



Guide Specification

Note to Specifier: This document has been prepared by NEOGARD® in printed and electronic media, as an aid to specifiers in preparing written construction documents for FloorTuff™ High Performance epoxy flooring. For further information regarding specific project applications, contact your local NEOGARD® representative.

PART 1 GENERAL

1.1 SUMMARY

- A. Provide labor, materials, equipment and supervision necessary to install a high performance epoxy flooring system as outlined in this specification.
- 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 07 90 00: Joint Protection
 - 3. Section 07 95 00: Expansion Control

1.2 SYSTEM DESCRIPTION

- A. FloorTuff™ shall be a complete system of compatible materials supplied by NEOGARD® to create a high performance epoxy flooring system.
- B. FloorTuff™ shall be designated for application on the specific type of substrate indicated on the drawings.

1.3 SUBMITTALS

- A. Technical Data: Submit manufacturer's product data, material safety data sheets (MSDS) and installation instructions.
- B. Samples: Submit samples of FloorTuff™ high performance epoxy flooring 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 FloorTuff™ high performance epoxy flooring system.
- D. Warranty: Submit copy of manufacturer's standard sample warranty, identifying the terms and conditions stated in section 1.7 Warranty.

1.4 QUALITY ASSURANCE

- A. Supplier Qualifications: FloorTuff™, as supplied by NEOGARD®, is approved for use on this project.
- B. Applicator Qualifications: Applicators shall be approved to install specified system.
- C. Requirement of Regulatory Agencies: Specified materials shall meet existing Federal, State and local VOC regulations.

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 (24°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. Read and follow the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- B. Do not proceed with application of materials when substrate temperature is less than 60°F (16°C), if precipitation is imminent, or to a damp, unclean or frosty surface. It is recommended to maintain a minimum substrate temperature of 60°F (16°C) for a minimum of 48 hours before, during and after installation, or until cured. Special precautions are to be taken when ambient and/or substrate temperatures are approaching, at, or above 100°F (38°C).
- C. Due to hydrostatic, capillary and moisture vapor pressure, substrates in contact with ground must have a properly installed, effective vapor barrier. Moisture vapor emission of concrete not to exceed 3 lbs/1,000 sq. ft./24 hrs, when tested by the quantitative calcium chloride test method (ASTM F1869). Relative Humidity is not to exceed 75% when tested by In-situ Probe Test (ASTM F2170).
- D. Coordinate flooring 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 flooring system to cure adequately.
- E. Protect adjacent surfaces from damage resulting from installation of the system. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.

- F. Provide adequate ventilation.
- G. Provide a suitable work station to mix coating materials.
- H. Maintain work area in a neat and orderly condition, removing empty containers, rags and trash 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, upon substantial completion of the application and receipt of a properly executed warranty request form.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. NEOGARD® Division of JONES-BLAIR® Company, 2728 Empire Central, Dallas, TX 75235, (800) 321-6588, www.neogard.com.

2.2 MATERIALS

- A. FloorTuff™ Materials:
 1. Crack and Joint Filler: 70718/70719 flexible epoxy.
 2. Sealant: 70995, 70991 or other polyurethane sealant approved by NEOGARD®.
 3. Primer: 70714/70715 clear epoxy.
 4. Topcoat: 70714/70715 clear or pigmented epoxy.
 5. Optional Chemical Resistant Topcoat: 70815/70816 clear or pigmented CRU.
 6. Optional Texture Coat: 70714/70715 clear or pigmented epoxy, or 70815/70816 clear or pigmented CRU.
 7. Optional Texture: 86500 Neogrip spheres.
 8. Optional Texture: NEOGARD® 86364 20/40 mesh silica sand.

2.3 MATERIAL PERFORMANCE CRITERIA:

- A. Typical physical properties of cured material used on this project are:

PERFORMANCE REQUIREMENTS OF CURED FILM			
PHYSICAL PROPERTIES	TEST METHOD	70714/70715	70815/70816
Tensile Strength	ASTM D638 ASTM D2370	3,700 psi	3,446 psi
Elongation	ASTM D638 ASTM D2370 ASTM D412	25%	27%
Water Resistance	ASTM D570	0.21%	0.44%
MVT @ 10 Mils	ASTM E96	0.16	N/A
Taber Abrasion mg/1,000 (cs 17)	ASTM D4060	25 mg	19 mg

PERFORMANCE REQUIREMENTS OF CURED FILM			
PHYSICAL PROPERTIES	TEST METHOD	70714/70715	70815/70816
Flexural Strength	ASTM D790	3,180 psi	239 psi
Shore D	ASTM D2240	78	58
Flexural Modulus	ASTM D790	57,700 psi	6,360 psi
Compressive Strength	ASTM D 695	25,300 psi	N/A

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 <http://www.neogard.com>.

2.4 ACCESSORIES

- A. Miscellaneous materials such as cleaning agents, adhesives, closed cell backer rod, deck drains, etc., shall be compatible with the specified FloorTuff™ system.

2.5 MIXING

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

PART 3 EXECUTION

3.1 EXAMINATION

- A. 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, sound and dry.
 2. That the concrete was cured for a minimum of 28 days. (Minimum of 3,500 psi compressive strength). The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by NEOGARD®.
 3. That damaged areas of the concrete substrate be restored to match adjacent areas. Use 70714/70715 epoxy and oven-dry silica aggregate approved by NEOGARD® for filling and leveling at a ratio of one part epoxy mixed with four parts aggregate by volume.
 4. Due to hydrostatic, capillary and moisture vapor pressure, substrates in contact with ground must have a properly installed, effective vapor barrier. Moisture vapor emission of concrete not to exceed 3 lbs/1,000 sq. ft./24 hrs, when tested by the quantitative calcium chloride test method (ASTM F1869). Relative Humidity is not to exceed 75% when tested by In-situ Probe Test (ASTM F2170).

3.2 PREPARATION

- A. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a power broom and a strong non-sudsing detergent. Thoroughly wash,

clean, and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods. Do not apply materials unless surface is clean and dry.

- 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's CSP3-4) 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. **Note: If shot-blasting is not practical, contact NEOGARD® Technical Service at techservice@neogard.com.**
- C. Cracks: After shotblasting, fill all non-moving cracks with 70714/70715 epoxy, mixed with P1934 fumed silica to form a paste. The mix ratio is one part 70714/70715 epoxy to 3 parts P1934 fumed silica by volume.
- D. Control and Cold Joints: Fill control and cold joints flush with 70718/70719 flexible epoxy @ 3/4" depth. Install backer rod if necessary to limit depth to 3/4".
- E. Expansion and Isolation Joints: Expansion and isolation joints =/ < 1" in width, shall be sealed with 70995 or 70991 sealant. Sealant shall be applied to inside of joint only, not applied to floor surface.

3.3 APPLICATION

- A. Factors That Affect Dry Film Thickness: Volume 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: Mix 70714/70715 clear epoxy at a ratio of 2:1 by volume for three minutes. Apply at a rate of 260 sf/gal (6 wet mils) to yield 6 dry mils. **Note: Optional Texture- If a slip resistant texture is required you have the option of adding NEOGARD® 86364 20/40 mesh silica sand into wet primer coat at a rate of 10 lbs/100 sf. This will provide a more aggressive texture than adding Neogrip spheres as an Optional Texture Coat.** Allow primer coat to cure until tack free (8–9 hours @ 75°F, 24°C).

- C. Topcoat: Mix 70714/70715 clear or pigmented epoxy at a ratio of 2:1 by volume for three minutes. Apply at a rate of 160 sf/gal (10 wet mils) to yield 10 dry mils. If applying Optional Texture or Chemical Resistant Coats, allow topcoat to cure until tack free (8–9 hours @ 75°F, 24°C). If this is the final coat, allow system to cure for 24 hours at 75°F (24°C) before allowing foot traffic, 48 hours before allowing heavy load.
- D. Optional Chemical Resistant Topcoat: To optimize chemical resistance or UV stability, apply 70815/70816 CRU as a second topcoat. Mix 70815/70816 clear or pigmented CRU at a ratio of 1:1 by volume for three minutes. Apply at a rate of 200 sf/gal (8 wet mils) to yield 8 dry mils. Allow system to cure a minimum of 12 hours at 75°F (24°C) before allowing foot traffic.
- E. Optional Texture Coat: For limited slip resistance apply a second topcoat of 70714/70715 epoxy or 70815/70816 CRU. Add 4–6 ounces by volume of Neogrip spheres to 1.5 gallon of mixed epoxy, or 5 to 8 ounces by volume of Neogrip spheres to 2 gallons of 70815/70816, and mix for 3 minutes. Apply at a rate of 400 sf/gal (4 wet mils) to yield 4 dry mils. **Note: Installing the Optional Textured Coat thicker than 4 wet mils will cause the Neogrip spheres to sink into the coating, thus eliminating the desired slip-resistant texture.**

3.4 CLEANING

- A. Remove debris resulting from completion of flooring operation from the project site.
- B. Reference Flooring Maintenance Manual for typical cleaning methods.

3.5 PROTECTION

- A. After completion of application, allow system to cure for 24 hours at 75°F (24°C) before allowing foot traffic, 48 hours before allowing heavy load.

END OF SECTION

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