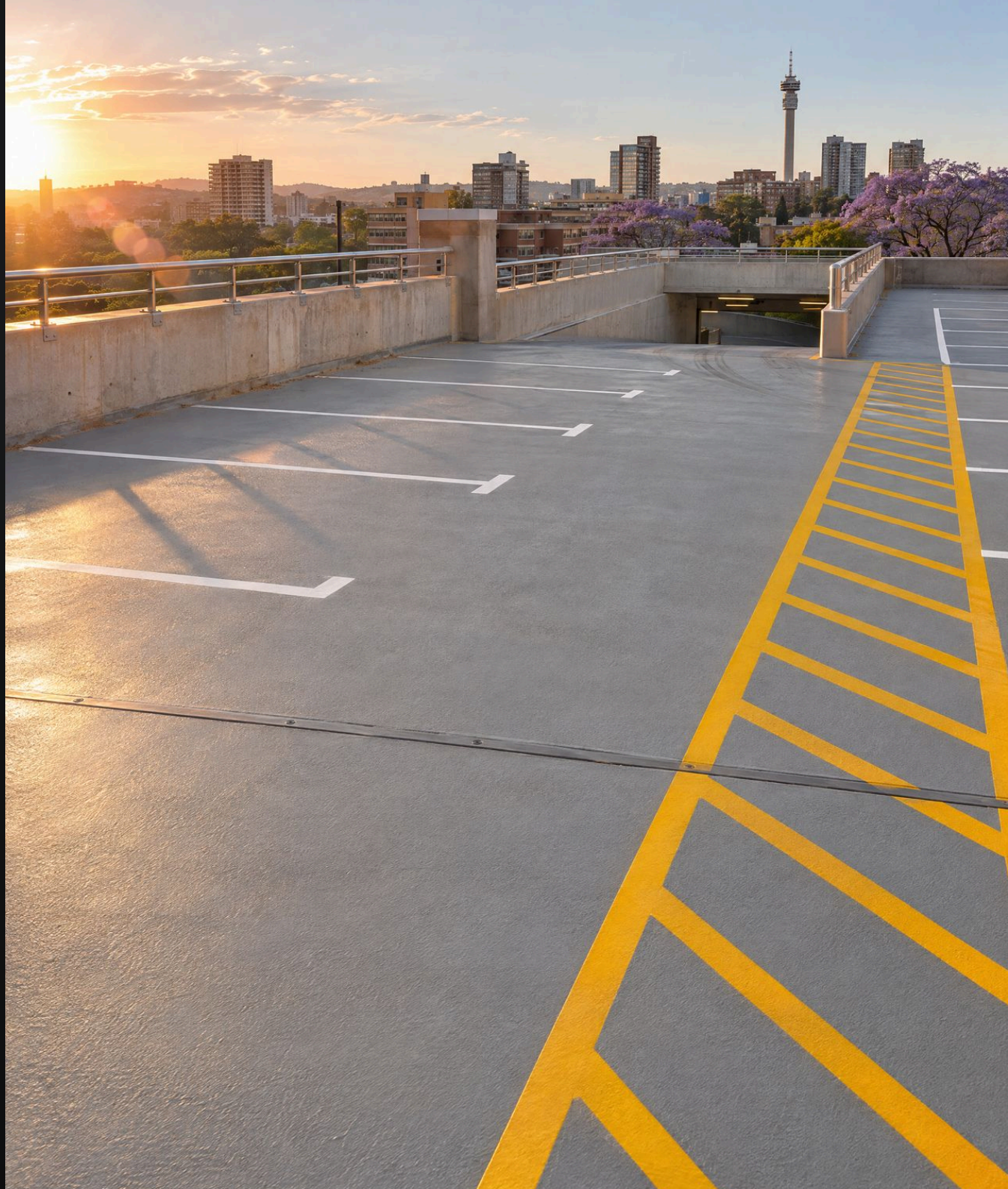
Parking Deck Solutions

Deck systems from primer to top coat for exposed decks, covered levels, ramps and refurbishment, on concrete or asphalt.

SPECIALIZED
COATING SYSTEMS



One supplier for the whole deck

A parking deck is a roof that cars drive on. It takes sun, rain, salts, fuel and the scrub of turning tyres, and it moves with every load and every change in temperature. Each system in this brochure is built for that: a primer chosen for concrete or asphalt, an elastic membrane or body coat, a wearing coat with grip and a UV-stable top coat, with the repair mortars, joint sealants and markings that go with them, from one manufacturer.



SPECIFIED, SUPPORTED, DOCUMENTED

01

System specification

The deck surveyed, a system chosen for each zone, and a written specification.

02

Technical documents

Data sheet, system sheet, method statement and quality control plan for every system.

03

Quantities

A bill of quantities taken from the drawings.

04

On site

Survey, trial area and inspection during the work.

THE PROBLEM

Why decks fail

Concrete protects its steel only while it stays dry and alkaline. Water carries chlorides from the street and the coast through cracks and joints to the reinforcement; the steel rusts, swells and spalls the concrete above it.

On asphalt, water that gets underneath softens the base and the surface breaks up into potholes.

Most deck failures start at a crack, a joint or a drain, long before the slab shows it.



Water and salts
Chlorides reach the steel through cracks and joints.



Sun and heat
UV breaks down coatings that are not UV stable; the top deck moves with every day and night.



Turning tyres
Braking and wheel scrub wear the surface on ramps and turns.



Oil, fuel and cleaners
Drips and wash-down soften coatings that do not resist them.



Movement
Joints and cracks open and close; a rigid coating cracks with them.



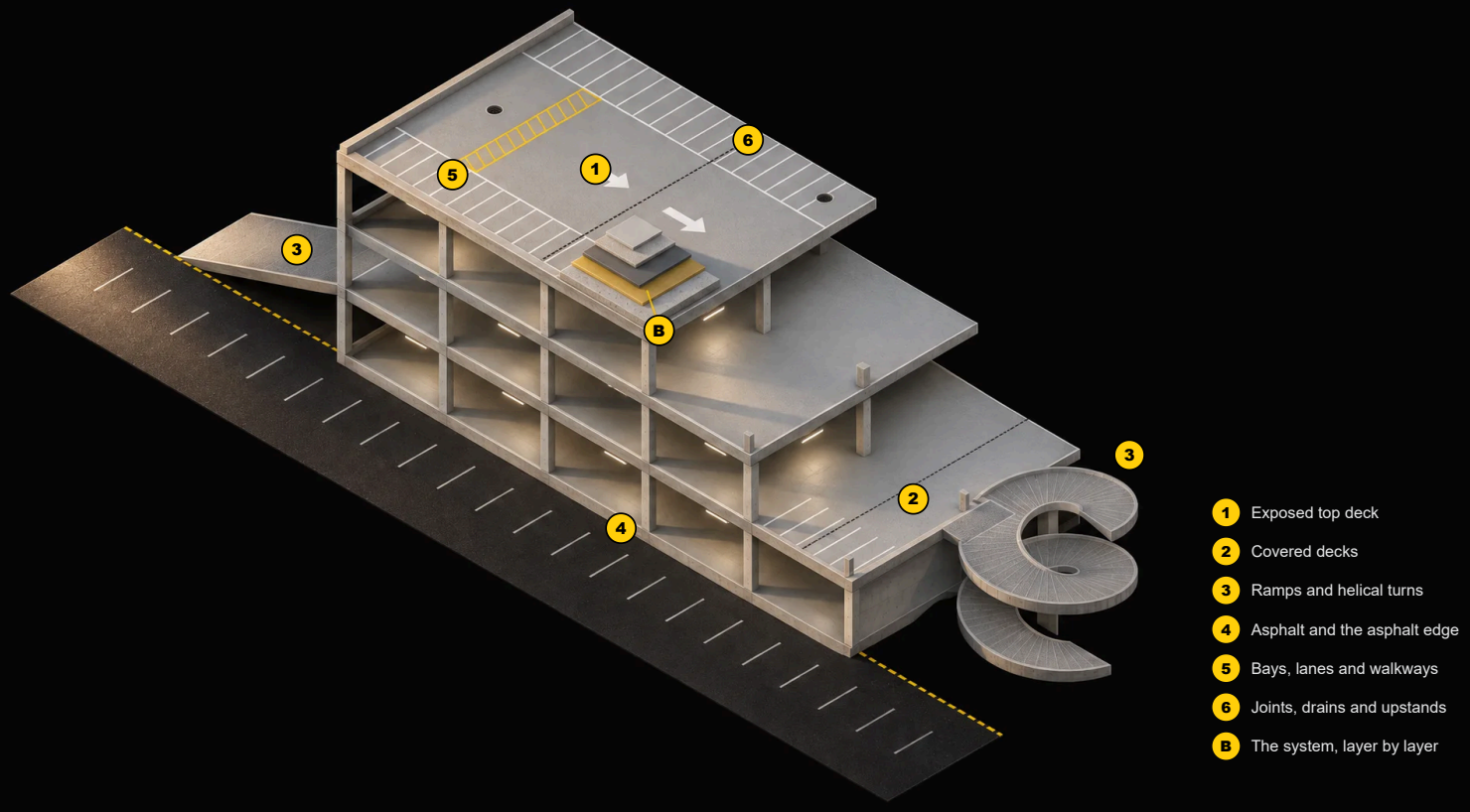
Water under asphalt
Trapped water softens the base and lifts the surface.

What a failing deck costs
Levels closed for repair, water leaking onto cars and shops below, and repairs that close the building again. The deck that costs least to keep is the one specified zone by zone from the start.

THE PARKING DECK

One structure, six zones

Each zone of a deck takes different traffic and weather, so each takes its own system.



#	Zone	Systems
1	Exposed top deck	01 · 02 · 03 · 04
2	Covered decks	01
3	Ramps and helical turns	01
4	Asphalt and the asphalt edge	01 · 02 · 03 · 04
5	Bays, lanes, walkways	Markings
6	Joints, drains, upstands	Details

What each zone faces

1 Exposed top deck

FACES

- Full sun and UV
- Day and night temperature swings
- Rain, ponding and hail
- Cracks that open and close

NEEDS

Stays elastic, bridges cracks, keeps its colour in the sun.

2 Covered decks

FACES

- Water and grit carried in on tyres
- Oil and fuel drips
- Constant wear
- Salt air and condensation

NEEDS

Hard-wearing, grippy, easy to clean. The membrane only where crack bridging is required.

3 Ramps and helical turns

FACES

- Turning, braking and wheel scrub
- Wet tyres from the street
- The steepest falls on the deck

NEEDS

Two wearing coats and the most grip; no membrane on a slope.

4 Asphalt and the asphalt edge

FACES

- Softens in the heat
- Water trapped underneath
- Potholes and loose edges
- Movement where it meets concrete

NEEDS

The right primer, sound edges, a sealed joint.

5 Bays, lanes and walkways

FACES

- People on foot
- Wet shoes and low light
- Cars reversing

NEEDS

Grip and visibility; markings that bond to the top coat.

6 Joints, drains and upstands

FACES

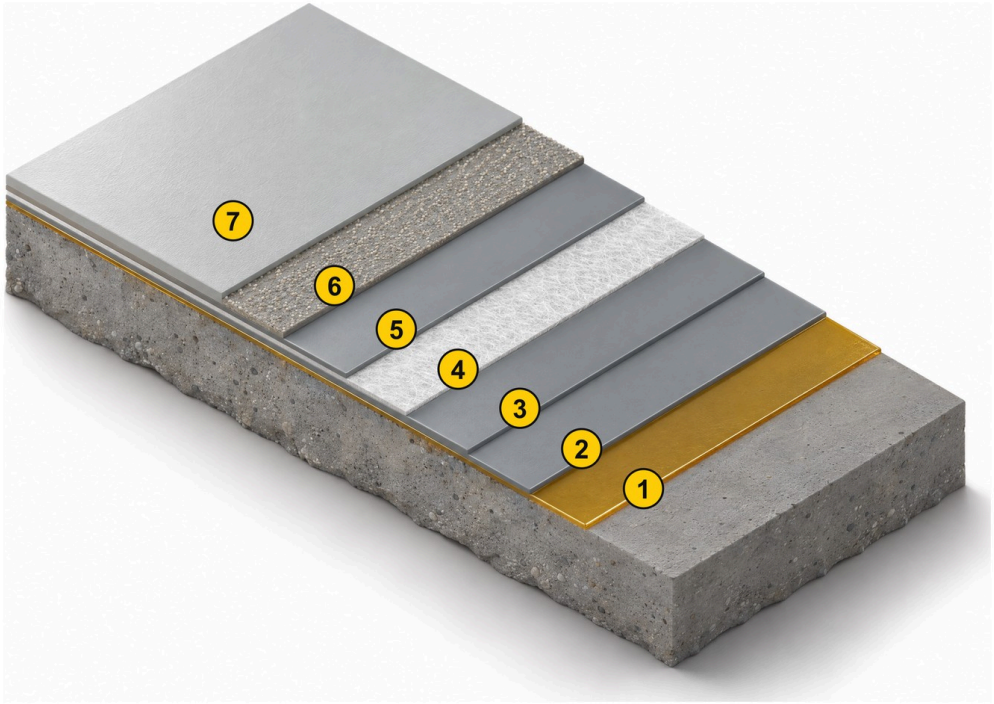
- Movement at joints and cracks
- Standing water
- Slab edges: the usual path for a leak

NEEDS

Sealed and reinforced before the membrane goes on.

THE SHORT VERSION

How a deck system works



1. **Preparation and primer**
   Blasting or grinding opens the surface; the primer for concrete or asphalt seals its porosity and bonds the system.
2. **Membrane, base coat**
   The first coat of the seamless, elastic membrane, left to cure.
3. **Membrane, embedment coat**
   The second coat, into which the reinforcement is laid.
4. **Reinforcement**
   A needle-punched polyester fleece, rolled into the wet coat so it sits in the middle of the membrane.
5. **Membrane, cover coat**
   A plain coat that saturates and covers the fleece; no aggregate.
6. **Wearing coat with broadcast**
   A filled coat with silica quartz broadcast to refusal: the grip and the wear.
7. **Top coat**
   A UV-stable coat in two layers that seals the texture and carries the colour.

Crack bridging
The coating stays whole while a crack beneath it opens and closes.

Return to traffic
The time after the last coat before vehicles may drive on the deck.

Slip resistance
The grip of the finished surface, set by the aggregate and the top coat.

NEW BUILD: START WITH THE SLAB

01 Survey	02 Repair	03 Joints, drains	04 Primer	05 System	06 Markings
Cores, moisture, cracks, falls	Spalls, potholes, cracks	Sealed and banded	For concrete or asphalt	Membrane to top coat	Bays, lanes, walkways

CHOOSE YOUR SYSTEM

Which system, where

Zone	01 PUMMA Deck System	02 Polyurethane Deck System	03 Polyurea Deck System, cold cure	04 Polyurea Deck System, hot spray
Exposed top deck	●	●	●	●
Covered decks	●	○	○	○
Ramps and helical turns	●	(?)	(?)	(?)
Heavy duty and loading	●	(?)	(?)	(?)
Under hot asphalt	●	–	–	–
SUBSTRATE: THE PRIMER CHANGES, THE LAYERS ABOVE STAY THE SAME				
On concrete	●	●	●	●
On asphalt	●	●	●	●
Chemistry	**Polyurethane methacrylate (PUMMA), fabric reinforced**	**Polyurethane, fabric reinforced**	**Polyurea, hand applied, fabric reinforced**	**Pure polyurea, hot sprayed**
Total build	**About 3.5 mm**	**About 2.2 mm**	**About 2.2 mm**	**About 3.2 mm**
Hardening	**About 45 min a coat at 20 °C**	**Hard dry 16 h at 25 °C**	**Tack free 12 h at 25 °C**	**Tack free 5 min at 25 °C**

● designed for it · ○ suitable, often in a variant · – not for this zone · Totals by calculation from the system and data sheets, broadcast not counted.

KNOW THE SUBSTRATE

Concrete or asphalt





	Concrete	Asphalt
What it is	A rigid slab with steel reinforcement	Stone bound with bitumen: flexible
How it moves	Cracks open and close with heat and load	Deforms under load, softens in the heat
What goes wrong	Water and salts reach the steel; the concrete spalls	Water gets underneath; potholes, ravelling, loose edges
Check before coating	Age, moisture, laitance, cracks, chlorides and pull-off strength, to the system data sheet	Age, soft spots, bond to the base, bitumen at the surface, drainage
Preparation	Shot-blast or grind; open and fill cracks; repair spalls	Clean; cut out and repair potholes; make the edges sound
Primer	Named on each system page: “Primer on concrete”	Named on each system page: “Primer on asphalt”

REPAIR MATERIALS

Repair	Concrete	Asphalt
Spalls, potholes, edges	SpecFloor® MMA Repair Mortar Feather Edge, Medium Duty or Heavy Duty, by depth	PLASTILINE® MMA Pothole Repair Mortar
Cracks	SpecFloor® MMA Concrete Crack Sealer, hairline cracks	JointSeal® PUMMA Pourable or PlastiSeal PUMMA Paste Sealant
Where the two meet	Detail on page 14	Detail on page 14

ONE SYSTEM, TWO SUBSTRATES: THE PRIMER CHANGES, THE LAYERS ABOVE STAY THE SAME

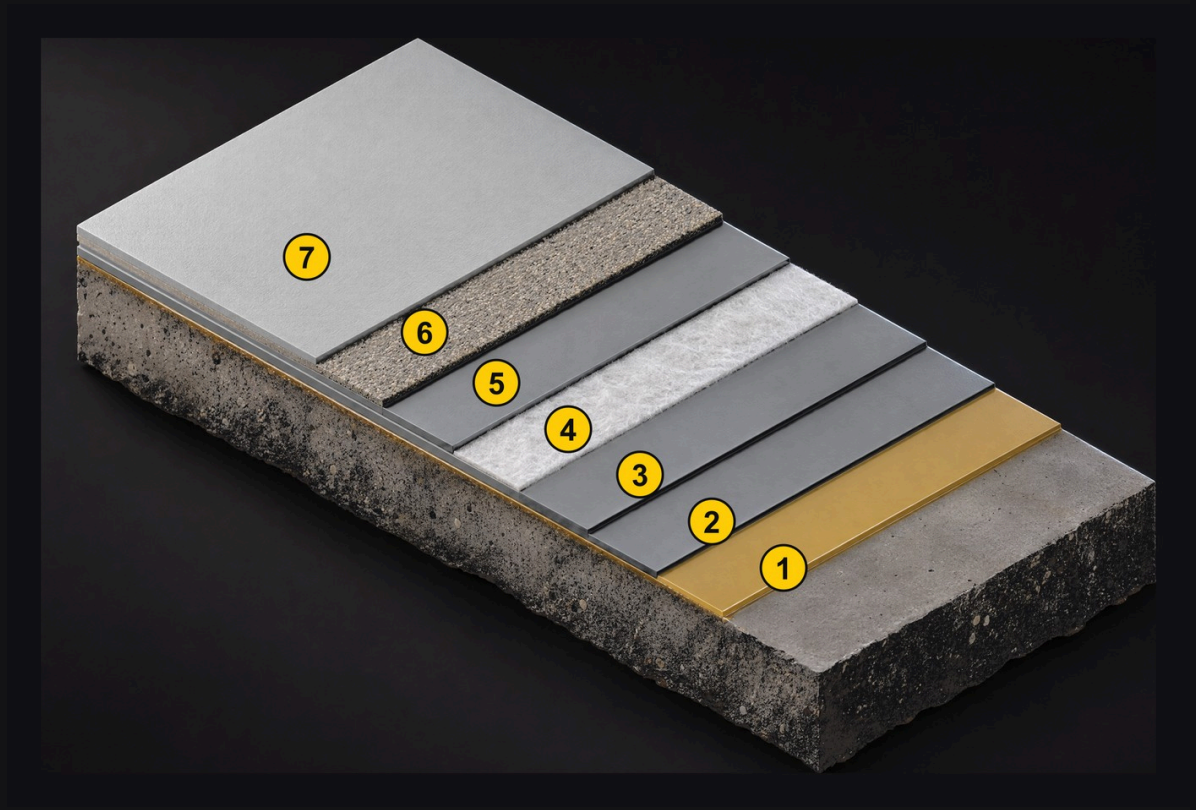
Primer	Concrete	Asphalt
01 PUMMA	SpecFloor MMA Concrete Primer MV on porous concrete, LV on dense concrete	No primer: the membrane goes straight onto clean, sound asphalt
02, 03, 04	Epoxy WB Concrete Primer Clear, two thin coats to seal the porosity	2K PU SF Primer Clear

PUMMA Deck System

01

WP-H-PD-01 — POLYURETHANE METHACRYLATE DECK MEMBRANE, FABRIC REINFORCED

SYSTEM BUILD



1. SpecFloor MMA Concrete Primer MV or LV
2. PlastiSeal PUMMA EWM SL, base coat
3. PlastiSeal PUMMA EWM SL, embedment coat
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM
5. PlastiSeal PUMMA EWM SL, cover coat
6. PlastiSeal PUMMA WC HD with Silica Quartz SQ 2 (0.6 to 1.5 mm) broadcast
7. PlastiSeal PUMMA Topcoat × 2

TOTAL NOMINAL BUILD ---------- **About 3.5 mm**

DESCRIPTION

A self-levelling polyurethane methacrylate membrane of 1.5 to 2 mm in three coats, a needle-punched polyester fleece in the middle coat, bridges cracks down to −30 °C. A wearing coat with silica quartz broadcast and a pigmented top coat in two coats take the traffic; a second wearing coat for severe traffic. Solvent free, 100 % solids.

- Elastic to −30 °C
- Fabric reinforced
- About 45 min a coat
- UV-resistant top coat

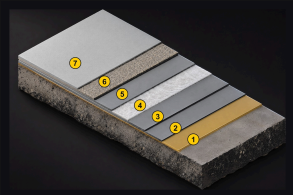
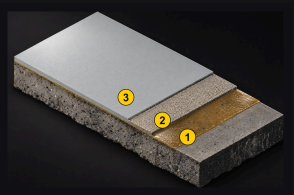
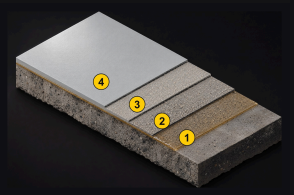
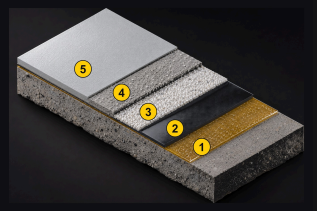
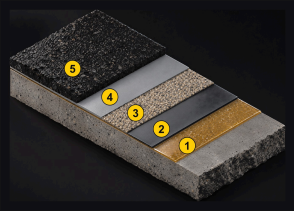
WHERE IT IS USED

- Exposed top decks and podium decks
- Covered decks where crack bridging is required
- Ramps that carry many cracks

AT A GLANCE

System sheet	**WP-H-PD-01**
Membrane	**1.5 to 2 mm in three coats**
Hardened	**About 45 min a coat at 20 °C**
Primer on concrete	**SpecFloor MMA Concrete Primer MV or LV**
Primer on asphalt	**None: straight onto asphalt**

The PUMMA builds side by side

	Top deck	Covered deck	Ramps	WP-H-HD-01	WP-H-HD-02	WP-H-AO-01
Use	Exposed top decks, podium decks	Covered decks between floors	Ramps, helical turns, driving lanes	Loading bays, dumpster and storage areas	Mining trucks and high impact	Decks under hot asphalt
Primer	SpecFloor MMA Concrete Primer MV or LV	SpecFloor MMA Concrete Primer MV or LV	SpecFloor MMA Concrete Primer MV or LV	SpecFloor MMA Concrete Primer MV, quartz SQ2	SpecFloor MMA Concrete Primer MV, quartz SQ2	SpecFloor MMA Concrete Primer MV, quartz SQ2
Membrane	PlastiSeal PUMMA EWM SL, three coats, 1.5 to 2 mm	Only where crack bridging is required: as the top deck	Only where the surface carries many cracks	PlastiSeal PUMMA EWM SL, 2 mm	PlastiSeal PUMMA EWM SL, 2 mm	PlastiSeal PUMMA EWM SL, 2 mm
Reinforcement	LEAKSEAL® PES Reinforcing Fabric 120 GSM in the middle coat	With the membrane	With the membrane	–	–	–
Broadcast	Silica Quartz SQ 2, 0.6 to 1.5 mm, to refusal	Silica Quartz SQ 2, 0.6 to 1.5 mm, to refusal	Silica Quartz SQ 2, 0.6 to 1.5 mm, to refusal	Marble chips 1.1 mm, to refusal	Bauxite or aluminium oxide 1 to 3 mm	Silica quartz 1 to 3 mm, 1 kg/m²
Wearing coat	PlastiSeal PUMMA WC HD, 1 mm; two coats for severe traffic	PlastiSeal PUMMA WC HD, 1 mm	PlastiSeal PUMMA WC HD, two coats	PlastiSeal PUMMA WC HD, 2.4 mm	PlastiSeal PUMMA WC VHD, 4 mm	–
Top coat	PlastiSeal PUMMA Topcoat, 2 × 0.4 mm	2 × 0.4 mm, in colour	2 × 0.4 mm, in colour	2 × 0.4 mm, in colour	2 × 0.6 mm, in colour	0.5 mm
To traffic	About 45 min a coat at 20 °C	About 45 min a coat at 20 °C	About 45 min a coat at 20 °C	About 60 min after the last top coat	About 60 min after the last top coat	Hot asphalt laid on top
Total build	**About 3.5 mm**	**About 2 mm**	**About 3 mm**	**5.7 mm**	**7.7 mm**	**3 mm**

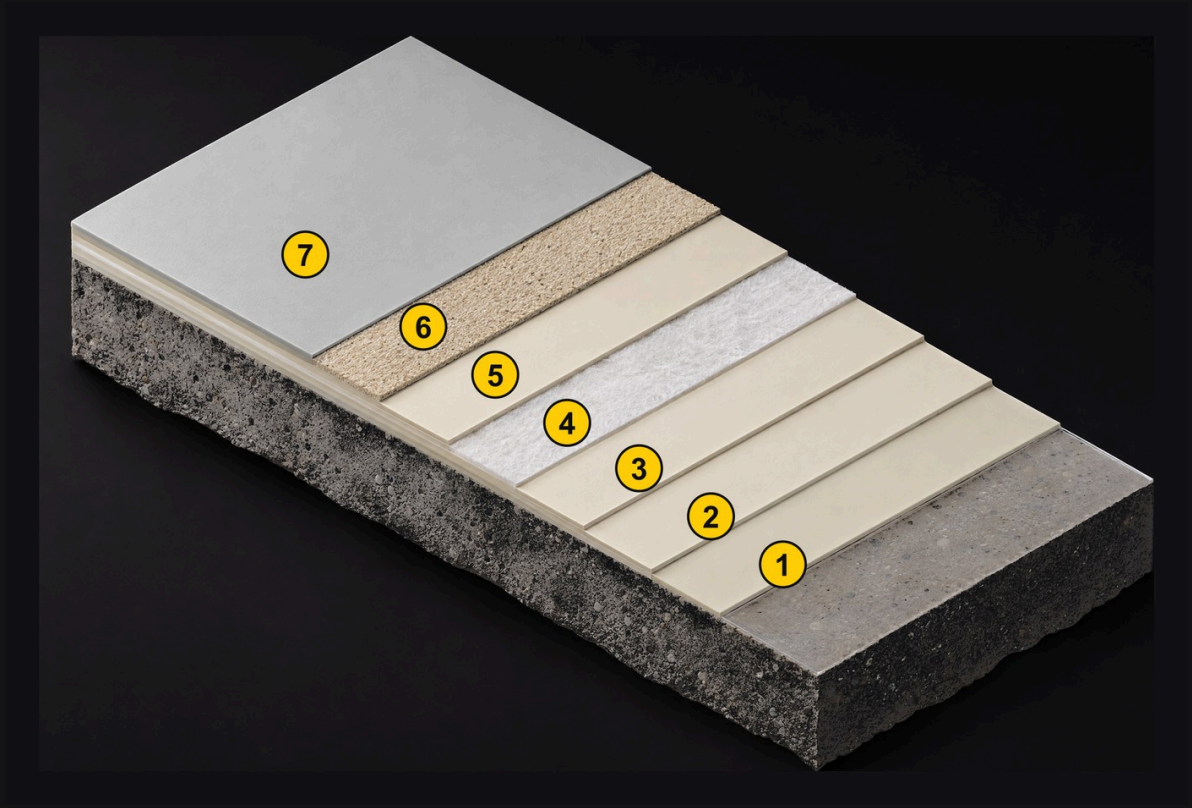
Totals by calculation; the broadcast is not counted. Times at 20 °C. Membrane coats are left to cure before the next goes on.

Reinforced Polyurethane Deck System

02

WP-H-PD-02 — POLYURETHANE MEMBRANE, FABRIC REINFORCED

SYSTEM BUILD



1. Epoxy WB Concrete Primer Clear, two thin coats (2K PU SF Primer Clear on asphalt)
2. LEAKSEAL® POLYURETHANE 2K SF Base Layer, base coat
3. Base Layer, embedment coat
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM
5. Base Layer, cover coat
6. Base Layer, wearing coat with Silica Quartz SQ 2 (0.6 to 1.5 mm) broadcast
7. LEAKSEAL® POLYURETHANE 2K SB UV × 2

TOTAL NOMINAL BUILD ---------- **About 2.2 mm**

DESCRIPTION

A solvent-free polyurethane membrane in four coats of 500 µm, a needle-punched polyester fleece in the second, bridges cracks over concrete and asphalt alike. Silica quartz in the fourth coat gives the grip; two coats of matt aliphatic top coat keep it UV stable.

- **Fabric reinforced**
- **Crack bridging**
- **Non-yellowing top coat**
- **Seamless, fully bonded**

WHERE IT IS USED

- **Exposed top decks and podium decks**
- **Covered decks**
- **Concrete and asphalt on one deck**

AT A GLANCE

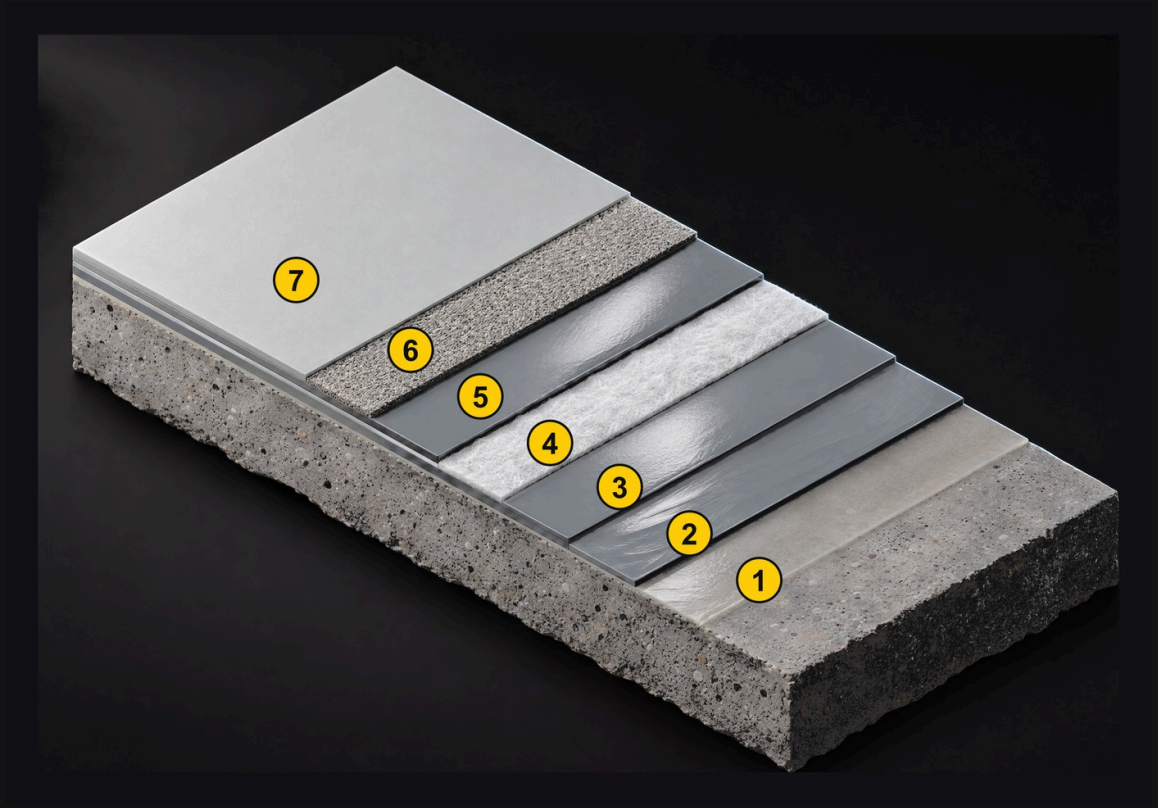
Membrane	**4 × 500 µm**
Top coat	**2 × 100 µm, matt**
Hard dry	**16 h at 25 °C**
Primer on concrete	**Epoxy WB Concrete Primer Clear, two coats**
Primer on asphalt	**2K PU SF Primer Clear**

Polyurea Deck System, cold cure

03

ARMOURCOAT POLYUREA HYBRID SOFT FLEXIBLE SF SLOW SET — HAND APPLIED, FABRIC REINFORCED

SYSTEM BUILD



1. Epoxy WB Concrete Primer Clear, two thin coats (2K PU SF Primer Clear on asphalt)
2. ArmourCoat Polyurea HYBRID Soft Flexible SF Slow Set, base coat
3. Slow Set, embedment coat
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM
5. Slow Set, cover coat
6. Slow Set, wearing coat with Silica Quartz SQ 2 (0.6 to 1.5 mm) broadcast
7. LEAKSEAL® POLYURETHANE 2K SB UV × 2

TOTAL NOMINAL BUILD ---------- **About 2.2 mm**

DESCRIPTION

A two-component, solvent-free, elasticised polyurea by trowel, roller, squeegee or airless spray, no reactor, in four coats of 500 µm with a polyester fleece in the second; it cures in under two hours to a seamless membrane. Silica quartz in the fourth coat gives the grip; two coats of matt aliphatic top coat keep it UV stable.

- Hand applied, no reactor
- Fabric reinforced
- Cures in under 2 h
- UV-stable top coat

WHERE IT IS USED

- Exposed top decks
- Decks where a spray reactor cannot be used
- Concrete and asphalt on one deck

AT A GLANCE

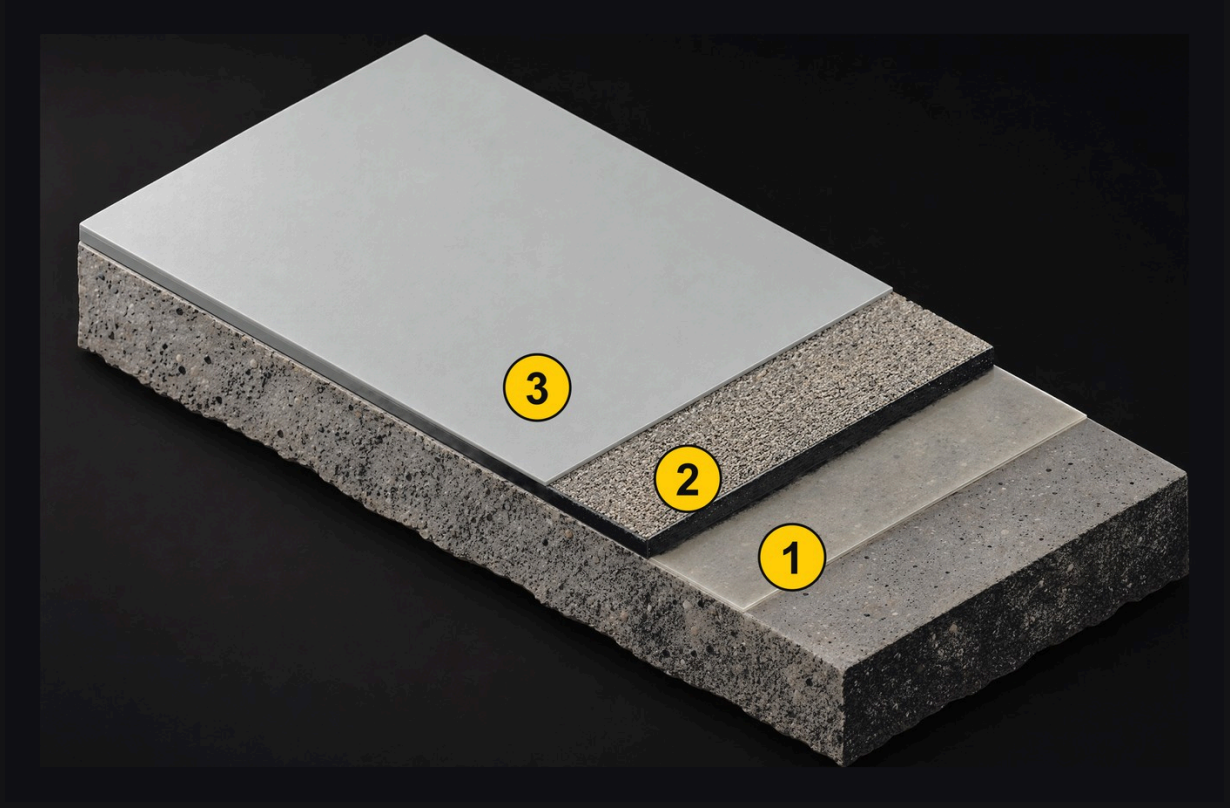
Membrane	**4 × 500 µm**
Pot life	**90 to 120 min at 25 °C**
Tack free	**12 h at 25 °C**
Primer on concrete	**Epoxy WB Concrete Primer Clear, two coats**
Primer on asphalt	**2K PU SF Primer Clear**

Polyurea Deck System, hot spray

04

ARMOURCOAT POLYUREA PURE HIGH STRENGTH — HOT-SPRAYED PURE POLYUREA

SYSTEM BUILD



1. Epoxy WB Concrete Primer Clear, two thin coats (2K PU SF Primer Clear on asphalt)
2. ArmourCoat Polyurea PURE High Strength, sprayed 1 : 1, with Silica Quartz SQ 2 (0.6 to 1.5 mm) broadcast
3. LEAKSEAL® POLYURETHANE 2K SB UV × 2

TOTAL NOMINAL BUILD ---------- **About 3.2 mm**

DESCRIPTION

A 100 % solids pure polyurea sprayed in one pass through a heated plural-component reactor: it gels in 20 seconds and is tack free in 5 minutes. A seamless 3 mm membrane with silica quartz broadcast into its surface for grip, sealed with two coats of matt aliphatic top coat. No reinforcement.

- Sprayed, seamless
- Tack free in 5 min
- High strength
- UV-stable top coat

WHERE IT IS USED

- Exposed top decks
- Decks that must return to traffic fast
- Large areas with a reactor on site

AT A GLANCE

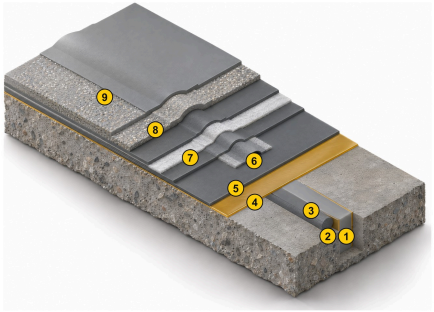
Membrane	**3 mm in one pass**
Gel time	**20 s at 25 °C**
Tack free	**5 min at 25 °C**
Primer on concrete	**Epoxy WB Concrete Primer Clear, two coats**
Primer on asphalt	**2K PU SF Primer Clear**

BEFORE THE MEMBRANE

Joints, drains and upstands

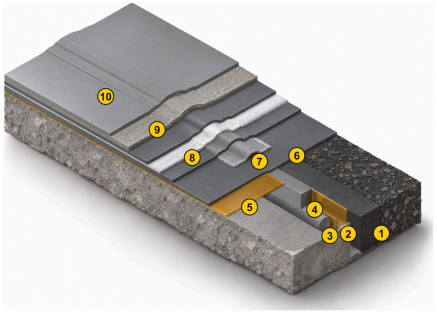
Ask about a deck survey. Cores, moisture, cracks, joints and falls are read before a system is specified: the best system on a wet or moving slab still fails.

Every detail is done and cured before the field membrane goes on. Drawn with the PUMMA Deck System; the polyurethane and polyurea systems take the same details with their own membrane, the PUMMA flashing and the bandage serve all four. Not to scale; the numbers follow the order of work. Sizes come from the project specification.



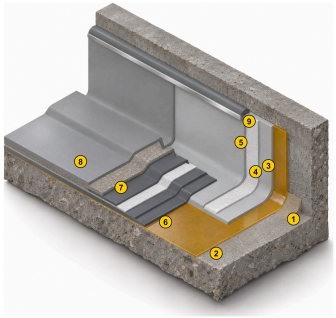
01 · Movement and construction joint

1. SpecFloor MMA Concrete Primer LV on the joint faces
2. JointSeal® Cord, compressed, its top at the fill depth
3. JointSeal® PUMMA Pourable F, flush, two-sided adhesion
4. SpecFloor MMA Concrete Primer MV or LV
5. PlastiSeal PUMMA EWM SL, base coat
6. LEAKSEAL® TPE PES Flex Waterproofing Bandage, slack loop
7. EWM SL coats with LEAKSEAL® PES Reinforcing Fabric 120 GSM
8. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
9. PlastiSeal PUMMA Topcoat × 2



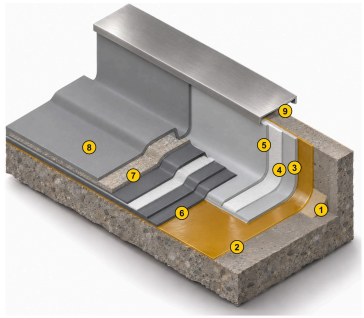
02 · Tarmac-to-concrete interface joint

1. Edges rebuilt in MMA repair mortar, joint saw-cut 15 to 20 mm
2. SpecFloor MMA Concrete Primer LV on the joint faces
3. JointSeal® Cord, compressed, its top at the fill depth
4. JointSeal® PUMMA Pourable F, flush, two-sided adhesion
5. SpecFloor MMA Concrete Primer MV or LV, concrete side only
6. PlastiSeal PUMMA EWM SL, base coat, across both
7. LEAKSEAL® TPE PES Flex Waterproofing Bandage, slack loop
8. EWM SL coats with LEAKSEAL® PES Reinforcing Fabric 120 GSM
9. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
10. PlastiSeal PUMMA Topcoat × 2



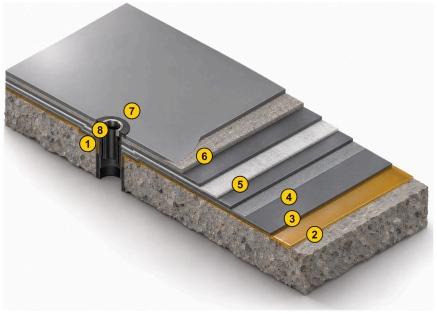
03 · Upstand, kerb and column base

1. SurfaceReady Cement Mortar Flexi Kit cove, before priming
2. SpecFloor MMA Concrete Primer MV or LV, slab, cove and wall
3. PlastiSeal PUMMA EWM Flashing, first coat, 150 mm up
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM in the flashing
5. PlastiSeal PUMMA EWM Flashing, second coat
6. PlastiSeal PUMMA EWM SL coats with the fabric, over the flange
7. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
8. PlastiSeal PUMMA Topcoat × 2, deck and flashing
9. Termination bar at 150 mm, sealant bead over the edge



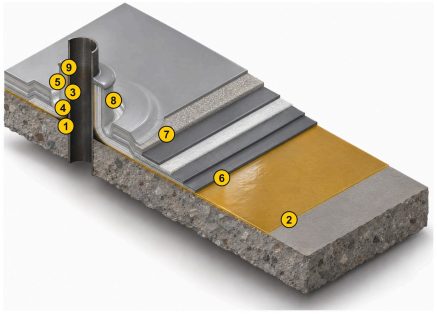
04 · Deck edge and parapet

1. SurfaceReady Cement Mortar Flexi Kit cove, before priming
2. SpecFloor MMA Concrete Primer MV or LV, slab, cove and parapet
3. PlastiSeal PUMMA EWM Flashing, first coat, up and over
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM in the flashing
5. PlastiSeal PUMMA EWM Flashing, second coat
6. PlastiSeal PUMMA EWM SL coats with the fabric, over the flange
7. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
8. PlastiSeal PUMMA Topcoat × 2, deck and parapet
9. Capping over the parapet, drip edge each side



05 · Drain outlet

1. Liquid Straight Telescopic Drain, flange below finished level
2. SpecFloor MMA Concrete Primer MV or LV
3. PlastiSeal PUMMA EWM SL, base coat, into the drain
4. The drain's fibreglass mesh sheet, pressed into the wet coat
5. EWM SL coats with LEAKSEAL® PES Reinforcing Fabric 120 GSM
6. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
7. PlastiSeal PUMMA Topcoat × 2
8. Telescopic extension, valve and stainless steel grating



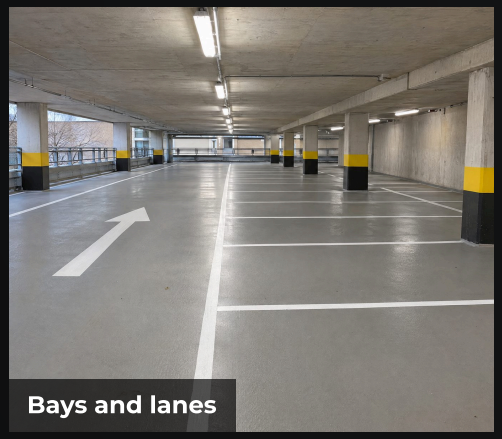
06 · Pipe and post penetration

1. PlastiSeal® PUMMA Paste Sealant fillet
2. SpecFloor MMA Concrete Primer MV or LV, slab and pipe
3. PlastiSeal PUMMA EWM Flashing, first coat, 150 mm up the pipe
4. LEAKSEAL® PES Reinforcing Fabric 120 GSM in the flashing
5. PlastiSeal PUMMA EWM Flashing, second coat
6. PlastiSeal PUMMA EWM SL coats with the fabric, over the flange
7. PlastiSeal PUMMA WC HD, Silica Quartz SQ 2 broadcast
8. PlastiSeal PUMMA Topcoat × 2, deck and pipe
9. Sealant bead at the top edge

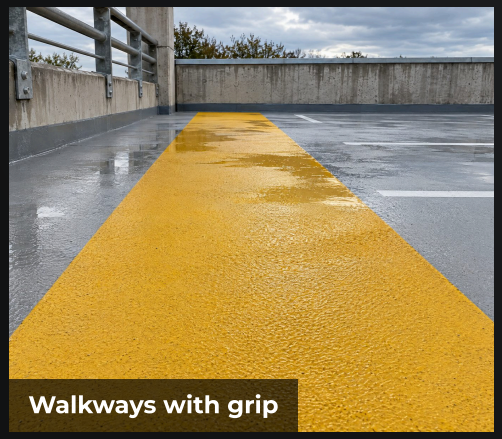
FINISH THE DECK

Markings and safety

Bay lines, lane arrows, walkways with grip, symbols and bollards finish the deck. FASTLINE® 80 Polyaspartic Coating is the line marking over every top coat in this brochure.



Bays and lanes



Walkways with grip



Symbols



Bollards

The full range of markings, walkways, symbols, wayfinding and bollards is in the **Car Parking Solutions** brochure.

FOR OWNERS AND FACILITY MANAGERS

Looking after a deck

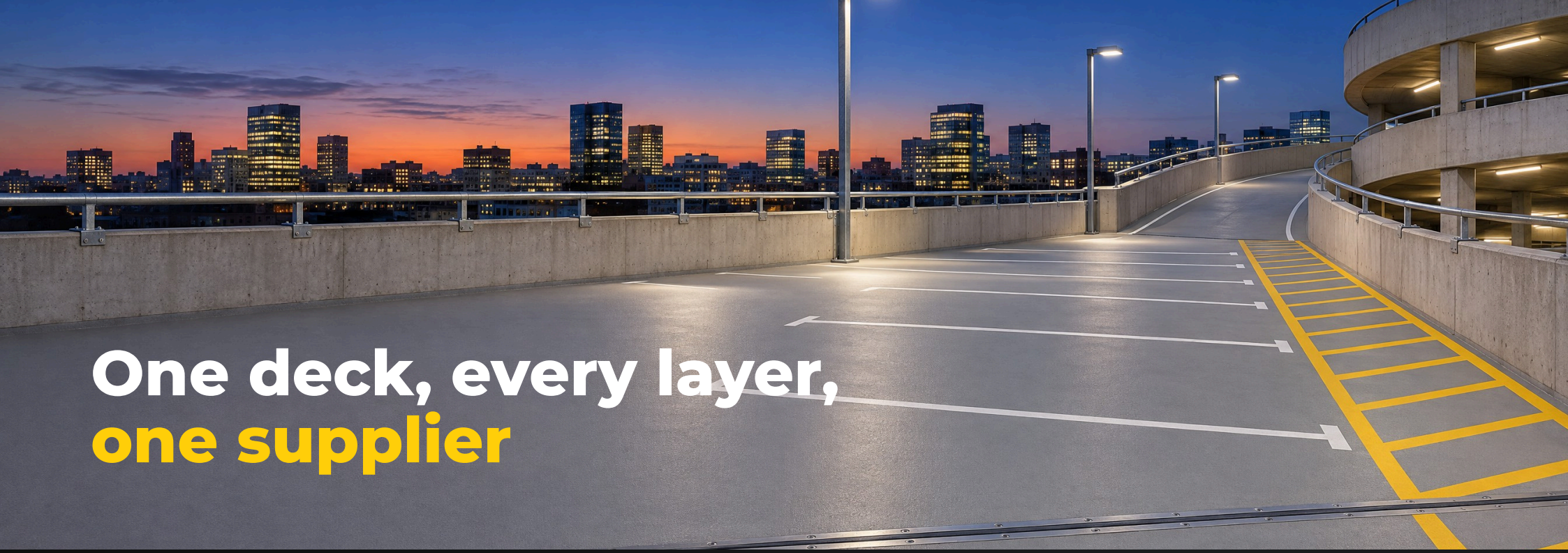
A coated deck stays sealed when it is cleaned, inspected and repaired before damage spreads.

01 · CLEAN
Sweep and wash down regularly; clean up oil and fuel spills as they happen.

02 · INSPECT
Walk the deck at set intervals: joints, drains, upstands, ramps, turning areas and markings.

03 · REPAIR
Cut out and patch small damage with the system's own products before water gets in.

04 · RE-COAT
When the top coat wears, clean and key it and re-coat with the same top coat.



One deck, every layer, one supplier

SPECIALIZED COATING SYSTEMS

Diversity
Coatings for every layer of the deck

Simplicity
Straightforward systems

GET IN TOUCH

National call centre	**086 137 2468**
From outside South Africa	**+27 11 552 0300**
E-mail	**enquiries@speccoats.co.za**
Website	**www.speccoats.co.za**

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