



SPECIALIZED INDUSTRIAL MATERIALS

Rail Car Polyurea

TDS

Rail Car Polyurea™ polyurea is an extremely tough abrasion resistant super-polymer designed to protect the interior of steel or aluminium rail cars which are used to haul harsh aggregates such as coal, rock, salt, land-fill materials, etc. This 1A:1B material provides superior tear and impact strength while delivering a high degree of corrosion resistance. Rail Car Polyurea is a non-breathable polyurea which eliminates water vapor transmission to underlying surfaces to prevent the underlying metals from oxidizing. Rail Car Polyurea may also be used in many other industrial and harsh environments.

Please contact our Technical Support Group for any technical questions regarding material, application or prospective uses.

Rail Car Polyurea PHYSICAL PROPERTIES

Tear Strength	ASTM D624	500 lbs/ linear in. (8928.5 kg/m)
Impact	ASTM D2794	>350 in. lbs (4.03 m-kj)
Tensile Strength	ASTM D412	3411 psi (23.52 Mpa)
Elongation	ASTM D412	450 %
Hardness -Shore D	ASTM D2240	55
Abrasion -TaberCS18	ASTM D4060	22 mg/1k cycles
Gel Time	Time	30 s
Mix Ratio	PBV	1:1

TECHNICAL APPLICATION DATA

Rail Care Polyurea™ is a two component 100% solids formulation which does not contain VOCs. Skin thickness has no limitation. RailSkin must be applied using a 2-component 1500-1800 psi high-pressure liquid pumping heated spray machine. Material and line temperatures may vary but usually initially targeted at 150°F. Thorough mixing of the B-Side component is required during application. Proper safety wear is mandatory.

Surface application temperature ranges from 0°F to 110°F with surface dry and free of contamination. For any coating operation, always degrease, clean and rinse prior to sand blasting. For steel railcars, sand blasting will be necessary to achieve a 3-4 mil profile. For aluminium railcars, mild acid washing and rinsing operations are required. Material spray cure time 12-15s. Material functional operation temperature ranges from -40°F to 250°F. Final top-coat appearance is glossy and slick to the touch. This material will not flow-out or lay-down. Spray coverage at 16 mils is 100 sq.ft./ mixed gal thickness.

Adhesion Results of Typical Substrates per ASTM D-4541 Elcometerates per ASTM D-4541

Concrete- Primed	>300 psi	Cohesive failure; excellent bonding
Steel- Primed	>1000 psi	Excellent bonding
Wood- Primed	>250 psi	Wood failure; excellent bonding

Please contact our TechSupport Group for assistance with selecting S.I.M. application systems.

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