Guide Specification

TrafficTuff

Section 09 67 23 Resinous Flooring

PART 1 GENERAL

1.1 SUMMARY

A. Provide labor, materials, equipment and supervision necessary to install a vehicular/pedestrian traffic 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 92 00: Joint Sealants
3. Section 07 95 00: Expansion Control

1.2 SYSTEM DESCRIPTION

A. TrafficTuff shall be a complete system of compatible materials supplied by Neogard to create a high performance vehicular/pedestrian traffic flooring system for concrete slabs-on-grade or for substrates with no waterproofing requirements.

B. TrafficTuff shall be designated for application on the specific type of substrate indicated on the drawings.

1.3 SUBMITTALS

A. Product Data: Submit Neogard product literature and installation instructions.

B. Project Reference List: Submit list of projects as required by this specification.

C. Samples: Submit samples of specified vehicular/pedestrian traffic flooring system. Samples shall be construed as examples of finish only.

D. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the TrafficTuff system.

E. Warranty: Submit copy of manufacturer's standard warranty to cover a period of one year.

1.4 QUALITY ASSURANCE

A. Supplier Qualifications: TrafficTuff, as supplied by Neogard, is approved for use on this project.

B. Applicator Qualifications: Applicator shall be approved to install specified system.

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 avoid damage to container. Avoid storing in direct sunlight.

1.6 PROJECT CONDITIONS

A. Proceed with application of materials only when substrate temperature is above 50°F (10°C). It is recommended to maintain a minimum concrete temperature of 50°F (10°C) for a minimum of 48 hours before, during and after installation, or until cured.

B. Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from

hydrostatic, capillary or moisture vapor pressure. Moisture content of concrete not to exceed 3 pounds per 1,000 square feet per 24 hours when tested by the referee or quantitative calcium chloride test method.

C. Apply materials only to surfaces which are clean, dry, and secure.

1.7 WARRANTY

A. Upon request, Neogard shall offer a manufacturer's standard warranty upon 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, Fax (214) 357-7532, www.neogard.com.

2.2 MATERIALS

A. TrafficTuff (Hempel product numbers in parentheses):
1. Epoxy: 70714/70715-09 (45069/95075) clear.
2. Crack Filler: 70718/70719 (25009/95048) flexible epoxy or other flexible epoxy approved by Neogard .
3. Sealant: 70991 (47XJB) or other polyurethane sealant approved by Neogard.
4. Aggregate: 7992U (66EJB) 12/20 mesh silica aggregate.
5. Topcoat (choose one):
   a. UV-resistant, exterior application: FC7540/FC7964 (47QJ9/949JB) aliphatic urethane.
   b. Non-UV resistant, interior application: FC7510/FC7961 (47PJ9/948JB) aromatic urethane.
   c. Non-UV resistant, interior application: 70714-XX/70715 (45069/95075) pigmented 100% solids epoxy.

2.3 MATERIAL PERFORMANCE CRITERIA

A. Typical physical properties of cured 70714/70715-09 epoxy used on this project are:
1. Tensile Strength, ASTM D638, 2,000 psi
2. Elongation, ASTM D638, 40%
3. Compressive Strength, ASTM D695, 15,000 psi
4. Flexural Strength, ASTM D790, 1,900 psi
5. Flexural Modulus, ASTM D790, 62,000 psi
6. Water Resistance, ASTM D570, 0.17%
7. MVT (10 Mils), ASTM E96, 0.18 Perm
8. Shore D, ASTM D2240, 77
9. Adhesion, ASTM D4541, 400 psi
10. Impact Flexibility, ASTM D6905-03, Pass (120 in/lb)
11. Flammability, ASTM D635, Pass
12. Taber Abrasion, ASTM D4060, 61 mg (1,000 CS-17)

B. Typical physical properties of cured FC7540/FC7964 urethane used on this project are:
1. Tensile Strength, ASTM D412, 2,000 psi
2. Elongation, ASTM D412, 130%
3. Permanent Set, ASTM D412, < 10%
4. Tear Resistance, ASTM D1004, 155 pli
5. Water Resistance, ASTM D471, < 2% (7 days)
6. MVT (20 mils), ASTM E96, 1.0 English Perm
7. Taber Abrasion, ASTM D4060, 95 mg (1,000 CS-17)
8. Shore A, ASTM D2240, 80–90
9. Adhesion, ASTM D4541, 400 psi

C. Typical physical properties of cured FC7510/FC7961 urethane used on this project are:
1. Tensile Strength, ASTM D412, 2,200 psi

2. Elongation, ASTM D412, 80%
3. Permanent Set, ASTM D412, < 10%
4. Tear Resistance, ASTM D1004, 165 pli
5. Water Resistance, ASTM D471, <1% (7 days)
6. MVT (20 mils), ASTM E96, 0.4 English Perm
7. Taber Abrasion, ASTM D4060, 55 mg (1,000 CS-17)
8. Shore A, ASTM D2240, 84–90
9. Adhesion, ASTM D4541, 400 psi

D. Typical physical properties of cured 70714/70715 epoxy used on this project are:
1. Tensile Strength, ASTM D638, 3,700 psi
2. Elongation, ASTM D638, 25%
3. Compressive Strength, ASTM D695, 25,300 psi
4. Flexural Strength, ASTM D790, 3,180 psi
5. Flexural Modulus, ASTM D790, 57,700 psi
6. Water Resistance, ASTM D570, 0.21%
7. MVT (10 mils), ASTM E96, 0.16
8. Taber Abrasion, ASTM D4060, 25 mg (1,000 CS-17)
9. Shore D, ASTM D2240, 78
10. Adhesion, ASTM D4541, 350 psi
11. Flammability, ASTM D635, Pass

E. 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.

2.4 ACCESSORIES

A. Miscellaneous materials such as cleaning agents, fabric reinforcement, drains, and others shall be a composite part of the coating system and shall be compatible with the specified TrafficTuff 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 substrate 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 a 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 70714/70715-09 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.

3.2 PREPARATION

A. Protection:
1. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.
2. Provide a suitable work station to mix the coating materials.

B. Surface Preparation:
1. 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.

2. Steel shotblast the surface to remove surface contaminants. Proper care and procedure should be taken to leave the concrete surface as unopened as possible. An improper steel shotblast can cause "pinholes" in concrete surfaces, which can result in blister problems during the application of the superior chemical resistant flooring system. Note: Shotblasting does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to insure proper bonding of epoxy flooring.
3. Non-moving Cracks: After shotblasting, fill all non-moving cracks with 70714/70715-09 epoxy mixed with PI934 fumed silica to form a paste. The mix ratio is one part 70714/70715-09 epoxy to 2 (up to 3) parts PI934 fumed silica by volume.
4. Moving Cracks or Control Joints: Route all large cracks, remove dust and debris, and fill flush with 70718/70719 flexible epoxy.
5. Moving Control Joints: Seal secondary control joints with 70991 sealant. Re-incorporate expansion joints and control joints into flooring system if conditions require. Consult Neogard for details on moving cracks, expansion joint details and moving control joints.
6. Surface Condition: Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor pressure. Moisture content of concrete not to exceed 3 pounds per 1,000 square feet per 24 hours when tested by the referee or quantitative calcium chloride test method.
7. Do not apply materials unless surface to receive coating is clean and dry.

C. Applicator is responsible for applying sufficient coating to the substrate.

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. Base Coat: Thoroughly mix 70714/70715-09 and apply at a rate of 100 sf/gal to yield 16 dry mils. Apply to prepared substrate with a notched squeegee, notched trowel, or short nap (3/8") phenolic core roller. Backroll with a short-napped phenolic core roller.

C. Aggregate: Broadcast 7992-U into wet epoxy base coat at a rate of approximately 15 lbs/100sf. Maintain a one- to two-foot wet edge without any aggregate to allow for a smooth transition to the next pass of neat epoxy. Allow to cure 8–9 hours at 75°F (23°C). Remove excess aggregate.

D. Topcoat (choose one):
1. UV-resistant, exterior application: Thoroughly mix FC7540/FC7964 and apply at a rate of approximately 120 sf/gal to yield 12 dry mils.
2. Non-UV resistant, interior application: Thoroughly mix FC7510/FC7961 and apply at a rate of approximately 133 sf/gal to yield 12 dry mils.
3. Non-UV resistant, interior application: Thoroughly mix 70714-XX/70715 and apply at a rate of 133 sf/gal to yield 12 dry mils.
4. Applicator is responsible for applying sufficient coating to the substrate.

3.4 CLEANING

A. Remove debris resulting from completion of coating operation from the project site.

3.5 PROTECTION

A. After application, allow to cure 24 hours at 75°F (23°C) and 50% relative humidity before allowing foot traffic. Do not allow heavy traffic for at least 48 hours, or until completely cured for 7 days.

END OF SECTION

Issued by: Hempel (USA) – Neogard TrafficTuff

This Guide Specification supersedes those previously issued.

Neogard®, A part of Hempel
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