

**Guide Specification**

Garage & Loading Dock System

PART 1 GENERAL**1.1 SUMMARY**

- A. Provide labor, materials, equipment and supervision necessary to install a fluid-applied vehicular 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. Cast-in-Place Concrete: Section 03 30 __.
 - 2. Precast Concrete: Section 03 40 __.
 - 3. Joint Protection: Section 07 90 __.

1.2 SYSTEM DESCRIPTION

- A. AUTO-GARD® E shall be a complete system of compatible materials supplied by NEOGARD® to create a seamless waterproof membrane.
- B. AUTO-GARD® E shall be designated for application on the specific type of deck indicated on the drawings.

1.3 SUBMITTALS

- A. Product Data: Submit NEOGARD® product literature and installation instructions.
- B. Samples: Submit samples of specified vehicular 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 vehicular traffic coating system.
- D. Warranty: Submit copy of manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

- A. Supplier Qualifications: AUTO-GARD® E, 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: Materials used in

the vehicular traffic coating system shall meet existing Federal, State and local VOC regulations.

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. Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

1.6 JOB CONDITIONS

- A. Environmental Conditions:
 - 1. Do not proceed with application of materials when deck temperature is less than 40°F.
 - 2. Proceed with work only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.
 - 3. Do not apply materials unless surface to receive coating is clean and dry.

1.7 WARRANTY

- A. Upon request, NEOGARD® shall offer the manufacturers standard warranty upon 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. Vehicular Traffic Coating Material:
 - 1. Primer: Concrete and metal primers as required by NEOGARD®.
 - 2. Flashing Tape: 86218 flashing tape having a minimum thickness of 30 mils.
 - 3. Flexible Epoxy: 70718/70719 high solids, flexible epoxy .
 - 4. Sealant: Neogard 70991 or other polyurethane sealant approved by Neogard®.
 - 5. Elastomeric Base Coat: FC7500/FC7960 polyurethane coating.
 - 6. Wear Course: 70714/70715, 100% solids epoxy. (70715-01 fast set hardener optional)
 - 7. Aggregate: 7992U (12/20 mesh) silica (quartz) sand, aluminum oxide (#20), or other aggregate as required for service.

8. Top Coat: 70714-02/70715-09, 100% solids pigmented epoxy. (70715-01 fast set hardener optional). For UV exposed applications use 70805/7952 CRU or FC7530/FC7963.

2.3 MATERIAL PERFORMANCE CRITERIA

- A. Typical physical properties of cured vehicular traffic coating system used on this project are:

PERFORMANCE REQUIREMENTS OF CURED FILM			
DESCRIPTION	TEST METHOD	FC7500/FC7960	70714/70715
Tensile Strength	ASTM D412	1,500 psi	
Tensile Strength	ASTM D638		3,700 psi
Elongation	ASTM D412	500%	
Elongation	ASTM D638		25%
Compressive Strength	ASTM D695		25,300 psi
Flexural Strength	ASTM D790		3,180 psi
Flexural Modulus	ASTM D790		57,700 psi
Permanent Set	ASTM D412	<20%	
Tear Resistance	ASTM D1004	150 pli	400 pli
Water Resistance	ASTM D471	1% @ 7 days	
Water Resistance	ASTM D570		0.21%
MVT @ 20 mils	ASTM E96	5 Perm	
MVT @ 10 mils	ASTM E96		0.16 Perm
Taber Abrasion 1,000 cs-17	ASTM D4060		25 mg
Shore A	ASTM D2240	74-79	
Shore D	ASTM D2240		78
Adhesion	ASTM D4541	400 psi	400 psi

2.4 ACCESSORIES

- A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, etc. shall be a composite part of the deck system and shall be compatible with the specified vehicular traffic coatings.

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 on exterior exposed deck.
 2. That the concrete was cured for a minimum of 28 days. (Minimum of 4,000 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 100% solids epoxy and sand for filling and leveling.

3.2 PREPARATION

A. 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. 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 deck surface. Shot blasting does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to insure proper bonding of the deck coating. Note: If shot blasting is not practical, treat concrete surfaces with 10% to 15% solution of muriatic acid to remove laitance and impurities. After acid has stopped foaming or boiling, immediately rinse thoroughly with water. Re-rinse as required to remove muriatic acid solution. Acid etching does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to insure proper bonding of the deck coating.
3. Cracks and Cold Joints: Visible hairline cracks (up to 1/16" in width) in concrete and cold joints shall be cleaned, primed as required and treated with FC7500/FC7960 polyurethane coating a minimum distance of 2" on each side of crack to yield a total thickness of 30 dry mils. Large, moving cracks (>= 1/16" in width) shall be routed and sealed with 70991 sealant or FC7500/FC7960 polyurethane coating material. Non-moving cracks to be filled with 70718/70719 flexible epoxy. Where 70991 sealant is used, it shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with FC7500/FC7960 polyurethane coating a distance of 2" on each side of crack to yield a total thickness of 30 dry mils.
4. Control Joints: Seal secondary control joints with 70718/70719 flexible epoxy. Detail sealed joints with FC7500/FC7960 polyurethane coating a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
5. Flashing Tape: Install 86218 flashing tape where indicated on the drawings and/or where required by the manufacturer prior to the application of elastomeric coating.
6. Surface Condition: Surface shall be clean and dry prior to coating.

3.3 APPLICATION

- A. Primer: Apply primer at a minimum rate of 300 sf/gal 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, reprime.
- B. Base Coat: Apply FC7500/FC7960 polyurethane coating at a rate of 80 sf/gal (20 dry mils). Extend base coat

over cracks and control joints which have received detail treatment.

- C. Wearing Course: For Standard Duty, apply 70714/70715 (clear) epoxy at a rate of 133 sf/gal (12 dry mils) and immediately broadcast selected aggregate, evenly distributed (app. 15-20 lbs/100 sf), into wet coating. For Heavy Duty (HD) applications, apply 70714/70715 (clear) epoxy at a rate of 100 sf/gal (16 dry mils) and broadcast selected aggregate, evenly distributed (app. 15-20 lbs/100 sf), into wet coating.
- D. Top Coat: When previous coat is dry, for Non-UV exposure, remove loose aggregate and apply 70714-02/70715 (pigmented) epoxy at a rate of 100 sf/gal (16 dry mils). For UV exposure, apply FC7530/FC7963 at an approximate rate of 100 sf/gal (16 dry mils). For optimal chemical resistance and cleanability in exposed UV conditions,

topcoat as described above with 70714/70715-09 then when dry, apply 70805/7952 CRU at a rate of 150-200 sf/gal. Total system coating thickness averages 48 dry mils exclusive of aggregate. Heavy duty service system thickness averages 52 dry mils exclusive of aggregate. Note to specification writer: Thickness values of cured film are averages and can vary due to finish of surface.

3.4 CLEANING

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

3.5 PROTECTION

- A. After completion of application, do not allow traffic on coated surfaces for a period of at least 24 - 36 hours at 75°F. and 50% R.H., or until completely cured.

END OF SECTION

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