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**SEAL BOND™ FCS-401 Water Based Cement Urethane Slurry**

**FCS-401: Description**

FCS-401 is a three component urethane slurry that has outstanding wear performance and can withstand higher heat exposures than typical unmodified urethanes. The product has good thermal shock capabilities and is a good choice for hot wash down areas.

**Recommended for:**

Resurfacing areas where a durable shock resistant surface is needed.

**SOLIDS BY WEIGHT:**

Approximately 97% solids (liquids mixed with aggregate)

**VOLATILE ORGANIC CONTENT:**

negligible

**STANDARD COLORS:**

gray

**RECOMMENDED FILM THICKNESS:**

1/8" – 3/16"

**COVERAGE PER KIT:**

The standard kit will yield 41 square feet @ 1/8"

**PACKAGING INFORMATION**

Urethane Cement: (8.3# part A in a gallon can not full + 9.75# part B in a gallon can not full + 1 bags blended aggregate at 30#)

**MIX RATIO:**

8.3# part A + 9.75# part B + 30# aggregate blend

**SHELF LIFE:**

6 months for liquids in unopened containers/3 months for aggregate unopened

**FINISH CHARACTERISTICS:**

Slightly textured/rough finish

**COMPRESSIVE STRENGTH:**

7,800 psi

**TENSILE STRENGTH:**

1.100 psi

**ADHESION:**

400 psi @ elcometer (concrete failure, no delamination)

**FLEXURAL STRENGTH:**

3,500 psi

**HARDNESS:**

Shore D = 80 typical

**THERMAL SHOCK RESISTANCE:**

After a seven day cure, samples were held at 5°C for 15 hours and then immediately exposed to 100°C water. This cycle was repeated four times. The samples were then held at 5°C for 15 hours and then immediately exposed to steam for 5 minutes. After the thermal cycle and steam exposure, the surfaces were examined for cracks or damage and the bond strength was tested. The bond test before and after the thermal and steam exposure was greater than 400 psi and there was no damage to the exposed surface observed.

**HOT OIL TESTING:**

Hot cooking oil at 220°C was placed on a sample in a pool on the surface and allowed to cool to room temperature. No surface damage was apparent and adhesion of the sample was unaffected.

**IMPACT RESISTANCE:**

60 in. lbs.

**ABRASION RESISTANCE:** 5m gloss

**VISCOSITY:**

When mixed with the part C aggregate, it forms a pourable slurry.

**DOT CLASSIFICATIONS:** Not Regulated

**HEAT RESISTANCE:** Can withstand up to 300F degrees dry heat exposures

**CURE SCHEDULE: (70°F)**

pot life – (150 gram mass) ..... 15-20 minutes  
tack free (dry to touch) .....6-8 hours  
light foot traffic..... 12-14 hours  
full cure (heavy traffic).....3-5 days

**APPLICATION TEMPERATURE:**

45-85 degrees F with relative humidity below 85%.)

**PRIMER:** None normally required.

**TOPCOAT:** Optional.

**CHEMICAL RESISTANCE TESTING:**

Spot testing per ASTM D1308 for Mustard, Ketchup, Lactic acid, vinegar, and lemon juice were performed and no physical damage to the exposed surface was observed. In 24 hour immersion testing, the following results were observed..

CHEMICAL EXPOSURE	PERFORMANCE
10% acetic acid	passed
30% nitric	passed
Sodium Hydroxide 50%	passed
Sulfuric Acid 30%	passed
Xylene	passed

**LIMITATIONS:**

Color stability or gloss may be affected by high humidity, low temperature, chemical exposure or lighting such as sodium vapor lights.

Proper mixing is important for product performance.

High heat exposure may discolor the surface.

Colors may vary from batch to batch. Therefore, use only product from the same batches for an entire job. \*This product is not UV color stable.

Always apply a suitable test area to evaluate the product performance and suitability prior to undertaking the entire project. Samples are available upon request.

Mixtures of chemicals and applications with exposures to chemicals at elevated temperatures should be thoroughly evaluated before applying.

Substrate temperature must be 5°F above dew point.

All new concrete must be cured for at least 30 days prior to application.

See reverse side for application instructions.

Physical properties are typical values and not specifications.

See reverse side for limitations of our liability and warranty.

## INSTRUCTIONS (FCS-401)

**1) PRODUCT STORAGE:** Store product in an area as to bring the material to normal room temperature before using. Continuous storage should be between 60 and 90 degrees F. Low temperatures may cause product crystallization.

**2) SURFACE PREPARATION:** The most suitable surface preparation would be a fine brush blast (shot blast) to remove all laitance and provide a suitable profile. All dirt, foreign contaminants, oil and laitance must be removed to assure a trouble free bond to the substrate. A test should be made to determine that the concrete moisture content is controlled to acceptable levels, this can be done by placing a 4'X4' plastic sheet on the substrate and taping down the edges. If after 24 hours, the substrate is still dry below the plastic sheet, then the substrate is generally considered suitable for coatings. The plastic sheet testing is also a good method to determine if any hydrostatic pressure problems exist that may later cause disbonding. After surface preparation and before application, repair all bug holes and grind down any projections. Repair all cracks or concrete Imperfections.

**3) PRODUCT MIXING:** This product is packaged with a gallon container of part A (8.3#) and a gallon container of part B (9.75#) with an aggregate component consisting of one bag (30#). Standard packages are in pre-measured kits and should be mixed as supplied in the kit. We highly recommend that the kits not be broken down. Add the part B component to an oversized mixing container first, followed by the part A component. After the two liquid parts are combined thoroughly and streak free, add in the provided aggregate and mix well with slow speed mixing equipment such as a jiffy mixer until the material is thoroughly mixed and uniform in color. After mixing, transfer the mixed material to another pail (the transfer pail) and again remix. The material in the transfer pail is now ready to be applied on the prepared substrate. Remix occasionally to prevent settling of aggregate. Improper mixing may result in product failure.

**4) PRIMING:** No primer is necessary on a properly prepared substrate, however, if concrete outgassing occurs, discontinue application and apply a suitable primer.

**5) PRODUCT APPLICATION:** Have the floor as dry as possible without any puddles of water present. If there is excess water on the substrate, take up excess with a suitable vacuum until a near dry condition exists. Then, after the material is thoroughly mixed, pour the material onto the substrate. Either use a trowel to push out and level the material evenly or spread with a gauge rake followed by an air release roller tool. Immediately after the product is applied, broadcast with aggregate to rejection on the wet surface. Remove excess aggregate after the material has cured. Surfaces not broadcasted could have an uneven texture, color streaks or color differences and an orange peel look. Maintain temperatures and relative humidity within the recommended ranges during the application and curing process. Do not apply to cracked or unsound concrete. Do not feather edge.

**6) RECOAT OR TOPCOATING:** Except for the aggregate broadcast, topcoats are not required. In some areas, a suitable high build novolac coating can be used, depending on specific requirements. If topcoated, the high heat resistance would be diminished.

**7) CLEANUP:** For cleaning any application, equipment, water can be used. The urethane component container is best cleaned with a suitable solvent.

**8) FLOOR CLEANING:** Caution! Some cleaners may affect the color of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.

**9) RESTRICTIONS:** Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). It is best to let the floor remain dry for the full cure cycle.



### **Limitations on Our Warranty**

We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Listed physical properties are typical and should not be construed as specifications. No warranty is made, expressed or implied, regarding such other information, the data on which it is based, or the results you will obtain from its use. No warranty is made, expressed or implied that our product shall be fit for any particular purpose. No warranty is made that the use of such information or our product will not infringe upon any patent. We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Before using, read the material safety data sheet and follow all precautions.