

PCG FortiCel™ Coating Technology

MOLD & MILDEW TREATMENT SPECIFICATION SECTION 09800 – SPECIAL PROTECTIVE TREATMENT

I. GENERAL

1.01 General requirements of the Project Manual shall apply to all work specified in this section.

1.02 Quality Assurance

A. Applicator

1. Applicator shall be trained & certified, by **PCG** or its appointed agents, in accordance with **PCG** methods and standards for mold protective treatment applications.
2. Applicator shall certify, in writing, that all technicians utilized for work in this section have been –
 - a. Trained and certified journeymen in the **PCG FortiCel™** mold protective treatment product application.
 - b. Shall have demonstrated a proficiency, in this area, by citing past usage of these products as a complete system.
3. Applicator shall include in this certification that any specialized equipment, as required by the manufacturer, will be used for work in this section.

1.03 Submittals

- ##### A. Product Data: Submit manufacturer's (**PCG**) technical information, including Product Technical Data Sheets, Material Safety Data Sheets, detailing job site and personal safety instructions, product mixing instructions and application instructions for each material specified. Identify by manufacturer's catalog number and general classification:
1. Technical Sheet FC-300; **Technical Application Data Sheet**
 2. Technical Sheet FC-100; **FortiCel™ Product information**
 3. MSDS; **FortiCel™ Product MSDS**
 4. Sample of 25 Year Full Remediation Warranty

1.04 Delivery and Storage

- ##### A. Deliver materials in sealed containers with manufacturer's labels intact.
- ##### B. Store materials in a protected area at a temperature range between 40⁰ and 110⁰ F.

1.05 Job Conditions

- ##### A. Apply **FortiCel** only under the following prevailing conditions:
- a. Surface and material temperatures are not below 32⁰ F. or above 110⁰ F.
 - b. Structure is dry and has water tight roof in place.
 - c. Prevent direct exposure to water for 5 days on the freshly treated surfaces to avoid affective curing of the treatment.
 - d. **FortiCel™** to be applied to structural members after "dry-in" is completed.
- ##### B. Mask, drop cloth or construct adequate containment in order to protect surfaces not to be treated.

II. PRODUCTS

2.01 Manufacturers

- ##### A. Products shall be manufactured by **PCG**, Protective Coatings Group, LLC, 5587 Commonwealth Ave, Jacksonville, FL 32254 (904) 378-8693

2.02 Materials

A. Mold Protective Surface Treatments

1. **FortiCel™** Mold & Mildew Preventive Coating
 - i. Application treatment to be applied to structural interior surfaces, including:
 1. Wood, Block, Concrete, Steel framing or structural components manufactured of wood, metal, or concrete.
 - a. Sheathing, plywood, oriented strand board (OSB), Floor Joists, Wall Members
 2. Concrete block, brick, or other cementitious materials used for structural design.
 3. Sheetrock (wallboard) may be treated on the wall cavity facing side. Consult manufacturer before application to wallboard.

2.03 Product Requirements

A. Mold Protect Surface Treatments

1. Surface Treatments shall be inorganic **silica cross-link** cured film structures.
 - i. V.O.C. must be "0"
2. Coating shall have independent laboratory evidence of passing ASTM 5590 and **must prevent spore germination**
3. Coating shall have independent laboratory **evidence of prevention of germination** as tested by MouldWorks Laboratory, Portland, OR according to **MouldWorks Test Panel** for testing of inherent mold resistance of coatings and their ability to prevent spore germination. See attached "Comparison of MouldWorks vs ASTM 5590"
4. Laboratory testing must include evidence of independent evaluation of coating capability to prevent germination of each of the following species and results;

Mold Species	Black Enamel	Coating Tested	Water Agar
	Control Sample	FortiCel™	
<i>Acremonium sp.</i>	no germination	no germination	germination
<i>Aspergillus caespitosus</i>	germination	no germination	germination
<i>Aspergillus glaucus gp.</i>	germination	no germination	germination
<i>Aspergillus versicolor</i>	germination	no germination	germination
<i>Chaetomium globosum</i>	germination	no germination	germination
<i>Cladosporium sphaerospermum</i>	germination	no germination	germination
<i>Fusarium sp.</i>	germination	no germination	germination
<i>Paecilomyces variotii</i>	germination	no germination	germination
<i>Penicillium aurantiogriseum</i>	germination	no germination	germination
<i>Penicillium corylophilum</i>	germination	no germination	germination
<i>Penicillium decumbens</i>	germination	no germination	germination
<i>Stachybotrys sp.</i>	germination	no germination	germination
<i>Trichoderma longibrachiatum</i>	germination	no germination	germination
<i>Tritirachium oryzae</i>	germination	no germination	germination
<i>Ulocladium botrytis</i>	germination	no germination	germination

5. Surface Treatments shall have passed ASTM D-3273-94 testing, with a zero mold growth (10) rating. And must be performed by a credible third party national laboratory.
6. Treatment must be warranted for 25 years and must include a Manufacturers Backed 25 Year full remediation warranty on all treated areas.
 - i. Warranty must be serialized and traced to the property address of application and must be enforceable without regard to ownership.

2.04 Material Preparation

- A. Mix materials **strictly** in accordance with manufacturer's most current printed technical literature.
- B. Thinning: **NO THINNING** is required for the **FortiCel™** Mold & Mildew Preventive Coating
- C. Surface must be dry prior to application.

III. EXECUTION

3.01 Pre-work Inspection

- A. Examine all surfaces to be treated and report any conditions that would adversely affect the performance of the protective treatment and which cannot be put into an acceptable condition by specified surface preparation methods.
- B. Remove and/or replace any surfaces, which cannot be put into an acceptable condition.
- C. Do not proceed with the mixing or application of the specified protective treatment until all surfaces can be placed into an acceptable condition.
- D. All surfaces must be dry and free of any debris, or residue that would interfere with adherence of coating to structural members.

3.02 Equipment Requirements

A. Mixing Equipment

1. Drill operated high-shear mixer
2. Continuous mixing shall include not less than 5 minutes with assurance of thoroughly mixing all sediment into solution.

B. Spray Equipment for **FortiCel™**

1. Airless sprayer such as Graco 395 or higher or Titan 440 or higher

- C. Spray Tip
 - 1. 513, 515, 413, 517, 215
 - D. Assorted tools, extension cords, water hose & nozzle, clean buckets, clean cotton cloths, scrub brushes mounted on pole extension handles, sponges, ladders, etc;
 - E. Protective masking materials and applicator.
 - F. Backpack Blower/Vacuum for removal of construction debris in wall cavities.
 - G. NIOSH respirator
 - H. Safety goggles
- 3.03 Surface Preparation
- A. General Area Preparation
 - 1. Prior to all surface preparation operations, completely mask, tarp, remove or other wise adequately protect all fixtures or surfaces not to be protective treated.
 - 2. Remove all construction debris from wall cavity, floor, and window areas to be treated.
- 3.04 Mixing
- A. **FortiCel** Mold & Mildew Protective Coating:
 - 1. **FortiCel™** must be properly mixed prior to use. This product is packaged, in ready to use container. For proper mixing –
 - a. Using an mixer with a variable speed drill and mixing paddle, blend for 5 minutes at high speed.

Be certain to mix all sediment which has settled to the bottom of pail completely before use. Repeat mixing periodically every 20 minutes while in continuous use. Foaming may occur this is a normal response to the mixing process and should not present any concern.
- 3.05 Application of **FortiCel™** Protective Treatment
- A. **Strictly** follow these **PCG** recommendations and instructions regarding product material and mixing, so as to provide the best quality work. Refer to technical Document FC 300.
 - B. Building roof shall be intact and dried in prior to application
 - C. All materials shall be applied under adequate illumination, evenly distributed and properly applied and shall have a visible golden-orange tint evident after application.
 - D. All materials shall be applied in an even and full continuous coating, free from skips, holidays or pinholes. Application rate to be 1 Mil wet thickness.
 - E. **FortiCel™** is best applied by Conventional Spray Equipment. Small areas or perimeter edges can be coated using a Natural Hair Bristle Trim Brush. Apply as follows:
 - 1. Configure your spray application so that a working wet line is maintained. Strive to spray to natural breaks. Always keep the tip pointed perpendicular to the surface.
 - 2. Beginnings in a corner, or other natural break, apply **FortiCel** material using vertical sweeps of the gun. Work in areas of arms length, which are most comfortable for the individual. Keep the gun tip parallel to the surface being sprayed.
 - 3. Use good journeyman spray techniques in order to achieve a thin, uniform coating deposit free from skips, holidays.
 - 4. The surface being treated will ultimately dictate the square foot per gallon yield of **FortiCel**. As a general rule, the following guidelines can be used:
 - a. Wood surface areas – 2000 to 2,500 sq. ft./gal @ 1 Mil wet
 - b. Masonry surface areas – 600 to 1000 sq. ft./gal. @ 1 Mil wet
 - c. Steel surface areas – 2000 to 2,500 sq. ft./gal @ 1 Mil wet
 - 5. Continue application until the entire room has been protective treated. **FortiCel** will dry to touch in approximately 1 hour and will thoroughly cure within 5 to 7 days, depending on prevailing ambient temperature ranges. Do not expose to water for 5 days post application.
- 3.06 Clean up
- A. Clean up spray equipment
 - 1. Use water in clean 5 gallon pail to flush **FortiCel™** from pressure lines and pump.
 - 2. Remove the tip from the gun nozzle housing and further clean the tip orifice, so as to prevent future clogging.
 - 3. Collect and dispose of the **FortiCel™** container in a proper manner, consistent with all jobsite disposal recommendations.
 - B. Job Site Clean Up – General
 - 1. All empty containers of **PCG** products must be collected and placed in appropriate collection bins for proper disposal.
 - 2. Remove all masking and other associated debris from the job site and leave the storage area clean.
- 3.07 Inspection
- A. Inspect and repair all work that is not acceptable to the Specifier and request the final acceptance.
- 3.08 Protective Surface Treatment Schedule
- A. As indicated on this schedule
 - 1. Mold & Mildew Treatment installation onto all unfinished wall surfaces according to project work scope.
 - a. Apply **FortiCel** onto cleaned and properly prepared surfaces, per Project Scope.

3.09 PCG Specification

3.09.1 This Specification is a general work order specification. It is intended for use, as a general guideline, for the successful application of **PCG FortiCel** Mold & Mildew Preventive Treatment onto interior surfaces, which are subject to continued mold and mildew growth conditions. Extensive laboratory and field testing has shown that the inorganic film structure of cured **FortiCel™** Mold & Mildew Coating will not support mold and mildew development, on its cured film.

- A. PCG is a manufacturer of blended chemical compounds and coatings to prevent mold, mildew and algae on coated surfaces.

END OF SECTION – 09880

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