

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Provide labor, materials, equipment and supervision necessary to install a fluid-applied pedestrian traffic coating system as outlined in this specification to new or existing concrete surfaces.
- B. The manufacturer's application instructions for each product used are considered part of this specification and should be followed at all times.
- C. Related Sections:
  - 1. Section 03 30 00: Cast-in-Place Concrete
  - 2. Section 03 40 00: Precast Concrete
  - 3. Section 07 90 00: Joint Protection

### **1.2 SYSTEM DESCRIPTION**

- A. Decorative Peda-Gard Flake shall be a complete system of compatible materials supplied by Neogard to create a seamless waterproof membrane with integral wearing surface, designed primarily for mechanical room applications.
- B. Decorative Peda-Gard Flake shall be designated for application on the specific type of deck indicated on the drawings.

### **1.3 SUBMITTALS**

- A. Technical Data: Submit manufacturer's product data and Safety Data Sheets (SDS) on each product.
- B. Samples: Submit samples of specified pedestrian traffic coating system. Samples shall be construed as examples of finished color and texture of the system only.
- C. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the specified pedestrian traffic coating system.
- D. Warranty: Submit copy of manufacturer's standard warranty.

### **1.4 QUALITY ASSURANCE**

- A. Supplier Qualifications: Decorative Peda-Gard Flake, as supplied by Neogard, is approved for use on this project.
- B. Applicator Qualifications: Applicator shall be approved to install specified system.
- C. Requirement of Regulatory Agencies: Comply with applicable codes, regulations, ordinances and laws regarding use and application of coating systems.
- D. Field Sample:
  - 1. Install a field sample of at least 100 square feet at the project site or pre-selected area as agreed to by owner's representative, applicator and manufacturer.
  - 2. Apply material in accordance with manufacturer's written application instructions.
  - 3. Field sample will be standard for judging color and texture on remainder of project.
  - 4. Maintain field sample during construction for workmanship comparison.
  - 5. Do not alter, move, or destroy field sample until work is completed and approved by Owner's representative.

### **1.5 DELIVERY, STORAGE AND HANDLING**

- A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.

- B. Storage and Handling: Recommended material storage temperature is 75°F (23°C). Handle products to prevent damage to container. All materials shall be stored in compliance with local fire and safety requirements. Do not store at high temperatures or in direct sunlight.

## 1.6 PROJECT CONDITIONS

- A. Prior to starting work, read and follow the SDS and container labels for detailed health and safety information.
- B. Proceed with application of materials only when substrate temperature is 40°F (4°C) or greater. Do not proceed if precipitation is imminent. Only apply to dry, clean surfaces; do not apply to damp, dirty, or frosty surfaces. Ambient temperature should be a minimum 40°F (4°C) and rising, and more than 5°F (3°C) above dew point. Take special precautions when ambient and/or substrate temperatures are approaching, at, or above 100°F (38°C); it may be necessary to limit material application to evening hours for exterior exposed decks.
- C. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the pedestrian traffic coatings to cure adequately.
- D. Protect plants, vegetation or other surfaces not to be coated against damage or soiling.
- E. Keep products away from spark or flame. Do use equipment which may produce sparks during application and until all vapors have dissipated. Post "No Smoking" signs.
- F. Maintain work area in a neat and orderly condition, removing empty containers, rags and rubbish daily from the site.

## 1.7 WARRANTY

- A. Upon request, Neogard shall offer a manufacturer's standard warranty for institutional, commercial, industrial, and high-rise/multi-family residential projects only, after substantial completion of the application and receipt of a properly executed warranty request form.

## PART 2 MATERIALS

### 2.1 MANUFACTURER

- A. Neogard, A part of Hempel, 2728 Empire Central, Dallas, TX 75235, (800) 321-6588, [www.neogard.com](http://www.neogard.com).

### 2.2 MATERIALS

- A. Decorative Peda-Gard Flake materials (Hempel product numbers in parentheses):
  1. Primer: Concrete and metal primers as required by Neogard.
  2. Flashing Tape: 86218 (62ZJB) flashing tape.
  3. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
  4. Sealant: 70991 (47XJB) urethane sealant.
  5. Aggregate: UV-stable flakes (contact Neogard for source).
  6. Base Coat (two options):
    - a. 70410 (45010) polyurethane coating.
    - b. 7430 series (57040) polyurethane coating.
  7. Wear Coat: 7470 series (47LJB) polyurethane coating.
  8. Topcoat (five options):
    - a. 70805/7952 (57020) clear Chemical Resistant Urethane (CRU);
    - b. 70817/70818 (57070) clear CRU;
    - c. 70869/70819 (57031) clear Polyaspartic;
    - d. Acrylithane HS2 (57010);
    - e. Acrylithane HS4 (645J1).

## 2.3 MATERIAL PERFORMANCE CRITERIA

- A. Typical physical properties of cured 70410 urethane used on this project are:
1. Tensile Strength, ASTM D412, 1,200 psi
  2. Elongation, ASTM D412, 400%
  3. Permanent Set, ASTM D412, < 10%
  4. Tear Resistance, ASTM D1004, 100 pli
  5. Shore A, ASTM D2240, 70–75
  6. Adhesion, ASTM D4541, 300 psi
  7. Water Resistance, ASTM D471, < 3% (7 days)
  8. Taber Abrasion, ASTM D4060, 30 mg (1,000 CS-17)
- B. Typical physical properties of cured 7430 series urethane used on this project are:
1. Tensile Strength, ASTM D412, 2,500 psi
  2. Elongation, ASTM D412, 400%
  3. Permanent Set, ASTM D412, < 30%
  4. Tear Resistance, ASTM D1004, 200 pli
  5. Shore A, ASTM D2240, 75–80
  6. Adhesion, ASTM D4541, 300 psi
  7. Water Resistance, ASTM D471, < 3% (7 days)
  8. Taber Abrasion, ASTM D4060, 25 mg (1,000 CS-17)
- C. Typical physical properties of cured 7470 series aliphatic urethane used on this project are:
1. Tensile Strength, ASTM D412, 2,500 psi
  2. Elongation, ASTM D412, 250%
  3. Permanent Set, ASTM D412, < 20%
  4. Tear Resistance, ASTM D1004, 400 pli
  5. Water Resistance, ASTM D471, 1% (7 days)
  6. MVT (20 mils), ASTM E96, 2.5 English Perm
  7. Taber Abrasion, ASTM D4060, 10 mg (1,000 CS-17)
  8. Shore A, ASTM D2240, 88–92
  9. Adhesion, ASTM D4541, > 400 psi
- D. Typical physical properties of cured 70805/7952 epoxy used on this project are:
1. Tensile Strength, ASTM D412, 4,000 psi
  2. Elongation, ASTM D412, 10%
  3. Permanent Set ASTM D412, < 10%
  4. Water Resistance, ASTM D471, < 1%
  5. MVT (5 mils), ASTM E96, 1.4
  6. Adhesion, ASTM D4541, 300 psi
  7. Flammability, ASTM D635, Pass
  8. Taber Abrasion, ASTM D4060, 40 mg (1,000 CS-17)
- E. Typical physical properties of cured 70817/70818 clear CRU used on this project are:
1. Tensile Strength, ASTM D2370, 7,500 psi
  2. Elongation, ASTM D2370, 12%
  3. Shore D, ASTM D2240, 70
  4. Water Resistance, ASTM D471, < 1% (7 days)
  5. Taber Abrasion, ASTM D4060, 23 mg (1,000 CS-17)
  6. Anti-Microbial, JIS Z 2801-2010, Pass
- F. Typical physical properties of cured 70869/70819 clear polyaspartic used on this project are:
1. Tensile Strength, ASTM D2370, 3,362 psi
  2. Elongation, ASTM D412, 63%
  3. Taber Abrasion, ASTM D4060, 55 mg (1,000 CS-17)
  4. Shore D, ASTM D2240, 70
  5. Anti-Microbial, JIS Z 2801-2010, Pass
- G. Typical physical properties for Acrylithane™ HS2 used on this project are:

1. Q-UVA 340 (4,000 hrs), ASTM D4587, >90% gloss retention, (60°) color change, DE <0.5
  2. Xenon Arc (1,000 hrs) quartz borosilicate filters, ASTM G147-96, >95% gloss retention (60°)
  3. EMMAQUA 290 MJ/M2, ASTM G90-98, >95% gloss retention (60°)
  4. Q-Trac 290 MJ/M2, ASTM D4141, >90% gloss retention (60°)
  5. Exterior Exposure (45° S, Dallas, TX), ASTM D1014, >90% gloss retention (3 years)
  6. 24 Hour Chemical Resistance Exposure, ASTM D1308, No Effect: DI Water, 10%; H2SO4, 10%; NaOH, 25%; H3PO4, Xylene & Mineral Spirits
  7. Impact Resistance, ASTM D2794, 160 F & 160 R
- H. Typical physical properties for Acrylithane™ HS4 used on this project are:
1. Q-UVA 340 (4,000 hrs), ASTM D4587, >90% gloss retention, (60°) color change, DE <0.5
  2. Xenon Arc (1,000 hrs) quartz borosilicate filters, ASTM G147-96, >95% gloss retention (60°)
  3. Exterior Exposure (45° S, Dallas, TX), ASTM D1014, >90% gloss retention (3 years)
  4. 24 Hour Chemical Resistance Exposure, ASTM D1308, No Effect: DI Water, 10%; H2SO4, 10%; NaOH, 25%; H3PO4, Xylene & Mineral Spirits
  5. Impact Resistance, ASTM D2794, 160 F & 160 R
- I. The above tested results are typical values. Individual lots may vary up to 10% from the typical value. Further technical information can be found at [www.neogard.com](http://www.neogard.com).

## 2.4 ACCESSORIES

- A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, and others, shall be compatible with the specified pedestrian traffic coating system.

## 2.5 MIXING

- A. Comply with manufacturer's instructions for mixing procedures.

# PART 3 EXECUTION

## 3.1 EXAMINATION

- A. Concrete: Verify that the work done under other sections meets the following requirements:
1. That the concrete deck surface is free of ridges and sharp projections. If metal forms or decks are used they should be ventilated to permit adequate drying of concrete.
  2. That the concrete was cured for a minimum of 28 days. (minimum of 3,000 psi compressive strength). Water-cured treatment of concrete is preferred. The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by Neogard.
  3. That the concrete was finished by a power or hand steel trowel followed by soft hair broom to obtain light texture or "sidewalk" finish.
  4. That damaged areas of the concrete deck be restored to match adjacent areas. Use 70714/70715-09 (45062) clear 100% solids epoxy and sand for filling and leveling.

## 3.2 PREPARATION

- A. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a stiff bristle broom and a strong non-sudsing detergent such as Neogard 8500 BioDegradable Cleaner (089JB). Thoroughly wash, clean, and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods.
- B. Shot-Blasting: Required surface preparation method for remedial construction is also the preferred method for new construction. Mechanically prepare surface by shot-blasting to industry standard surface texture (ICRI CSP3-CSP4) without causing additional surface defects in substrate. Shot-blasting does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to ensure proper bonding of the deck coating.
- C. Hydro-blast: If shot blasting is not practical, hydro-blasting using a minimum of 4,000 psi at tip, within 6" of substrate is acceptable to achieve a surface profile of ICRI's CSP3 - CSP 4, without causing additional

surface defects in deck surface. Proper cleaning procedures must be followed to ensure proper bonding of the deck coating.

- D. Cracks and Cold Joints: Visible hairline cracks (less than 1/16" in width) in concrete and cold joints shall be cleaned, primed as required and treated with thoroughly mixed 70410 or 7430 series base coat material a minimum distance of 2" on each side of crack to yield a total thickness of 30 dry mils. Large cracks (greater than 1/16" in width) shall be routed and sealed with 70991 sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with thoroughly mixed 70410 or 7430 series base coat material a distance of 2" on each side of crack to yield a total thickness of 30 dry mils.
- E. Control Joints: Seal control joints equal to or less than 1" in width with 70991 urethane sealant. Depending on the width to depth ratio of the joint, backing material and a bond breaker may be required. Install sealants in accordance with ASTM C1193 and manufacturer's instructions. Detail sealed joints with thoroughly mixed 70410 or 7430 series base coat material a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
- F. Flashing Tape: Install 86218 flashing tape and 86220 reinforcing fabric where indicated on the drawings and/or where required by the manufacturer prior to the application of base coat.
- G. Surface Condition: Surface shall be clean and dry prior to coating.

### 3.3 APPLICATION

- A. Factors That Affect Dry Film Thickness: Volume of solids, thinning, surface profile, application technique and equipment, overspray, squeegee, brush and roller wet out, container residue, spills and other waste are among the many factors that affect the amount of wet coating required to yield proper dry film thickness. To ensure that specified dry film thickness is achieved, use a wet mil gauge to verify actual thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build.
- B. Primer: Where required, thoroughly mix primer and apply at a rate of 300 sf/gal (0.33 gal/100 sf) to all concrete surfaces. Within 24 hours of application of primer, base coat must be applied. If base coat cannot be applied within 24 hours, inspect surface for contaminants, clean surface as necessary, and re-prime.
- C. Base Coat: Thoroughly mix 70410 or 7430 series and apply at a rate of 60 sf/gal (1.66 gal/100 sf or 26 wet mils), to yield 20 dry mils. Extend base coat over cracks and control joints which have received detail treatment.
- D. Wear Coat: Thoroughly mix 7470 series and apply at a rate of 120 sf/gal (0.83 gal/100 sf or 13 wet mils), to yield 10 dry mils, and immediately broadcast flakes into wet coating until refusal (approximately 25 lbs/100 sf). When dry, remove excess flakes and lightly abrade flake surface with palm sander utilizing 80 grit sand paper or use a Bully Tool<sup>®</sup> Pro Grade Floor Scraper or similar tool. Remove debris.
- E. First Topcoat: Thoroughly mix selected topcoat material and apply at a rate of 150 sf/gal (0.66 gal/100 sf or 10 wet mils) to yield 10 dry mils (70817/70818 CRU, 70869/70819 Polyaspartic) or 6 dry mils (70805/7952 CRU, Acrylithane HS2 or Acrylithane HS4).
- F. Second Topcoat: Thoroughly mix selected topcoat material and apply at a rate of 200 sf/gal (0.5 gal/100 sf or 8 wet mils) to yield 8 dry mils (70817/70818 CRU, 70869/70819 Polyaspartic) or 5 dry mils (70805/7952 CRU, Acrylithane HS2 or Acrylithane HS4).
- G. Apply topcoats in a cross hatch pattern for best coverage and uniformity of appearance. The Field Sample, under Section 1.4.D, will provide confirmation of coverage rates for topcoat.
- H. System coating thickness is 30 dry mils exclusive of primer, flakes, and topcoats. Selected topcoats will determine full system coating thickness.
- I. Applicator is responsible for applying sufficient coating to the substrate.

### 3.4 CLEANING

# Guide Specification

## Decorative Peda-Gard Flake

### Section 07 18 13 Pedestrian Traffic Coatings



- A. Remove debris resulting from completion of coating operation from the project site.
- B. Refer to the Neogard Pedestrian Deck Coating Systems Preventive Maintenance Manual for typical cleaning methods.

### 3.5 PROTECTION

- A. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75°F (23°C) and 50% relative humidity, or until completely cured.

**END OF SECTION**

Issued by: Hempel (USA) – Neogard Decorative Peda-Gard Flake

This Guide Specification supersedes those previously issued.

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