LIQUIMIX

Tufflon®- D60

Spray Polyurea Elastomer - High Hardness (62D)

PRODUCT DESCRIPTION

Tufflon - D60 is a premium polyurea designed for direct to steel application without the need for primers. It offers superior adhesion of up to 14 MPa with outstanding corrosion and abrasion resistance. It is also recommended as a tough and durable concrete floor lining for industrial applications where it resists being punctured by nails protruding from pallets as well as heavy forklift traffic. A high friction (slip-resistant) surface finish can be achieved

INTENDED USES

- Protecting steel assets in extreme environments
- Protecting steel pylons and casings in marine environments
- Wear resistant coating for heavy transport steel and aluminium tippers
- High hardness floor coating resistant to tears and puncturing from movement of pallets with protruding nails
- Tufflon-D60 is not suitable for general-purpose use

FEATURES

- High hardness, yet retains permanent elasticity
- Will not crack, peel or flake
- Superior adhesion to steel
- Superior corrosion resistance
- High resistant to chemicals and solvents
- Withstands high temperatures of up to 80°C
- Application is not affected by temperature or moisture
- This product may be sprayed to thicknesses exceeding 1 mm per pass and cures to become rain insensitive within minutes of application

PRODUCT DATA

Volume Solids	100%
Theoretical Coverage	1.5 L / sqm @ 1500 microns (1.5 mm) DFT
Finish	Pigmented
Colour	Green, Mid Grey, White
Gloss	Semi-Gloss
Mixing Ratio	1:1 by volume
Gel Time	8 Seconds
Typical Thickness	Up to 1500 microns for heavy-duty protection
Cleaner	Reactor Flush or Swell
Flash Point	>149°C
VOC	0 Grams/Litre
Specific Gravity	1.07

CURE&RECOAT

Substrate Temp	Tacked	Hard Dry	Full Cure	Walk on Time Note 1
25°C	60 Sec	2 Hrs	7 Days	24 Hrs

Note 1: Tufflon D60 gels within seconds and then goes through a "brittle" stage that can last up to 48 hours before it toughens up. As such handle with care during this period. Remove masking or wire trim tape within minutes of gelling

Topcoating Tufflon – D60 with itself:

Substrate Temperature	Maximum Recoat Time
5°C to 45°C	60 minutes

Tufflon®- D60

ENGINEERING DATA

Property	Method	Results
Hardness	ASTM D 2240-91 Shore D	65-70
Elongation at 24°C	ASTM D412-92	>150%
Water Absorption	AS 3558.1	<1%
Abrasion Resistance	ASTM C501-84, H18 wheel 1000 rev. with 1000g weight CS17 Wheel	 170mg 15mg
Tensile Strength	ASTM D412-92	21 MPA
Tear Strength	ASTM D 624-86	110 N/mm
Water Vapour Transmission	E96-05(B)	0.07g / (h.m^2) 1.68g / (24h.m^2)
Cathodic Dispondment with 3mm DFT	ASTM G8-90 Method B 60 Days	2mm

LIMITATIONS

- Standard Aromatic based Polyurea products such as Tufflon – D60 will change colour over time, with lighter colours changing more than darker colours. This does not affect the long-term physical performance of the lining. If a colour change is not acceptable or for aesthetic reasons, a colour-fast topcoat should be applied. The use of Colourtuff C85 aliphatic polyurea may also be considered
- Tufflon – D60 will only achieve its full physical properties if applied by an experienced operator using properly functioning, plural-component, spray equipment
- Product requires up to 14 days to develop full physical properties and adhesion. Pull-off or other adhesion testing might not produce accurate results during this period

SURFACE PREP

Concrete

The concrete surface preparation must be conducted under the SSPC-SP13/NACE No. 6 surface preparation standard for concrete. This standard covers the preparation of concrete surfaces before the application of protective coating or lining systems

The concrete should be at least 28 days old. Ensure that the moisture content of the concrete is less than 7% before applying any coatings. A moisture test as outlined in ASTM D4263 can be used to confirm the moisture content

1. Remove all oil, grease and release agents in the concrete. Ensure that any laitance or other invisible contaminants have been removed. Be especially careful with concrete surfaces that have been in contact with form ply or moulds that may contain release agents. These release agents commonly contain heavy hydrocarbon waxes or silicones that can adversely affect the adhesion.
   Contaminant may also be present below the surface as it may have penetrated the concrete. This can be the case in food processing facilities for example. Depending on the depth of the contaminant this may require solvent and /or hot water high pressure cleaning.
   Prepare the concrete surface to a clean, dry finish through ensuring that the water and air used in the decontamination of the concrete is clean
2. Fill bug holes with PU sealant, Aralox FL150 mixed with Patchfill or other approved filler material
3. Restore exposed aggregate surfaces back to the original profile by rendering with a mixture of Aralox – FL150 and Renderfill (a proprietary blend of clean, dry sand)
4. Remove high spots and protrusions, radius sharp edges and corners. Cove internal 90 degree angles with 45 degree, 20mm flat chamfer
5. Prepare the concrete surface in accordance with SSPC-SP13/NACE 6. Smooth, shiny concrete must be roughened to a profile similar to 80 grit sandpaper or CSP 2 - 5 or as documented in the coating system specification. Surface preparation methods employed can be vapour abrasive blasting, dry abrasive blasting, hydro blasting, mechanical scabbling or diamond grinding. Acid etching is not an acceptable surface preparation method

Steel

1. Remove all rust, mill scale, oil and any previously applied coatings back to bare clean steel using abrasive blast. Welds should have slag and spatter fully removed
2. Blast clean to SA 2.5 - AS 1627.9 and a blast profile of 50 to 100 microns

APPLICATION

Equipment

Proportioning pump:	Graco Reactor E10hp or E-XP2 or similar heated, high-pressure, plural component
Gun:	Graco Fusion-AP or similar, impingement mix, airless
Pressure of material at gun:	>2,000 psi minimum while spraying
Temperature of material at gun:	65°C

Environment

Relative humidity:	The relative humidity must be less than 85%
Dew point:	The substrate temperature must be at least 3°C higher than the dew point temperature
Substrate Temperature:	The substrate temperature must be a minimum of 2°C
Application Temperature:	Minimum recommended material temperature is 24°C Maximum recommended substrate temperature is 50°C

Mixing

Stir Part B at high speed, without entrapping air, using a Graco Twistork drum stirrer for about 10 minutes then reduce speed to slow during the spraying. For smaller containers use a mechanically powered, flat paddle stirrer

Thinning

Tufflon – D60 should never be thinned. Viscosity is controlled using heat

Cleanup

Reactor Flush may be used for general clean-up of equipment and to flush the plural pumps and hoses. To remove cured polyurea and overspray from metal parts soak in SWELL. Use separate soak containers for part A and part B components. The use of plastic soak containers with removable baskets and clip-on lids makes the job easier. Replace the SWELL regularly as soon as it starts turning cloudy and dirty.
NOTE: NEVER USE SWELL TO CLEAN PAINTED SURFACES AS IT WILL STRIP THE PAINT. NEVER USE SWELL TO FLUSH PUMPS AND HOSES. DO NOT ALLOW SWELL TO COME INTO CONTACT WITH THE OUTSIDE PROTECTIVE POLYURETHANE COVER OF HOSES

COMPATIBILITY

Primers

Aralox - FL150
Civilox - LV110
Civilox - HB200

Topcoats

Tufflon – D60

Tufflon®- D60

Typical Systems

Substrate	Environment	Substrate Prep	Coat	System	DFT
Concrete	Rooftop		1st Coat 2nd Coat 3rd Coat	Aralox – FL150 Civilox – HB200 Tufflon – D60	(200µ) 125µ 3000µ
Concrete	Flooring		1st Coat 2nd Coat	Aralox - FL150 Tufflon – D60	(200µ) 3000µ
Steel	General protection	Blast SA 2.5	1st Coat	Tufflon – D60	1500µ

STORAGE & HANDLING

Store in dry, shaded conditions away from sources of heat and in the original properly sealed containers. Protect from heat and frost. Protect contents from moisture. Do not allow water to pond on top of drums.
A shelf life of 12 months minimum is typical with unopened containers if stored at ambient conditions at 25°C. If either component is opened and partially used, it should be purged with nitrogen or desiccated air and resealed.
If crystallisation occurs, heat the material to 70°C whilst agitating to melt it. On no account should the materials be heated above 70°C. Storage temperatures above 40°C are not recommended since they can accelerate the formation of insoluble solids and increase the viscosity

PACK SIZE

425Kg (400L) Kits
225Kg of Tufflon – D60 Part A in a 200L Container
200Kg of Tufflon – D60 Part B in a 200L Container

HEALTH & SAFETY

Tufflon – D60 is for professional use only.
This product contains isocyanates and may require the use of air feed hoods.
This product should not be used without consulting the Safety Datasheet (SDS) as published on the Liquimix website first.
Observe all health and safety as well as environmental legislation

DISCLAIMER

The information contained herein is offered without charge and is for use by technically qualified personnel at their own risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and no warranty of any kind is made with respect thereto

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