

14851 Michael Lane, Spring Lake, MI 49456 USA (ph) 800.252.4144 (fx) 616.850.0530 www.seal-bond.com

**SEAL BOND™ FCS-412 CONDUCTIVE EPOXY PRIMER**

**SEAL BOND™ FCS-412: Description**

FCS-412 is a two component solvent based epoxy primer that exhibits excellent characteristics for abrasion resistance and static dissipative properties. Another outstanding feature for this product is the excellent substrate penetration which results in excellent adhesion characteristics. The semi-clear is a metallic pigmented primer while the black is available in a metallic pigmented version with additional lead time.

**Recommended for:**

Recommended for priming concrete or masonry substrates prior to applying a suitable topcoat when static control is needed.

**SOLIDS BY WEIGHT**

Clear = 61%; Black = 52% (+, - 2%)

**SOLIDS BY VOLUME**

Clear = 51%; Black = 45% (+, - 2%)

**VOLATILE ORGANIC CONTENT**

Mixed (Clear = 3.55 pounds/gallon; Black = 3.74 pounds/gallon)

**STANDARD COLORS**

semi-clear and black only

**REQUIRED FILM THICKNESS**

6-7 mils per coat wet thickness (yields 3 mils dry)

**COVERAGE PER GALLON**

229 to 267 square feet @ 6-7 mils wet thickness

**PACKAGING INFORMATION**

2 gallon and 10 gallon kits (volume approx.)

**MIX RATIO**

1 part A to 1 part B by volume

**SHELF LIFE**

½ year in unopened containers

**FINISH CHARACTERISTICS**

Not applicable (primer use only)

**ABRASION RESISTANCE**

Taber CS-17 wheel - 1000g total load and 500 cycles = 36.0 mg loss

**IMPACT RESISTANCE**

Gardner Impact, direct= 50 in. lb. (passed)

**FLEXIBILITY**

No cracks on a 1/8" mandrel

**ADHESION**

400 psi @ elcometer (concrete failure, no delamination)

**VISCOSITY**

Mixed = clear @ 500-900 cps & black @ 250-400 cps (typical)

**DOT CLASSIFICATION**

"FLAMMABLE LIQUID N.O.S., 3, UN1993, PGIII"

**APPLICATION TEMPERATURE**

40-90 degrees F

**TOPCOAT**

Contact your representative for recommendations.

**CURE SCHEDULE: (70°F)**

pot life – 1 gallon volume ..... 3-5 hours  
tack free (dry to touch).....2-4 hours  
recoat topcoat.....see limitations  
light foot traffic.....3-5 hours  
full cure (heavy traffic)... .....2-7 days

**CHEMICAL RESISTANCE:**

REAGENT	RATING
Xylene	B
Gasoline	B
50% sodium hydroxide	D
10% sulfuric	C
10% hydrochloric acid	C
20% nitric acid	A
ethylene glycol	C

Rating key: A - not recommended, B - 2 hour term splash spill, C - 8 hour term splash spill, D - 72 hour immersion, E - long term immersion. NOTE: extensive chemical resistance information is available through your sales representative.

**ELECTRICAL RESISTANCE**

**ASTM F150-89**

MEASUREMENT RESISTANCE (OHMS)

LOCATION **clear black**

1. 9.50e+4 9.40e+4
2. 1.36e+5 1.80e+5
3. 2.17e+5 1.95e+5
4. 2.73e+5 2.40e+5

## LIMITATIONS

- \* Colors may be affected by high humidity, chemicals, temperatures or exposure to certain types of lighting such as sodium vapor lights.
- \* For best results use a good quality roller.
- \* Slab on grade requires moisture barrier.
- \* Substrate temperature must be 50 F above dew point.
- \* All new concrete must be cured for at least 30 days.
- \* Product color will vary from batch to batch.
- \* Too thick of an application may result in product failure.
- \*\*Do not topcoat the primer until the electrical resistance is 106 ohms of resistance or lower. In some instances, it will require 24 hours to achieve proper conductivity before topcoating. (test before topcoating).
- \* If temperatures are below 600F, let the material induct for 15 minutes before applying.
- \* This product is intended for the professional installer that has experience with this type of coating system.
- \* Physical properties are typical values and not specifications.
- \* See reverse side for application instructions.
- \* See reverse side for limitations of our liability and warranty.

## MIXING AND APPLICATION INSTRUCTIONS (MA-290 semi-clear and black)

THIS PRODUCT IS NOT FOR A CONDUCTIVE COATING SYSTEM. THIS SYSTEM IS NOT INTENDED FOR AREAS EXPOSED TO EXPLOSIVE MEDIA SUCH AS AMMUNITION PLANTS. THIS MATERIAL IS PROVIDED AS A STATIC DISSIPATIVE COATING. REVIEW THE DATA ON THE FRONT SIDE OF THIS TECHNICAL DATA UNDER ELECTRICAL RESISTANCE FOR TESTING RESULTS. REVIEW YOUR ELECTRICAL RESISTANCE REQUIREMENTS BEFORE INSTALLING THIS PRODUCT. DO NOT USE WAXES UNLESS THEY ARE SPECIFICALLY FORMULATED AND RECOMMENDED FOR ANTISTATIC APPLICATIONS. ALWAYS APPLY TEST PATCHES OF YOUR SELECTION TO CHECK CONDUCTIVITY PRIOR TO APPLICATION AND TO BECOME FAMILIAR WITH THE PRODUCTS APPLICATION PROCEDURE.

**1) PRODUCT STORAGE:** Store product in an area so as to bring the material to normal room temperature before using.

**2) SURFACE PREPARATION:** Surface preparation will vary according to the type of complete system to be applied. For a one or two coat thin build system (3-10 mils dry) we recommend either mechanical scarification or acid etching until a suitable profile is achieved. For a complete system build higher than 10 mils dry, we

recommend a fine brush blast (shot blast). All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free bond to the substrate. A test should be made to determine that the concrete is dry; 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 dry enough to start coating.

**3) PRODUCT MIXING:** Mix equal volumes such as 1 gallon of part A to 1 gallon of part B. After the two parts are combined, mix well with slow speed mixing

equipment such as a jiffy mixer until the material is thoroughly mixed and streak free. Improper mixing may result in product failure.

**4) PRODUCT APPLICATION:** Maintain temperatures within the recommended ranges during the application and curing process. The MA-290 conductive primer is best earthed with strips of copper about 20 centimeters long, which are anchored in the subfloor and connected to a water pipe or neutral conductor in the electric wiring system. Two earthing points normally suffice for a single room. One earth per 200 square meters of floor space is the general rule for large areas. After the substrate is earthed, Apply the MA-290 by roller or brush at the recommended (6-7 Mil) thickness. Too thick of an application may result in insufficient conductivity or solvent entrapment that may cause product failure. Allow sufficient time for the MA-290 to cure. SEE FRONT SIDE UNDER LIMITATIONS FOR TESTING PROCEDURES.

**5) RECOAT OR TOPCOATING:** If you opt to recoat or topcoat this product, you must first be sure that all of the solvents have evaporated from the coating during the curing process. Always remember that colder temperatures will require more cure time for the product before recoating or topcoating can commence. Before recoating or topcoating, check the coating to insure no epoxy blushes were developed (a whitish, greasy film or deglossing). If a blush is present, it must be removed prior to topcoating or recoating. Thoroughly mix part A and part B together for the selected anti-static topcoat using slow speed mixing equipment. Apply the selected anti-static topcoat according to the technical data specifications. Be sure to apply the topcoat product at the specified coverage rate or recommended thickness. We only recommend one coat of any anti-static topcoat be applied over the conductive primer, However, if multiple coats are to be placed, then a re-evaluation of conductive properties should be conducted at the job site location to determine adequate conductive properties. Consult your sales agent for proper anti-static topcoat selections. Adequate leakage resistance should be less than 108 ohms measured at 500 volts per ASTM F150-89 over concrete.

**6) CLEANUP:** Use xylol.

**7) 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.

**8) 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.