rayson technical team on request.
PACK SIZES	Part A 4 kg or 18 kg pail + Part B 1 kg or 2 kg pail
STORAGE	Store under cover in dry conditions, protected from temperature extremes.
SHELF LIFE	Approximately 12 months unopened, subject to storage conditions.

04 APPLICATION WORKFLOW

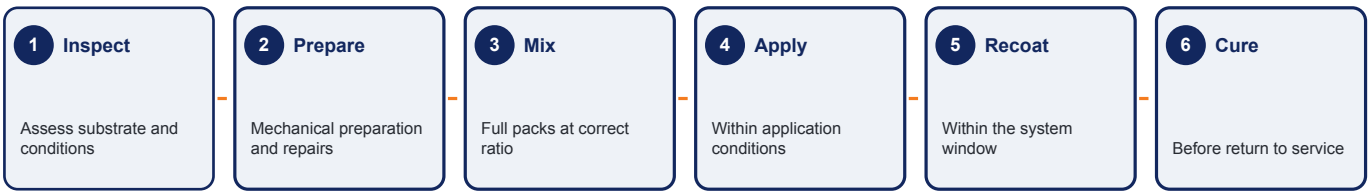


Figure 2 — Application workflow. Each stage is a hold point: confirm the previous stage is complete and within specification before proceeding.

Specify, apply and verify the system

05 RECOMMENDED SYSTEM

Low-odour floor system

1. Prime with Rayson PrimeBond AC130-W
2. Apply minimum 2 coats of Rayson TopShield PU440-W

Anti-slip system

1. Prime with Rayson PrimeBond AC130-W and broadcast fine aggregate into the wet primer
2. Sweep off excess after drying and seal with minimum 2 coats of Rayson TopShield PU440-W

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
- Performance data supported by laboratory testing
- Thin-film topcoat — apply minimum 2 coats over the primed system

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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