TECHNICAL DATA SHEET

ShieldPrime UNI

Universal Concrete and Steel Primer

info@shieldcreteinternational.com
www.shieldcreteinternational.com

Product Description

ShieldPrime UNI 601 is two components, high solids, liquid applied, low viscosity epoxy-polyamine primer surface with unique penetrating characteristics. It helps to seal the pores and capillaries and minimize out gassing. ShieldPrime UNI is also compatible to all steel surfaces best used for marine structures subject to high chloride corrosion.

Technical/Performance Data

Potable Water Application (AS/NZS 4020)	Up to 40°C, at recommended total immersion exposure of ~18,000mm²/L
Solids by Volume (ASTM D2369)	100% +2%
Volatile Organic Compounds (ASTM D2369-81)	140g/L
Theoretical Coverage Rate @100microns	10m²/L (varies with substrate and porosity)
Specific Gravity	A: 1.01, B: 1.16
Viscosity @24°C	Part A: 1000-2000cps Part B: 11000-14000cps
Cytotoxic and Mutagenic Activity (AS/NZS 4020)	Passed
Extraction of Metals (AS/NZS 4020)	Passed

Benefits

Abrasion Resistance
The balance of physical properties inherent in this elastomer provides outstanding abrasion resistance.

Potable Water
This product is suitable for lining tanks used to store water intended for human consumption.

Toughness and Flexibility
The exceptionally high tensile strength and elongation of this product provides protection from mechanical damage and resistance to puncture and compression.

Increased Productivity and Economy
This product maybe sprayed to thicknesses exceeding 2mm per pass and cures to become rain insensitive within minutes.

Safety
This product contains no volatile or flammable solvents. This reduces hazards during transport, storage, and application.

Application Areas

- ✓ Airports
- ✓ Hotels and Casinos
- ✓ Power Plants
- ✓ Residential Applications
- ✓ Structural Steel
- ✓ Fertilizer Plants
- ✓ Warehouse Flooring
- ✓ Cold Storage Facilities
- ✓ Mining/Landfill Heap/Leach Containment
- ✓ Marine Environments
- ✓ Paper & Pulp Mills
- ✓ Primary Containment
- ✓ Secondary Containment
- ✓ Trafficable Parking Decks
- ✓ Potable Water
- ✓ Wastewater Treatment
- ✓ Food Processing Plants
- ✓ Geotextile Rehabilitation Composite

Features

- ✓ AS/NZS 4020 Potable Water Certified
- ✓ Absolutely No Odour
- ✓ High Solids
- ✓ Low Solvent
- ✓ Low viscosity
- ✓ Excellent adhesion long open time

Typical Wet Properties

Material Property	Component A (Isocyanate)	Component B (Resin)
Density (kg/L)	1.11	1.00
Viscosity (Cps @ 21°C)	260	380
Mix ratio (by volume)	1:1	
Solids (mixed) by volume	100%	
Flash Point (Pensky Martens Closed Cup)	>93°C	
Theoretical Coverage	1L = 1mm thick over 1m².	

Processing Data

Mixing Ratio V/V	3:5
Pot Life, 25-27°C @ 65%R.H.	30-45 minutes
Tack Free Time (at least maximum recoat window)	4-5 hours
Touch Dry	7-8 hours
Hard Dry	12-14 hours
Minimum Record Window	1-4 hours
Maximum Record Window	24 hours

Application Guidelines

Mixing

The volume mixing ratio is 3-part Side-A Brown Liquid to 5 part Side B Clear Liquid. ShieldPrime UNI Side-A and Side-B should be thoroughly mixed individually prior to combining to ensure a homogeneous material. The combined components should be thoroughly mixed using mechanical mixer at slow speed or for at least 5 minutes if mixed by hand.

This product cannot and must not be thinned or diluted under any circumstances.

Surface Preparation

The surface of a concrete subfloor should be dry, smooth, and structurally sound. It should also be free of depression, scale, or foreign deposits of any kind. Remove all curing compounds. Abrasive blast, sweep blast or water blast to remove all laitance and expose all voids. Nominate your product that is pre-mixed with aggregate, note that ShieldPrime UNI may be mixed with kiln dried aggregate as desired to form an epoxy mortar or skim coat (nominally 3:1 PBV depending on consistency required) for blow hole filling, skim coat or repairs. All concrete subfloors on or below grade level should be tested for moisture. On grade or below-grade concrete floors should have a moisture barrier installed to protect from ground moisture.

Equipment Clean-Up

Equipment should be cleaned with an environmentally safe solvent, as permitted under local regulations, immediately after use.

Application

This product can be applied using an airless sprayer, brush, or Phenolic resin core roller. Allow ShieldPrime UNI to become tack free before applying the coating.

Recommended surface temperature should be greater than 10°C and at least 3°C above the dew point. This product is very sensitive to heat and moisture. Higher temperatures and/or high humidity will significantly accelerate the pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time.

Colours

Standard grey/black/White and natural / cream. Custom colours can be produced on request but may require additional lead time and price premium. Contact your local distributor for availability.

Due to its aromatic composition, ShieldPoly F-15 will tend to yellow or darken in colour and will become matt after exposure to UV light. It can be top coated with an aliphatic polyurethane coating for a colour-fast finish.

System Specification

Primer

Refer to ShieldCrete® technical representatives and distributors for recommendations based on your specific application.

Recommended Thickness

Recommended minimum thickness for abrasion resistant duty is 3mm, 4mm for heavy abrasion. Recommended minimum thickness for waterproofing is 1.5-2mm. Contact your local distributor for application specific recommendations.

Number of Coats

This product can be applied in thicknesses from 1mm up to several cm in one monolithic coat. To build to specification, allow just enough cure time for the first coat to become firm, and then spray the next coat. Do not exceed recommended recoat windows. When building to more than 4mm thickness, pause for at least 5 minutes every 3mm (approximately) to allow the coating to exotherm and cure evenly in the layers.

Sometimes two or more coats are applied using different colours as a visual wear indicator. The additional coats should be applied as soon as possible after the preceding coat has gone tack-free, but no longer between coats than the specified recoat window of 2 hours.

Contact your distributor for reactivation requirements for coating over cured product.

Topcoat

An aliphatic polyurea or polyurethane, or polyaspartic polyurea topcoat may be required for some applications, particularly where colour stability is required (this product is UV stable, but not colour stable). Contact your distributor for a range of options. The topcoat shall be applied as soon as possible following the final coat reaching tack-free status, with a maximum time between coats as specified by the recoat window of this product.

Storage and Handling Precautions

Please refer to SDS. Observe reasonable care and employ ordinary hygienic principles such as washing the hands with soap and water before eating or smoking. It is recommended to wear gloves, goggles, and nose masks while application. In case of splashes on the skin, dampen the cloth with thinner wipe the hands with the cloth. Wash then with soap and water. Dried film is nontoxic. In case of contact with eyes, rinse with plenty of water and seek medical advice. In case of continuous exposure to vapour, the applicator should be immediately moved to get fresh air. The disposal of excess or waste material should be carried out in accordance with the local legislations.

Packaging

Standard 40L kits in 15L and 25L drums per kit, with ratio of 3:5. Other sizes may be available on request.

DISCLAIMER

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products regarding the required processes and applications. This data sheet is provided free of charge, and we do not accept any liability regarding the above information or regarding any verbal recommendation, except for cases where we are liable of gross negligence or false intention.