Application Manual – Australia - January 2017

1. SURFACE PREPARATION INSTRUCTIONS:

Preparation works should be done in accordance with ISO 8501-1

1.1 Preparation of metallic surface

1.1.1. Metallic surfaces should be rust free and dust/dirt-free. Use a wire brush, sandpaper or steam cleaner. Allow to dry fully before application of primer coat.

1.1.2. The hand cleaning of metallic surfaces is done to preparation degree St 2 according to ISO8501-1. To the naked eye, the surface must be free of oil, grease and dirt, any loose material, rust, paint and foreign particles. Any remaining contaminants must be firmly adhered to the surface so they do not mix with the primer coat and can be painted over easily.

1.1.3. Steam cleaning of metallic surfaces must be to level of preparation according to ISO 8501-1. To the naked eye, the surface must be free of oil, grease and dirt, any loose material, rust, paint and foreign particles. Any remaining contaminants must be firmly adhered to the surface so they do not mix with the primer coat and can be painted over easily.

1.2. Preparation of concrete surface

Concrete and brick surfaces should be cleaned of dust and any loose foreign particles, then moistened with water. The surface should be even.

1.3. Preparation of wooden surface

Wooden surfaces must be free of dust and any loose particles, or any resin that may have bled through the wood.

1.4 Preparation of plastic surface

Plastic surfaces should be free of dust and any foreign particles, and free of grease. You may use polishing sandpaper to obtain a surface to which C-COAT™ can adhere easily.

2. MATERIAL PREPARATION FOR WORK

2.1. Remove the cover of the sealed plastic bucket.

2.2. Remove the crust by carefully immersing and lifting a flat wooden spatula on centre and along the walls of bucket, so that the liquid covers the crust.

2.3. Continue to gently prod the crust so that it combines with the liquid material.
Use a drill with spiral attachment and mix the contents of bucket slowly for 10 to 15 minutes.

IMPORTANT!
C-COAT™ is not paint – it is a ceramic insulation coating. Do not use high speeds for mixing during preparation, as this will result in destruction of ceramic and silicon balls. When using a mixing drill, rotation speed should not exceed 300 rpm.

2.4. Continue mixing until the crust is dissolved fully and the mixture appears free of clots and lumps.

2.5. Pour the mixed product into a clean bucket through a filter with holes 0.5-1.0 mm in diameter to remove any remaining lumps. You may use a sifting bag to filter.

2.6. Apply a prime coating layer. Allow one hour to ensure it is completely dry.

2.6.1. Preparation of primer: primer is firstly prepared in trial volume, 1 litre in container. Use500-700 ml of prepared C-COAT™ and add distilled water to make up to 1 litre.
The amount of water you need to add depends on temperature of the surface to which you are applying C-COAT™ and the ambient air temperature. The lower temperature, the less water is needed. The minimum amount of water is 20 ml. Primer should be able to be applied easily. Too little water for a high-temperature surface will lead to lumps. Too much water at low temperature will lead to patches in coverage.

2.7. While working with the primer, you need to mix it constantly. When applying the primer with a brush, paint in thin layers (around 0.08-0.1 mm) per pass. If you're using an appliance(e.g., Graco), the layer per pass is 0.06-0.08 mm. If you are applying the material to hot surfaces with temperatures higher than 70°C, you will need to use more liquid primer.

3. EQUIPMENT

3.1. You can apply C-COAT™ using either a airless sprayer, or a brush with a long, soft, natural bristle.

3.2. Recommendation. When applying to an area of more than 50 square metres of wall or pipes with diameter >300 mm, use an airless sprayer equivalent or similar to that of Graco-695, or Graco-795 with maximum pressure of 230 bar (23MPa), and working pressure 80-140 bar.

Graco UltraMax 795

Graco UltraMax 695

Graco UltraMax 1095

3.3. Follow the manufacturer's instructions regarding preparation of appliance and application of material.

4. APPLYING MATERIAL

4.1. Carefully mix material immediately before applying to surfaces. Apply C-COAT using a cross-hatch pattern. Each section should be covered in 2-4 passes, with each pass being a layer of around 0.1-0.2 mm. Total thickness must not exceed 0.38-0.5 mm. This layer is called a technological layer. The second technological layer should be applied only after the first layer has dried (around 2 hours). Once the layers have dried, the material will be waterproof.





4.2. Apply C-COAT™ from corner to corner, without interruption.

4.3. Do not apply the material if the relative humidity is higher than 80%.

5. CONTROL OF COATED THICKNESS

5.1. Immediately after application of C-COAT, check coverage thickness using a measuring probe «Hrebenka» (Comb). Once it has dried completely, test thickness again using callipers 125-0,1; micrometer 0-25; or bi-electronic devices.

5.2. The material consumption depends on many factors and is defined in a separate document.

C-COAT™ - Standards Compliance

GOST 7076-87	Method of determination of steady-state thermal conductivity and thermal resistance
GOST 17177-94	Thermal insulating materials and products for building applications. Test methods
GOST 25989-83	Rigid cellular plastics. Method for the determination of water - vapour permeability
GOST 11529-86	PVC materials for floors. Methods of control
GOST 15140-78	Paintwork materials. Methods for determination of adhesion
GOST 11262-80	Plastics. Tensile strength test method
GOST 4765-73	Pain and lacquer materials. Method of determination impact resistance
GOST 896-69	Paints and varnishes. Photoelectrical method for determination of gloss of coatings
ASTM E903-12	Standard Test Method for Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres
ASTM E1980-11	Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces
BS EN 673:2011	Glass in building. Determination of thermal transmittance (U value) Calculation method
ASTM C518-10	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM D638-99	Standard Test Method for Tensile Properties of Plastics
ASTM D1622-98	Standard Test Method for Apparent Density of Rigid Cellular Plastics
ASTM D4541-95	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D2240-05	Standard Test Method for Rubber Property - Durometer Hardness
ASTM B117-02	Standard Practice for Operating Salt Spray (Fog) Apparatus

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