

NHT-5600™ EPOXY

APPLICATION SPECIFICATION

DESCRIPTION:

NHT-5600™ is a corrosion barrier epoxy coating that is 100% solids and VOC-free, designed to work in conjunction with FBE coated pipe. It is intended for the protection of pipeline field joint girth welds, valves, fittings, repairs to FBE coated pipe, coating for directional drill (ARO) and road bore pipe, and for coating rehabilitation of existing pipelines.

**APPLICATION SPECIFICATION:****1. HANDLING AND STORAGE OF MATERIALS:**

- 1.1. NHT-5600 shall be transported and stored in such a manner as to prevent damage to packages. No packages shall be dropped or handled with hooks.
- 1.2. Liquid epoxy kits shall be protected from the elements to prevent contamination and damage.
- 1.3. Long-term storage temperature range of NHT-5600 shall be between 40 – 104°F (5 – 40°C). The containers shall be stored upright in a dry environment.
- 1.4. Materials will freeze below 32°F (0°C), product cannot be used after it has been frozen. Excessive heat will shorten the shelf life of the material.
- 1.5. Store in original packaging.
- 1.6. Expiration date is labelled on the both the part A and Part B containers.

2. SURFACE PREPARATION:

- 2.1. Pre-Heat Temperatures.
 - 2.1.1. The substrate shall be at least 50°F (10°C) and 5°F (3°C) above the dew point.
 - 2.1.2. Propane torches, induction coils, or infrared heaters are acceptable methods of preheating the pipe. Apply indirect heat if an open flame is used.
- 2.2. Moisture removal from steel.
 - 2.2.1. New Construction - Heat with a suitable device starting at the bottom of the weld bead and work up and out to the cutback areas until the moisture has left the pipe.
 - 2.2.2. Operating Pipelines - Rinse steel with suitable solvent. (Isopropanol recommended).
- 2.3. Surface preparation of the steel substrate.
 - 2.3.1. Removal of all visible oil and grease, by swabbing with an approved solvent that does not leave residue in accordance with SSPC-SP1.
 - 2.3.2. A Near-white finish, NACE No. 2/SSPC-SP10 is recommended.
 - 2.3.3. A surface profile of 2.5 to 5 mils is required.
 - 2.3.4. Protect the cleaned pipe such that it will remain free from contamination and be suitable for immediate coating application. If the pipe surface is contaminated prior to coating application, substrate shall be re-cleaned using the steps outlined in 2.3 above.

2.4. Surface preparation of adjacent anti-corrosion coatings.

- 2.4.1. Edges of the existing coating shall be roughened by sweep blasting, power tool cleaning, or with 80 grit sandpaper for a minimum of 1" (25mm) to feather the edge of the transition. The prepared adjacent coating will also be free of any contamination or residue left by abrasive blast material. A proper solvent in conjunction with clean, lint free cloths, brushes, and/or compressed air are recommended.

3. EPOXY APPLICATION

3.1. Stripe Coating (where required).

- 3.1.1. With DSAW pipe, the longitudinal or spiral mill weld seam shall be stripe coated with Polyguard NHT 5600 prior to coating complete cutback area.
- 3.1.2. Girth welds with a large bead shall be stripe coated with Polyguard NHT 5600 prior to coating complete cutback area.
- 3.1.3. Prepared and feathered edges of the mainline or parent coating shall be stripe coated with Polyguard NHT 5600 prior to coating complete cutback area.

3.2. Coating Application.

- 3.2.1. NHT-5600 is a 3:1, 100% solids epoxy. Thinners cannot be used at any time. Lowering the viscosity of the Part A (base) and Part B (hardener) will be done so by storing or warming the material prior to application to a temperature of 70 – 100°F (21 – 38°C). Ensure the part A (Resin) and Part B (Hardener) components match in both material and size as specified on the containers.
- 3.2.2. Using stir sticks, mix the individual Part A and Part B components taking care to loosen material away from the sides and bottoms of the containers. Pour the Part B contents into the part A container.
- 3.2.3. Mix the NHT-5600 kit using a power drill with a mixing paddle at a slow speed or a wooden stir stick so as not to introduce air into the mix. Continue mixing until a uniform color is achieved. Application shall take place immediately after mixing.
- 3.2.4. NHT-5600 should be applied to the thickness specified by the owner as measured by use of a wet film thickness (WFT) gauge.
- 3.2.5. The coating material can be applied using brushes, short nap rollers, foam rollers, trowels, or applicator pads.
- 3.2.6. Pour the mixed product onto the top of the pipe and spread down and around the entire surface of the bare steel and overlap onto the existing coating a minimum of 1" (25mm). Smooth out obvious sags or rough edges, valleys, or drips. Special attention shall be given to the top of the weld bead and the bottom of the pipe.

3.3. Coating curing or cooling schedule and conditions.

- 3.3.1. The coating curing is time and temperature dependent. For example, dry to touch time at 75°F (24°C) ambient is 2.5 - 3 Hours, at 110°F (43°C) is 1 Hour, and at 150°F (65°C) is 30 Minutes.
- 3.3.2. If the steel substrate falls below 41°F (5°C) NHT-5600 will stop curing. Below 32°F (0°C) the coating will freeze. A detailed coating cure chart is available from the manufacturer. The pipe may be post-heated indirectly to maintain substrate temperatures and assist the curing of the epoxy.

3.4. Recoat and repair methods.

- 3.4.1. Small repairs may be accomplished by using NHT-5600 Rapid Repair Cartridges. Larger repairs shall be repaired using NHT-5600. The surface to be coated shall be abraded using 80 grit sandpaper or by sweep blasting the repair area. The abraded area should be wiped clean with a solvent and shall be clean and dry prior to applying the coating. Surfaces below 50°F (10°C) shall be pre-heated.
- 3.4.2. When applied within the Polyguard's recommended coating and recoat window, multiple coats of NHT 5600 will not compromise performance service.

3.5. Backfill

- 3.5.1. For most applications, time to backfill is determined when the NHT-5600 reaches a hardness of 80 ± 2 on the Shore D scale as measured by a durometer tester. The coating may continue curing to a Shore D hardness of 85.

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