TriFLEX®

ADVANCED POLYMER COATINGS

Triple Resin Technology
Built for Long-Term Asset Protection

TriFLEX® is a triple-resin DTM (Direct-to-Metal) coating system that combines polyurethane and polyaspartic resins, modified with a proprietary polymer blend, to deliver superior weathering, color and gloss retention, chemical resistance, and mechanical performance. By combining these properties into a single-coat solution, TriFLEX® eliminates the need for traditional multi-layer systems.

This streamlined approach reduces material use, labor, and application time, helping asset owners save 30–50% on costs while extending service life and reducing maintenance. Compared with traditional multi-coat systems, TriFLEX® simplifies application while delivering durable, long-term asset protection.

Property	TriFLEX
Pot Life	1 hour at 77ºF (25ºC)
Sag	16 mil (400 microns)
Linear Dry Time	6 hours at 77ºF / 25ºC
Conversion	~80% after 3 days
Hardness	Shore D 80 ± 5 (ASTM D2240)
Gloss (60')	65 - 70
Direct & Reverse Impact (in-lb)	> 160 (ASTM D2794)
Adhesion (psi)	~2,500 (ASTM D4541)
VOC	Grey / White 152 g/L (1.27 lb/gal) Black 158 g/L (1.32 lb/gal)
% Solids by Volume	84%



Applications

TriFLEX is designed for exterior protection in a variety of industrial applications, including:

- **Storage tanks**
- **Structural steel**
- **Concrete surfaces**
- **Pipes**
- **Rail Tank & Hoppers**
- **FRP Trailers, and more**

Physical & Mechanical **Properties**

Weathering Resistance

ISO 12944

ISO 12944 C4 Testing

TriFLEX ensures exceptional flexibility and toughness, withstanding extreme temperature fluctuations without cracking or delaminating for long-lasting performance.

ISO 12944 C4 testing confirms that a one-coat TriFLEX system at 4 mil DFT can endure up to 25 years (very high regime 1) in harsh industrial and marine environments, making it ideal for high-risk conditions.

UV Resistance

ASTM D5894

QUV Testing

TriFLEX offers outstanding UV resistance. Polyurethanes are renowned for their ability to resist the damaging effects of UV radiation, which can cause fading, chalking, and degradation in other coatings.

ASTM D5894 QUV testing showed it withstood 750+ hours of UV exposure with a delta E of <1, demonstrating superior durability and UV protection.

Adhesion

ASTM D4541

Pull-Off Strength Testing

TriFLEX forms a strong mechanical and chemical bond with properly prepared steel substrates, ensuring long-term coating integrity and minimizing the risk of delamination.

ASTM D4541 Testing measures the pull-off strength of coatings from metal substrates. TriFLEX achieved 2,600 psi on blasted steel and 2,164 psi on unblasted steel, demonstrating exceptional adhesion strength across a variety of surface preparations.

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Abrasion Resistance

ASTM D4060

Taber Abrasion Testing

TriFLEX withstands the repeated wear and surface abrasion encountered in demanding industrial and rail environments, helping maintain coating integrity and long-term protection.

ASTM D4060 testing resulted in 238 mg weight loss after 1,000 cycles using CS-17 wheels with a 1,000 g load, demonstrating strong abrasion resistance consistent with high-performance industrial polyurethane coatings.



Impact Resistance

ASTM D2794

Direct & Reverse Impact Testing

TriFLEX provides superior impact resistance. This unique formulation absorbs and dissipates impact energy, effectively preventing cracks, chips, or delamination.

No cracking, chipping, or damage on either direct or reverse impact when tested up to 160 in-lb. Most coatings fail at 80 in-lb direct impact.





Enhanced **Flexibility**

ASTM D522

Mandrel Bend Testing

TriFLEX provides exceptional flexibility, allowing the coating to move with the substrate through temperature changes and mechanical stress while maintaining adhesion and long-term protection.

ASTM D522 testing showed it can elongate greater than 33% without cracking, ensuring long-term protection with minimal maintenance.

Heat Resistance

ASTM D4541 Type V

Post-Exposure Pull-Off Adhesion Testing

TriFLEX maintains coating integrity and adhesion when exposed to elevated temperatures, supporting durable performance in demanding service environments.

Dry heat exposure: 120°C (248°F) for 720 hours, with no cracking, flaking, or blistering and post-exposure adhesion exceeding 3,600 psi.

Continuous Dry Heat Service: Up to 120°C (248°F).



