

PRODUCT DATA SHEET

1. PRODUCT DESCRIPTION

Phoenix GUARDIAN GRIP™ is a 100% solids, Polyurethane / Urea Hybrid, designed for low-shrink applications that require a softer, low-slip polymer. Guardian Grip is an excellent bedliner material and helps prevent items from sliding. Guardian Grip can be applied to concrete, fiberglass, or steel substrates. Guardian Grip is a volatile free, odorless system applied with heated, plural component spray equipment or low-pressure equipment using a static mix wand.

2. USES

Phoenix GUARDIAN GRIP™ is formulated for application to concrete, fiberglass, and steel.

Ideal for Applications in:

- Bedliners
- Marine environments
- Roofing

Advantages:

- 100% Solids, No VOCs
- Low cost application equipment
- Excellent "Dry" slip resistance
- Suitable for use in -40°F to 250°F dry conditions
- Ultra-low shrink
- Low durometer hardness: 80 Shore A

3. PHYSICAL PROPERTIES

Mix Ratio (A:B)	1 : 1
VOCs	0
"Wall" Gel Time (seconds)	10 seconds
Tack Free (seconds), <i>ASTM D1640</i>	15 - 20 seconds
Open to Foot Traffic (minutes), <i>ASTM D1640</i>	5 minutes
Tensile Strength (psi), <i>ASTM D638 / 412</i>	1289
Elongation (%), <i>ASTM D638 / 412</i>	521
Modulus of Elasticity (psi) [100% 200% 300%], <i>ASTM D638 / 412</i>	405 574 943
Die C Tear Strength (pli), <i>ASTM D624</i>	210
Durometer Hardness (Shore A), <i>ASTM D2240</i>	75
Durometer Hardness (Shore D), <i>ASTM D2240</i>	25
Taber Abrasion, mg wt loss, (1000g, 1000 revs, H-18) <i>ASTM D4060</i>	83.4
Recoat Window @ 72°F, (clean substrate, no sanding)	4 hours

The value ranges stated in this Technical Data Sheet are based on system processing under laboratory conditions. Equipment configurations and/or field application conditions may produce variances in final system values.

4. PACKAGING

- 110 Gallon Kit: 55 gallons of 'A' side and 55 gallons of 'B' side
- 1500 mL Cartridge System

Note: Drums are filled by weight; volume is a close approximation.

5. LIMITATIONS

Guardian Grip should not be used for direct contact with extremely high or low pH attack. Consult **Phoenix**.

6. THEORETICAL COVERAGE RATES & COATING THICKNESS

Theoretical Square Feet Per Gallon

Mils	10	15	50	60	80	100	125
Sq Ft	160	107	32	27	20	16	13

Note: 1604 mil inches per gallon. Totally dependent on substrate texture and condition.

Dry Film Thickness Recommendations:

- Concrete (non-immersion) 60 mils
- Concrete (immersion) 80 mils
- Steel (non-immersion) 40 mils
- Steel (immersion) 80 mils
- Bedliner - minimum 120 mils

7. COLOR

Black (standard). Many colors are available with a 10-business-day lead time. Contact us for custom colors.

8. SUBSTRATE & SURFACE PREPARATION

General: Prior to coating, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits. In general, coating performance is proportional to the degree of surface preparation.

Moisture Content (concrete): Calcium Chloride Test: 3 lb/24 hr/1,000 ft² or 5% maximum as per ASTM F2160 or ASTM F2420.

Fiberglass: Clean contamination with a silicone and wax remover such as DuPont Prep-Sol™ 3919S. Sand with 80-grit paper to a dull finish. Consult Phoenix technical service for a primer recommendation.

Aluminum (Immersion Service): Remove all oxidation from the surface by sanding or media blasting. Solvent wipe with Acetone or MEK. Consult Phoenix technical service for a primer recommendation.

Steel (Immersion Service)*: Visible deposits of oil, grease, or other contaminants shall be removed according to SSPC-SP1 Solvent Cleaning followed by SSPC-SP10/NACE No. 2 Near White Metal Blast Cleaning, resulting in a sharp, angular anchor profile of 3.5 - 5.0 mils.

Steel (Atmospheric/Non-Immersion Service): Visible deposits of oil, grease, or other contaminants shall be removed according to SSPC-SP1 followed by SSPC-SP6/NACE No. 3 Commercial Blast Cleaning, resulting in a sharp, angular anchor profile of 3.0 - 4.0 mils.

Concrete & Masonry: Reference SSPC-SP 13/NACE No. 6 Surface Preparation of Concrete. Minimum surface profile equivalent to ICRI CSP3 to CSP5 in accordance with ICRI Technical Guideline No. 03732.

** Do not use this product if immersion temperatures will exceed 140°F.*

9. MIXING, THINNING & PRE-WARMING

Components & Mix Ratio: Mix ratio is 1:1 by volume; "A" side Isocyanate, "B" side Resin

Mixing: "B" side must be mixed (or shaken in cartridges) prior to use. See material processing & handling information for further details.

Thinning: Do NOT thin this product.

Pre-warming: A and B side drums should be warmed to a minimum of 75°F prior to application.

10. APPLICATION & SERVICE CONDITIONS

Application Options: Guardian Grip may be applied using either heated, plural component equipment and a direct impingement spray gun, OR with low pressure equipment (cartridge system). Maintaining appropriate heat and pressure is critical to achieve maximum physical properties.

Environmental & Substrate Conditions: Material and equipment ambient temperatures must be kept at 60°F or above. Frozen concrete substrates with high moisture content will affect coating adhesion and long-term performance. Substrate must be 5°F above dew point and rising before application.

Service Temperatures: Dry temperature suitable range is -40°F to 250°F.

11. CURING SCHEDULE & RECOAT WINDOW

Cure Time: Full cure is achieved in 14 days at 72°F.

Top Coating: Guardian Grip can be top-coated after curing for 30 minutes.

Recoat Time: Clean substrate can be re-coated up to 60 days after application at 72°F.

12. TRANSPORTATION & SHELF LIFE

This material is sensitive to cold temperatures. Material shall be maintained above 45°F (7°C) during transport for material preservation. Shelf life is one year from date of shipment, in original, unopened factory containers, under normal storage conditions of 60°F to 95°F (18°-36°C).

13. SAFETY

Review SDS at www.PhoenixLiners.com. Basic safety for personal protection is:

- Long sleeve overalls or disposable Tyvek overalls
- Splash shield or safety glasses with splash guards
- Rubber gloves
- Respirator / Supplied Air System / Headsock
- Do not take internally; wear rubber or leather boots
- Do not use near high heat or open flame
- Keep out of reach of children

14. TECHNICAL SUPPORT SERVICES

Technical Services, Sales, and Customer Support: (713) 854-4858

15. WARRANTY

Phoenix MCBS, LLC will repair or replace product it finds to be defective provided the product has been used properly. Except as expressly stated above, the Company makes no warranty of merchantability and no warranty of fitness for any particular purpose, nor does it make any warranty, expressed or implied, of any nature whatsoever with respect to the product or its use. In no event shall the company be liable for delay caused by defects, for loss of use, for indirect, special or consequential damages, or for any charges or expenses of any nature incurred without its written consent.