Nap-Gard® Application Guide

Nap-Gard® 7-0016 FBE

RECOMMENDED APPLICATION PARAMETERS

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GENERAL APPLICATION GUIDELINES

Guidelines for Handling and Storage of FBE Powder Coating Material

1. Nap-Gard® Fusion Bonded Epoxy (FBE) powder coating and repair material should be stored in its original container or in a clean, adequately sealed container to keep the contents free of moisture and contamination.
2. Handling and storage conditions, including temperature control should be followed in accordance with the recommendations on the 7-0016 Technical Data Sheet (TDS).

Guidelines for Surface Preparation of Metal Substrate

1. Prior to abrasive blast cleaning, inspect the surface of the metal substrate to ensure no dirt, grease, oil, or other contaminants are present. Remove all surface contaminants prior to abrasive blast cleaning in accordance with SSPC-SP 1.
2. Check the surface of the part for possible chloride contamination using proper test methods. If chlorides are present above the specified threshold, remove the chloride contaminants in accordance with NACE SP0394-13 and/or CSA Z245.20-14.
3. Uniform preheating of bare substrate is highly recommended prior to abrasive blasting to eliminate moisture from the surface.
4. All surfaces to be coated should be cleaned by abrasive blasting to near-white metal finish in accordance with NACE #1/SSPC-SP5 or Sa 3.
5. Check the abrasive material for the presence of chlorides prior to and during cleaning of the substrate. A minimum of one test per 8-hour run time is recommended. The total chloride concentration should be below 20 ppm. The abrasive used should be continually cleaned and particle size distribution controlled by air wash separation. Steel Grit, Aluminum Oxide, or Garnet are acceptable media.
6. The anchor pattern profile should have a minimum height of 1.5 mils (38μm) and a maximum height of 3.5 mils (89μm) as measured with X Course Press-o-Film Replication Tape or a suitable profilometer.
7. Following the acceptance of the blast cleaning and immediately prior to heating, all shot, grit, sand, dust, or other foreign matter remaining on the external and internal surfaces of the part should be thoroughly removed by air knife, water, brush, or vacuum type cleaning.
   - If compressed air is used for removal of foreign material, it should be dry and free of contaminants.
   - All particles removed from the part surface should be extracted or collected in such a manner as to not contaminate cleaned part.
8. Abrasive blast cleaned surfaces should be protected from conditions of high humidity, rainfall, or surface moisture. Do not allow the abrasive blasted part surface to flash rust before coating.

**Guidelines for Application of Nap-Gard® 7-0016 and 7-1808 Liquid Phenolic Primer**

1. Nap-Gard® 7-0016 powder coating and 7-1808 liquid primer should be applied over cleaned, preheated surfaces as described in previous sections of this Application Guide.
2. All air used to fluidize, transport, and apply the powder should be dry and free of oil. The dry air system should be capable of delivering air with a dew point of -20°F (-30°C) or lower.
3. Spray apply 7-1808 Liquid Phenolic Primer to the cleaned part. The recommended dried film thickness of the primer is 0.5 mils (12μm) to 1.0 mil (25μm). The surface temperature of the substrate should not exceed 150°F before and during the application of the primer.
   - The use of conventional liquid spray equipment for application of primer is recommended.
4. Uniformly and continuously preheat the part surface to a temperature of 400°F (205°C) to 425°F (218°C) in accordance with the TDS.
5. The pre-heating method should not leave a residue or contaminant on the substrate. Avoid oxidation of the steel in the form of "bluing" or other visually apparent oxide formation.
6. Pre-heat temperatures should be monitored and verified using Tempilstiks® or roller contact pyrometer. Care should be exercised to minimize contamination of any surfaces to be coated by deposits left by the Tempilstiks®.
7. Nap-Gard® 7-0016 coating should be applied to preheated parts by fluidized air system (jet-vac), dipping, or electrostatic spray in a uniform, cured film with a thickness of 15 mils nominal (380μm) or in accordance with the part owner’s applicable specification or contract.
8. The use of reclaimed FBE powder is not recommended. The use of recycled coating powder should be minimized. The ratio of recycled powder to virgin powder should never exceed 20%. All recycled powder should be magnetic and particle size screened prior to re-use and should be evenly blended into virgin material.

**Guidelines for Curing Nap-Gard® 7-0016**

1. Cure Nap-Gard® 7-0016 by returning the part to a 450°F (205°C) oven immediately after powder application.
2. The amount of time required for proper curing of the coating system is contingent upon many factors such as the part size and amount of heat lost during the application procedure. A general guideline for curing is for the part to dwell inside a 450°F (205°C) oven for 25 to 45 minutes. The surface temperature of the substrate should return to above 450°F for at least 10 minutes.
3. Contact Axalta Coating Systems technical staff for help with verification of cure.

**Guidelines for Inspection of Nap-Gard® 7-0016**

The Applicator is responsible for the inspection of the coating application quality in accordance with this Application Guide and/or per the part owner’s applicable specification or contract.
Any defects or damage to the external coating found during the inspection process should be repaired in accordance with the 7-0016 TDS. If making a repair is impractical, the Applicator should re-clean and apply Nap-Gard® 7-0016 to the entire part surface.

Recommended Repair Procedure

1. Grind away any imperfections in the part substrate around the holiday.
2. Use masking tape to mask a sufficient area around the holiday. No particular shape is required, however, a radius of at least 1" around the holiday should be masked to ensure continuity with the FBE coating.
3. Abrade the area within the mask with sandpaper, carborundum cloth, or surface grinder. An area of at least 1" around the holiday should be sanded to ensure inter-coat adhesion. Feather the original coating around the holiday to the edges of the tape mask.
4. The surface must be clean and dry before application of the repair material. Remove dust and debris from the area prior to applying the liquid repair material.
5. Mix and apply the liquid repair material according to the manufacturer’s guidelines. The two-part repair material should be used in accordance with the applicable Axalta Coating Systems TDS.
6. Remove the tape mask after application. Allow the coating to fully cure before handling.