TIRYAN Coating

Product Description

Tiryan is a revolutionary rubber-plastic coating developed by PodLee Laboratories in Arizona, USA. Its development began in early 2018 and spanned three and a half years.

The specially designed molecular structure of Tiryan provides excellent shear-thinning performance in its liquid state, along with optimal surface tension and nano-scale polymer size. This allows it to penetrate irregular gaps, such as bolt-nut interfaces and flange clearances, achieving dense, fully encapsulated coating.

ts unique formula and process enable natural curing at room temperature after application, forming a solid rubber-plastic isolation layer with outstanding properties: exceptional chemical and corrosion resistance, superior sealing performance, and damping characteristics.

Unlike traditional anti-corrosion coatings, Tiryan avoids issues like anchoring effects, high crosslink density, and rigid structures. It prevents "structural locking" between the coating and metal components, ensuring long-term protection while facilitating disassembly for maintenance. This makes it ideal for pipeline fittings.

Intended Uses

Anti-corrosion protection for pipeline joints (flanges, bolts, clamps, etc.).
Waterproofing and anti-corrosion protection for storage tank edge plates.

Advantages

Strong Protection – Enhances reliability of joints and components.
Easy Disassembly – Reduces maintenance and repair costs.
ST2 Low Surface Preparation – Low construction costs and minimized safety risks.

Typical Characteristics

Name		Test Data	Testing Standard
Cured Density (g/cc)		1.6	–
Tensile Strength (psi/MPa)		363 (2.5)	ASTM D 638
Shore A Hardness		70	ASTM D2240
Elongation at Break (%)		100%	ASTM D 638
Adhesion (psi/MPa)	Sandblasted Steel Plate	870 (6)	ASTM D4541
	Concrete	290 (2)	
	Rusted Steel Plate	290 (2)	
	FRP	870 (6)	
Chemical Resistance (90 Days)	HCl (10%)	Pass	ASTM G20
	NaOH (10%)	Pass	
	NaCl (10%)	Pass	
Salt Spray Test (h)		5000	ASTM B117
Volume resistivity (Ω·m)		$1*10^{12}$	ASTM D4496
Service Temperature (°F/°C)		-22 (-30) – 194 (90)	–

Package
1.25 KG/Kit, 6 Kits/CTN.

Surface Preparation
Proper surface preparation is critical for optimal performance:
Degrease and desalinate surfaces. Rinse salt residues with freshwater in marine environments.
Remove contaminants and manually derust using wire brushes or sandpaper (ST2 grade).
Wipe surfaces clean with a dry cloth to remove moisture and loose rust.

Mixing
Ensure ambient temperature is 50 – 104°F (10 – 40 ℃). When the ambient temperature is below 41°F (5°C), Part A must be heated to above 50°F (10°C).
Mixing ratio: 3:2 (By Weight). Total mix ≤ 400 g per batch.
Weigh components accurately and stir mechanically for 3 – 5 minutes.

Application
Apply using a brush or roller.
Single-coat thickness: 200 - 250 μm. For standalone use, apply ≥ 2 coats (total 400 - 500 μm).
Allow ≥ 18 hours between coats. If exceeding 72 hours, sand the prior coat before recoating.

Coverage
Based on a 250 μm thickness: 1 kg kit will cover 1.3 m^2 (14 ft^2).

Pot Life After Mixing
50°F (10°C) – 40 min, 70°F (25°C) – 30 min, 104°F (40°C) – 20 min.

Curing Schedule

Temperature	50°F (10°C)	70°F (25°C)	104°F (40°C)
Surface Dry (h)	8	4	3
Complete Curing (h)	36	24	18

Clean Up
Clean tools immediately after use with solvents (acetone, xylene, alcohol, etc.).

Storage
Store between 10 ℃ (50 ℉) and 32 ℃ (90 ℉).
Unopened product shelf life: 1 year.

Safety
Before using any products, review the appropriate Material Safety Data Sheet (MSDS) or Safety Sheet for your area. Follow standard confined space entry and work procedures, if appropriate.