CSI Form 1.5C

SUBSTITUTION REQUEST
(During the Bid Period)

Project: NDOT 1600 Office Renovation
NDOT Bldg No: 00202
To: Amanda Schnatz - BVH Architects
aschnatz@bvh.com / 402.889.5212
Re:

Substitution Request Number: 001
From: Concrete Craft of Lincoln
Date: 9/17/2024
A/E Project Number: AFE K-002
Contract For: Nebraska Department of Transportation

Specification Title: Concrete Floor Finishes
Description:
Section: 033511 Page: 145-146
Article/Paragraph: Part 2 Products, 2.01 Coatings,
A. Color or Clear Coating, 3 Type, a. Products:

Proposed Substitution: 5500 HH Low Odor Polyurea
Manufacturer: ASTC Global Address: 3207 W Warner Ave., Santa Ana, CA 92704 Phone: 714-966-2893
Trade Name: Low Odor Polyurea Model No.: 5500 HH

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Mat Firestone
Signed by: Matt Firestone Digitally signed by Matt Firestone DN: C=US, E=matt.firestone@concretecraft.com, O=Concrete Craft of Lincoln, CN=Matt Firestone Date: 2024.09.15 19:07:43-05'00'
Firm: Concrete Craft of Lincoln
Address: 5800 Hidcote Dr., Ste 102
Lincoln, NE 68516
Telephone: 531-333-5225

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☑ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Approved on the condition that an additive be used to achieve a matte finish.

Signed by: Date: 09.17.2024

Supporting Data Attached: ☐ Drawings ☑ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

5500 HH
Low Odor Polyurea

5500 HH Low Odor Polyurea

Description: High Solids Aliphatic Roll-Down Coating Specifically Formulated for High Humidity Conditions

5500 HH Low Odor is an 89% solid, two component, Aliphatic MDI and multifunctional blend formulated in Polyurea/Aspartic as a slow system for warm, humid conditions. High Humidity will shorten the set time of many aliphatic aspartic products. The 5500 HH Low Odor is formulated to work with the high heat and humidity to allow for more working time while still providing the excellent results as found in the 5500 product systems. The polymer structure is very clear and may be pigmented, is non-yellowing, very tough, excellent color retention, good chemical resistance with excellent adhesive properties. 5500 HH Low Odor is a reactive two component system highly resistant to staining and marking.

The 5500 systems are “roll-down" Polyurea/Aspartic products that are a clear finish coat with good elongation and flexibility. The 5500 systems do not become brittle as other aspartic products and are completely Aliphatic or UV resistant with excellent color stability. The 5500 aliphatic products systems conform to the requirements of the USDA for incidental food contact and are formulated to be non-color changing, abrasive resistant, non-brittle, flexible, quick set with impact resistance.

Unique Characteristics:
5500 HH Low Odor is a unique Aliphatic Polyurea/Aspartic that has extended working time allowing for easier applications in areas where the faster version would not be appropriate or would set to quickly.

Advantages:

- HH FOR HIGH HUMIDITY – MORE WORK TIME
- ALIPHATIC POLYUREA/ASPARTIC DOES NOT CHALK OR YELLOW
- CURES TO A VERY CLEAR FINISH
- HIGH STAIN RESISTANCE TO MOST TIRES
- EXCELLENT UV RESISTANCE
- SETS QUICKLY
- GOOD WORKING TIME
- CHEMICAL RESISTANT
- EXCELLENT ABRASIVE RESISTANCE
- HIGHLY ADHESIVE
- WATERPROOFING ELASTOMERIC SYSTEMS
- GOOD ELONGATION
- QUICK “TURN-AROUND” FLOOR APPLICATIONS
- COLOR CHIP FLOORS & COLOR QUARTZ FLOORS

Use:

- DECORATIVE FLOOR FINISHES
- INDUSTRIAL FLOOR COATING
- KITCHEN FLOOR SEALING & FINISHING
- WATER FEATURE APPLICATIONS
- CLEAR TOP COAT FOR COLOR CHIPS & COLORED QUARTZ
- SLABS, STAIRS & PEDESTRIAN WALKWAYS, DECKS, WOOD STRUCTURES, INDUSTRIAL WALL & FLOOR APPLICATIONS, EXTERIOR APPLICATIONS

5500 HH Low Odor applied over art in warm humid areas

5500 HH
Low Odor Polyurea

General Physical Characteristics

Solids	89%
Shelf Life	1 year
Potlife @ 70°F	>60
Hardness ASTM D2240	Shore D 60
Mix Ratio	1:1
Tack Free ASTM D2471	>1.5-2 hrs.
Tensile ASTM D412	>4000 psi
Tear Strength D470	850 lbs./in.
Abrasion (CS17) ASTMD4060-90	4.0mg/1000/500 cycles
Gel Time (surface applied)	>30 min @ 75°F
Permeability ASTME96 (WVT)	0.053grms/hr/sqft
Elongation ASTM D124	12%
Processing Temperature	70°F
Viscosity @ 25°C cps	450+/-50
UV Resistant	High

Compressive Strength; 8 hrs. -7300 psi, 24 hrs. -11,200 psi, 7 days -14,100 to 19,000 psi

Chemical Resistance 5500 Systems

Chemical	24 hrs.	7 days
10% Acetic Acid	+	- yellowing
100% Ethanol 200 proof	+	+
50% Sulfuric Acid	+	+
38% Hydrochloric Acid	+	+
10% NaCl	+	+
28% Ammonia	+	+
85% Lactic Acid	+	- down gloss
5% to 10% Clorox Bleach	+	+
Citrus Cleaning Solvent	+	-Slight blisters
Skydrol PE-5	+	+
Power Steering Fluid	+	+
Transmission Fluid Dextron	+	+
Motor Oil	+	+
Brake Fluid	+	-slight blisters
Unleaded Gasoline	+	+
Mek	-	-
Xylene	-	--
Tap Water, Coffee, Cola, Grape Juice, Ketchup	+	+
Mustard	-	-transient Yellowing

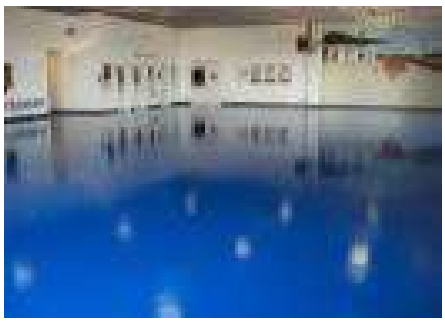
\+ Positive Results, - Negative Results

Preparation:

Concrete must have a minimum 28-day cure prior to application. Remove any curing agent, form release materials, oils, wax, moisture or any material that may affect bonding. Clean and wash to remove contaminants and maintain pH 8.0-11.0. **Provide rough profile minimum 2 mils. Review ASTM D4259 "Abrading Concrete" and ASTM F1869 Measuring Moisture Vapor Emission. Note: High Tensile, see 5500 EX data sheets.

Priming:

5500 is self-priming. For concrete that requires a primer use ASTC's Pen Prime, see data sheet.



Moisture Vapor Reduction:

Use ASTC's CMW to reduce moisture vapor drive. Efflorescence or white powder-like material visible on the concrete slab indicates moisture vapor drive. See CMW data for efflorescence treatment. Damp conditions prime using ASTC's 6007 W/C product.

5500 HH
Low Odor Polyurea

Adding Pigment:
Use 12 to 14 ounces for the pigment provided by ASTC. Do not use other pigments as they are not formulated with the proper base materials that are compatible with the 5500 products. Do not overload the 5500 with pigment, use the minimum amount of pigment for the desired effect.
When adding pigment to the mix of 5500 as a base coat is it helpful to add about 3-4 ounces of Xylene per mixed gallon of product and pigment mix. The addition of the solvent helps with dispersion of the pigment and with penetration into the substrate.

Colors:
Tan, Wheat/Straw, Pearl Gray, Fog Gray, Medium Gray, and Black. White is also available for adding to the above colors as desired.

Application:
Application range; 45°F to 90°F. Apply the product using a notched squeegee or similar squeegee to move the product over the application area. *Hot surfaces may accelerate gel time of the product. *High Humidity will accelerate the gel time of the 5500 product systems. Product should be back-rolled using a short nap roller, about ¼" to 3/8". **Apply in thin films from 5,8 or 10 mils per coat. Do not apply thicker than 10-12 mils at one time. Recoat Time; apply a second coat as soon as the first coat can be walked on, 1 to 2 hours. If recoat window is exceeded, sand lightly to produce a profile, wipe with acetone and re-coat.

Curing Time:
Approximately 1.5 to four hours for low foot traffic volume. Cure 5 to 8 hours for heavier foot traffic. Test surface cure to be sure surface is ready for vehicles before allowing access. Cure is affected by environmental conditions &high humidity. Do not use 5500 HH Low Odor is environments that are cool with low humidity, long extended cure times will result.

Cold Temperatures:
When environmental conditions are cool or cold and the ambient temperature is about 50 degrees F, use the faster 5500 systems.

Limitations:
Note: The product is resistant to most tires, however, there are some tires that may stain the coating. Not all tires and their characteristics can be tested for staining. If moisture vapor drive is evident or efflorescence is visible use a vapor barrier CMW. Use compatible surface repair products with 5500. Pot life is effected by environmental temperatures and humidity. Do not use on wet surfaces or expose part A to moisture. Keep out of direct sunlight and store the product kits on wood pallets at room temperature. Use a Nitrogen blanket over unused product for proper storage and protection from humidity.

This product is for use by professional applicators only. Wear Protective Clothing and gloves as the product bonds very well to fabrics. Read MSDS before using this product. DOT/Flash Point – Non-flammable Liquid Classification, not regulated. Warranty: See ASTC Warranty data sheet. (2-17) Product data sheets subject to change without notice.