WATERPROOFING MEMBRANES

SealForce PU510-W

ONE-PART WATER-BASED POLYURETHANE-MODIFIED WATERPROOFING MEMBRANE

Rayson SealForce PU510-W is a one-part, water-based, polyurethane-modified waterproofing and sealing membrane, ready to use from the pail. Applied by roller or brush in two or more coats, it dries to a seamless, flexible green concealed membrane beneath tiles, screeds and renders in toilets, showers, bathrooms, balconies and other interior wet areas.

KEY PROPERTIES

- One-part and ready to use — no mixing, no dilution
- Elongation ≥150% and tensile strength ≥1.2 N/mm² (ASTM D412)
- Bridges 2 mm cracks; nil water penetration under pressure
- Retains ≥120% elongation after heat ageing and chemical immersion
- Water-based, non-flammable and low odour for occupied buildings
- Touch dry in under 60 minutes; ponding test after 24 hours
- Green film — coverage and missed spots show clearly on grey screed



Illustration — single pack. Pack size: see this data sheet.

MIX	COVERAGE	TOUCH DRY	RECOAT	PACK SIZE
Ready to use	**~0.56 kg/m²**	**< 60 min**	**1–2 h**	**20 kg**
one part, no dilution	per coat at 0.4 mm WFT	laboratory conditions	between coats	plastic pail

01 RECOMMENDED USES

- Concealed waterproofing of toilets, showers and bathrooms before tiling
- Terraces and balconies beneath screed and tile finishes
- Kitchens, laundries and all other interior wet areas
- Re-waterproofing of wet areas during renovation once finishes are removed

02 SUITABLE SUBSTRATES

- Concrete floors and walls at least 28 days old
- Cement-sand render and screed cured at least 7 days
- Existing concrete, degreased, pressure-washed and fully dried
- Substrates must be sound, dry and free of curing compounds and loose material

03 SYSTEM ROLE

PROTECTIVE SCREED, RENDER OR TILE BED	By others, after the ponding test
RAYSON SEALFORCE PU510-W — SECOND COAT	Min. 0.4 mm wet film
RAYSON SEALFORCE PU510-W — FIRST COAT	Min. 0.4 mm wet film
PREPARED CONCRETE OR RENDER SUBSTRATE	Sound, dry, dust-free

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, application conditions, film build and cure before the membrane is covered.

SOURCE TECHNICAL DATA

SURFACE PREPARATION	Structurally sound, dry and free of dust, grease, wax, oil, curing compounds and loose material. Remove loose mortar, plaster and any protrusion that could pierce the membrane; degrease and pressure-wash old concrete, then allow to dry fully. New concrete at least 28 days old; new render at least 7 days.
MIXING / DILUTION	One part — stir gently and apply straight from the pail. Do not dilute and do not add sand; both reduce flexibility and can cause cracking.
APPLICATION METHOD	Roller, brush.
COVERAGE	Approximately 0.56 kg/m² per coat at 0.4 mm wet film (about 1.8 m² per kg). A 20 kg pail covers about 36 m² per coat, or about 18 m² at two coats, subject to substrate condition.
APPLICATION CONDITIONS	Apply between 10 °C and 45 °C on a dry substrate. Do not use where negative hydrostatic pressure is evident. Provide falls so water cannot pond on the finished floor.

CONDITIONS, PACKAGING & STORAGE

DRYING & CURING	Touch dry under 60 minutes; first coat dry 1–2 hours; second coat about 4 hours, depending on temperature and humidity. Ponding test 24 hours after the final coat.
RECOAT INTERVAL	1–2 hours between coats.
FILM / THICKNESS	Minimum two coats at 0.4 mm wet film each; green film shows coverage and missed spots; a third coat where needed for a uniform, pinhole-free membrane.
PACK SIZES	20 kg plastic pail.
STORAGE	Original sealed packaging, dry, away from direct sunlight and frost.
SHELF LIFE	12 months from the date of production.
PERFORMANCE DATA	Tensile ≥1.2 N/mm², elongation ≥150% (ASTM D412); ≥1.0 N/mm² and ≥120% retained after 50 °C ageing or 72 h in 0.5% sodium hypochlorite, 1.25% ammonia or 3.7% hydrochloric acid. Adhesion ≥0.2 N/mm² after 3 days in water; crack bridging 2 mm, 10 cycles to 1 mm; Shore hardness ≥35 at 2 h (ASTM D2240); water penetration under pressure nil; density about 1.40 kg/L.

04 APPLICATION WORKFLOW

1 Inspect
Assess substrate and conditions

2 Prepare
Clean, dry and remove protrusions

3 Stir
Gently; no dilution, no sand

4 Apply
First coat at 0.4 mm wet film

5 Recoat
Second coat after 1–2 hours

6 Cure
Ponding test at 24 h, then protect

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

SITE VERIFICATION

Carry out a ponding test 24 hours after the final coat and make good any defect before the membrane is covered. Protect the cured membrane with screed, render or the tile bed — it is not designed for exposed or trafficked service.

05 RECOMMENDED SYSTEM

Toilet or bathroom waterproofing before tiling

1. Prepare, clean and dry the substrate; remove protrusions and loose material
2. Apply the first coat of Rayson SealForce PU510-W at 0.4 mm wet film; allow 1–2 hours
3. Apply the second coat at 0.4 mm wet film; add a third where pinholes remain
4. Ponding test after 24 hours, then protect with screed or render before tiling

Balcony or terrace beneath screed and tiles

1. Prepare the slab and correct the falls so water cannot pond
2. Apply two coats of Rayson SealForce PU510-W at 0.4 mm wet film each
3. Ponding test after 24 hours and make good any defect before covering
4. Lay the protective screed and tile finish

06 LIMITATIONS

- Concealed membrane — protect with screed, render or tiling after the ponding test; not for exposed or trafficked service
- Apply only between 10 °C and 45 °C on a dry substrate
- Not suitable where negative hydrostatic pressure is evident
- Do not dilute and do not add sand — both reduce flexibility and can cause cracking
- Provide falls to prevent ponding; ponding test 24 hours after the final coat
- Minimum two coats at 0.4 mm wet film each; a third coat may be needed for a pinhole-free film

07 HEALTH & SAFETY

Water-based, low-odour product — non-flammable. Wear gloves and eye protection; ensure reasonable ventilation. Avoid skin and eye contact; clean tools with water while wet. 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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