

TUFFLON-P90

TECHNICAL DATA SHEET



DESCRIPTION & SPECIFICATION

DESCRIPTION	Pure polyurea, spray applied, rapid-set, thick-film elastomeric protective coating for steel and concrete.	
FEATURES	<ul style="list-style-type: none"> Tufflon-P90 has been tested to: - "AS/NZS 4020:2005 - Testing of Products for use in contact with Drinking Water" when exposed at area to volume ratios up to 5,000 mm²/L. Good adhesion, abrasion and impact resistance ensures long service life. Prevents corrosion Remains permanently elastomeric. Will not crack or peel. 	
COLOUR	Supplied in natural colour. Can be coloured.	
FINISH	Either gloss or non-slip.	
PRIMERS	Concrete - Prime with Aralox. Steel - Use with or without primer.	
DRY FILM	High Abrasion Resistance	> 5mm
THICKNESS	Protective Coating	> 3mm
RECOMMENDATION	Tanking Potable Water	> 3mm
	Waterproofing	> 2mm
	Corrosion & Chemical	> 3mm
SOLIDS CONTENT	100%	
VOC VALUES	Zero	
COVERAGE RATE	Use 1L/sqm for every 1mm thickness. 3mm thickness will require 3L/sqm (1L =1.05kg)	
APPROVALS	Made in Australia under ISO9001	
LIMITATIONS	Some discolouration and surface chalking may occur overtime. These cosmetic changes will not affect the long term physical properties of the system. CAUTION: Ensure P90 is applied with as uniform thickness as possible. Having very thick sections can lead to the product cracking in cold weather within the first 24 hours. Full cure is achieved after 7 days.	

TYPICAL USES

- Lining potable water reservoirs.
- Sewerage and water assets – protect surfaces against chemical attack and abrasion–50 year service life
- Heavy vehicle tipper, rail car and marine lining – resists abrasion, corrosion and impact.

TYPICAL WET PROPERTIES

PROPERTY	PART A	PART B
Density Part (kg/L)	1.11	1.00
Viscosity Part (Cps@25oC)	680 - 750	720 - 800
Pack Size (steel drums)	225kg	200kg

TYPICAL CURED PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	RESULTS
Mix Ratio (v/v)		1:1
Hardness - Shore A	ASTM D 2240-91 Shore A	90
Hardness - Shore D	ASTM D 2240-91 Shore D	45
Elongation at 24°C	ASTM D412 06ae2	430%
Abrasion Resistance	ASTM c501-84, H18 wheel @ 1000rpm with 1000g weight	58
Tensile Strength	ASTM D412-92	16.0 MPa
Tear Strength	ASTM D412-92	98 N.mm
Solids (100%)		100
Flash Point	Pensky Martens	>149°C
Theoretical Coverage		1mm/m ² /litre
Early Fire Hazard	AS1530 Part 3 (1989)	2mm sample
Properties	Ignitability Index (0-20) Spread of Flame Index (0-10) Heat Evolved Index (0-10) Smoke Developed Index (0-10) ASTM D 1692-68	16 8-9 9-10 7 Self Extinguish
Suitability for use with drinking water	AS 4020-2006	Passes all requirements at 7500mm ² per litre
Cathodic Disbondment with 3mm thick coating	ASTM G8-90 Method B using an impressed current	Rating D

SURFACE PREPARATION

- **Concrete** - Prepare, profile and clean using industry standard techniques. Prime with Aralox or approved alternative. Apply P90 to specified thickness
- **Steel** - Prepare, profile and clean using industry standard techniques. For best results apply P90 directly to freshly blasted steel. Otherwise use an approved holding primer.
- **Geofabric** – Apply Tufflon directly at required thickness. Attach Geofabric to allow for 1.2% shrinkage of the system.
- **Other Substrates** - P90 adheres strongly to most surfaces except HDPE or similar.

Recoat - If within 30 minutes, minimal preparation is required. If greater than 30 minutes, mechanically abrade, clean and mask off to avoid overspray on previously coated areas. (Refer to "Preparation of Concrete and Steel Substrates prior to application of Tufflon Polyurea".)

CURING SCHEDULE

• Gel Time	8 seconds
• Tack Free Time	60 Seconds
• May Be Walked On	15 minutes
• Cure Time	24 hours
• Expose To Water	24 hours
• Full Cure Time	7 days

STORAGE & HANDLING

Storage Conditions

Keep drums under cover. Part drums should be topped up with nitrogen and sealed well prior to storage. Apply Fusion grease to all parts, fittings and threads of A (Iso) side..

Refer to the MSDS (Material Safety Data Sheet) for Tufflon-P90.

SPRAY PARAMETERS

- Applicator must be approved by supplier.
- Read Tufflon-P90 TDS and MSDS and Graco Spray Equipment Operation Manuals prior to use.
- Add colour slowly to Part B while stirring (avoid air entrapment).
- In cold weather use Graco T2 drum transfer pumps.
- Use Graco Reactor, plural-component, heated, high pressure, impingement mix and airless spray equipment.
- Mix ratio A:B = 1:1
- Working pressure at gun = 2,000-2,500psi
- Temperature at gun = 65°C
- Use correct mix chamber in gun to suit conditions.
- Ensure air pressure does not drop below 90psi during operation.
- Prior to start verify correct equipment operation by spraying sample onto cardboard or similar.
- If gun gets cold due to inactivity, spray off the job until heated product comes through mix chamber.
- If fluid pressure difference between A and B exceeds 10%, stop spraying. Check strainers or mix chamber.
- Build to specified thickness in several quick overlapping passes. Keep gun vertical to surface. On large areas minimise triggering the gun on and off to avoid fatigue.
- If part A or B runs out while spraying stop and bleed air from system prior to starting again.
- Walls should be sprayed from the bottom up.

QUALITY ASSURANCE

Project engineer to verify with LiquiMix that contractor is approved and that ITP hold and witness points are adhered to. Use High Voltage Porosity Tester to detect pin holes and defects. Ensure correct thickness and adhesion. Rectify faults immediately. Lining should be smooth and even with uniform thickness. Avoid runs and minimise overspray on finished areas.



Figure 1.
Steel panel tank used for community drinking water supply lined with Tufflon-P90.



Figure 2.
Water treatment plant concrete holding tank lined with Tufflon-P90.



Figure 3.
Seafood processing factory floor coated with non-slip green Tufflon-P90.

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