TECHNICAL DATA SHEET

Specialty Products Development Group informations

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PRODUCT DESCRIPTION

Solvent Based Urethane represents a two-part, high-density coating that resists abrasion, chemicals, and stains. It's an aliphatic polyester polyurethane finishing layer. This product is accessible in transparent form and can be tinted. Upon curing, it forms a resilient, impact- resistant, and chemical-resistant surface. It withstands Skydrol, betadine, and common hot-tire stains. Excellent adherence is observed when used with epoxy systems. To adhere to concrete directly, it necessitates polyurethane-acrylic primer and concrete sealer when applied onto suitably prepared concrete and cementitious overlays. It serves as an enhanced final layer for epoxy applications in various settings such as aircraft hangars, industrial kitchens, automotive showrooms, shop floors, commercial laboratories, research facilities, hospitals, health care facilities, wine and spirit processing plants, and other places with heavy foot and forklift traffic as well as exposure to chemicals. This product complies with VOC regulations.

SAFETY MEASURES

Prioritizing safety during the handling of our product is paramount. To prevent skin contact, as some individuals may exhibit allergic reactions to the materials used, we strongly advocate the use of protective gloves, eyewear, appropriate attire, and ensuring proper ventilation. For comprehensive insights and guidance on the safe handling, storage, and disposal of chemical products, we urge you to consult the latest Safety Data Sheet (SDS) for **Solvent Based Urethane.** This resource contains essential physical, ecological, toxicological, and other safety- related data.

— KEEP OUT OF REACH OF CHILDREN
— KEEP FROM FREEZING CONDITIONS
— INTENDED FOR INDUSTRIAL USE ONLY

Disclaimer: Our recommendations and information pertaining to the application and utilization of our products are based on our extensive knowledge and experience, provided in utmost good faith. Nevertheless, the actual variances in materials, differences in substrates, and on-site conditions may have implications on the product's performance. Consequently, no warranty or liability can be inferred from this information or any recommendations. Users bear the responsibility of conducting their product testing tailored to their specific application and purpose. We strongly emphasize respecting the proprietary rights of third parties. All orders are subject to our prevailing terms of sale and delivery. For the most recent local product Technical Data Sheet related to the specific product, please don't hesitate to request it.

ADVANTAGES

- Complies with USDA, FDA, Food Safety Modernization Act.
- Slip Resistance (ADA)
- LEED® and Green Seal® requirements.
- VOC and EPA Compliant all states and provinces in North America. Cures to an inert finish.
- Strong and Tough Floor
- Excellent Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors

APPLICATIONS

- Aircraft Hangar and Maintenance Floors
- Automotive Show Room and Repair Floors
- Commercial Bakery and Kitchen Floors
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Manufacturing and Warehouse Floors
- Pharmaceutical Floors

COLOR SELECTIONS

Clear gloss and pigmented in 15 standard colors and custom colors.

COVERAGE RATE PER GALLON

- Clear gloss and pigmented finish coat: 400 to 535 sq. ft. (37.2 to 49.7 sq. m) WFT 3 to 4 mils (0.08 to 0.10 mm).
- Add optional aluminum oxide at 4 to 8 wt. oz. (0.11 to 0.22 kg) per gallon (3.79 lt.)

APPLICATION EQUIPMENT

Based on the system used, utilize a variable low-speed drill (450 rpm) with a Jiffy® type impeller mixing paddle, a disposable 3" brush for detailed work, a 3/8 inch nap non-shedding phenolic core roller. Recommended application : Dip-n-Roll.

CONCRETE

Mechanical Properties - 77°F (25°C) 7 Day Cure
Surface preparation ICRI Guideline No. 310.2R – Concrete Surface Profile (CSP 2 and above) depending on System tobe Installed and condition of concrete.

Properties	Values	References
Gloss Index, 60 Degrees Clear Gloss	90 - 95	ASTM D523
Gloss Index, 60 Degrees Pigmented	80 - 90	ASTM D523
Pencil Hardness	2H	ASTM D3363
Abrasion Resistance,	0.02 gr.	ASTM D4060
500 cycles, 1000 gr. Load	Pass 1/8 Inch	Wheel No. CS17
Flexibility, Bend Mandrel Coating Test	Class 1	ASTM D522
Flame Test	No Cracking or Disbonding	ASTM E648
Impact Resistance, 160 in/lb	Pass #1	ASTM D2794
Microbial (fungi) Resistance	>0.45 (inclines) >0.42 (level)	ASTM G21
Moisture Vapor Emission Rate	3 lbs.	ASTM F1869
Moisture Relative Humidity	80% RH	ASTM F2170

Physical Properties - 77°F (25°C) 7 day cure (unless stated otherwise)

Properties	Data
Viscosity, Mixed	400 cps
Mix Density, Mixed	9.0 lb./gal
Pot Life,1 gallon (3.79 liters) Mass	1.5 Hours, 50% RH
Mix Ratio, by Volume	3:1
Minimum Application Surface Temperature	50°F
Dry to Touch 50°F to 90°F (10°C to 32°F)	4 to 10 Hours
Recoat Time 50°F to 90°F (10°C to 32°F)	12 to 24 Hours
Light Traffic 50°F to 90°F (10°C to 32°F)	24 Hour Minimum
Full Cure 50°F to 90°F (10°C to 32°F)	7 to 14 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1 Years
Volatile Organic Compounds (VOC)	<50 gr./lt.
Packaging 1 gal (3.79 lt.)	

Note : testing is crucial, but it doesn't assure immunity from potential future issues. This is particularly evident in scenarios lacking an effective positive side vapor barrier or instances where it's malfunctioning, and when the concrete is contaminated with oils, chemical spills, densifiers, excessive salts, or other substances that hinder bonding.

The concrete needs to be in good structural condition and devoid of any curing agents, coatings, sealers, densifiers, or other substances that could inhibit bonding.

New concrete

- Follow the guidelines of ACI 302.2R for concrete slabs intended for moisture-sensitive floor materials.
- Maintain a water cement ratio between 0.4 to 0.5, aiming for a strength level of approximately 4,000 psi (28 MPa).
- Implement a positive side moisture barrier in direct contact with the concrete, adhering to ASTM E1745, which specifies the requirements for plastic water retarders used beneath concrete slabs.
- Install the moisture barrier according to ASTM E1643 standards, specifically complying with Class A specifications of 15 mils (0.38mm) for selection, design, and placement of water vapor retarders under concrete slabs in contact with earth or granular fill.

Existing Concrete

Should field tests or laboratory analyses detect subpar concrete flooring slabs harboring contaminants from previously applied unreacted silicate materials that could disrupt the bonding process.

- Contaminants comprise organic hydrocarbon materials, calcium chlorides, and aluminum stearates, among other potential substances.
- The structural integrity of concrete flooring slabs can diminish gradually due to factors beyond the influence of the flooring manufacturer or installation contractor.
- Once the concrete substrate deteriorates significantly, it will be incapable of sustaining the bond of the remediation floor system.

The specifics of these conditions can be found in the American Concrete Institute's publication, ACI 201.2R, titled "Guide to Durable Concrete."

VERIFY CONCRETE MOISTURE

Before applying this floor coating material, the concrete must be free of moisture. Concrete moisture assessments are necessary, utilizing either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe) tests.

VERIFY TEMPERATURE & HUMIDITY

Ensure that the floor and material temperatures meet or exceed the specifications outlined in the published Technical Data Sheet. The Dew Point should be at least 5°F (3°C) below the surface temperature. Avoid application if humidity reaches or exceeds 85%.

SURFACE PREPARATION

Adhere to surface preparation guidelines as per ICRI Guideline No. 310.2R, which outlines the selection and specification of concrete surface preparation for sealers, coatings, polymer overlays, and concrete repair. Ensure the pH of the concrete substrate registers at 9 or higher and eliminate all bond-breaking materials from the surface.

OPTIONAL ANTIMICROBIAL

The non-heavy metal biocide antimicrobial additive is incorporable during manufacturing. It can be included solely in the topcoat for cost-effectiveness, or for more demanding environments, it's advisable to include the antimicrobial agent in every stage of application—primer, body coat, and topcoat.

BASIC MIXING

To facilitate mixing and application, maintain the temperature of both the “A” and “B” components within the range of 70°F to 80°F (20°C to 26°C). It's recommended to pre-mix the “A” and “B” components thoroughly to ensure consistent dispersion of all raw materials and pigments.

APPLICATION

Once all contents are thoroughly mixed according to the instructions, promptly pour the liquid material onto the adequately prepared concrete surface or dispense it in ribbons and evenly squeegee it out onto the surface. Use back-rolling and cross-rolling techniques. Verify the desired wet film thickness using a WFT Gauge. If applying broadcast aggregate like 60 mesh or 90 mesh, gently sprinkle it (not a full broadcast) onto the wet material.

PRODUCT LIMITATIONS

- Recommended for use within the temperature range of 60°F to 90°F (16°C to 32°C); avoid application if relative humidity goes beyond 85%.
- Achieves a "satin" appearance exclusively when applied over a clear gloss or a pigmented finish coat.
- Elevated temperatures will lead to reduced working and drying times.
- Necessitates a primer when applied directly to concrete and cementitious overlayments.

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3.

SHIPPING AND STORAGE

Ship and store the material within a temperature range of 40°F to 90°F (4°C to 32°C). Ensure storage in a dry area away from direct sunlight.

SHELF LIFE

The shelf life extends for one year from the manufacturing date, provided that the containers remain unopened.

MAINTENANCE

Examine the installed floor by performing spot cleaning and addressing any damaged or cracked areas. To extend the flooring system's lifespan, it's highly recommended to implement a daily maintenance regimen, ensuring the floor remains safe for its intended uses.

CLEAN-UP

Thoroughly clean the mixing station, tools, and equipment as necessary. Employ acetone, a VOC-exempt solvent, for the cleanup process. Adhere strictly to all legal, health, and safety protocols when managing or storing solvents and materials, especially within confined spaces. Ensure continuous and adequate ventilation in working areas throughout the placement and curing phases.

DISPOSAL

Follow federal, state, provincial, and local regulations when disposing of empty packaging and other waste materials.