Option #1 - Deck Coating at top level of Hastings Garage

Guide Specification

Note to Specifiers: This Guide Specification has been prepared by NEOGARD® in printed and electronic media, as an aid to specifiers in preparing written construction documents for Auto-Gard E Loading Dock and Vehicular Traffic Coatings.

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. 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. AUTO-GARD® E shall be a complete system of compatible materials supplied by NEOGARD® to create a seamless waterproof membrane with integral wearing surface.

B. AUTO-GARD® E 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 material safety data sheets (MSDS) on each product.

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 specified 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: 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 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 40°F, if precipitation is imminent, or to a damp, unclean or frosty surface. Ambient temperature should be a minimum 40°F and rising, and more than 5° above dew point. Special precautions are to be taken when ambient and/or substrate temperatures are approaching, at, or above 100°F and 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 vehicular 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 not allow the use of spark-producing equipment 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 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 Materials:
   1. Primer: Concrete and metal primers by NEOGARD®.
   2. Flashing Tape: 86218 flashing tape.
   3. Reinforcing Fabric: 86220 reinforcing fabric (Tietex T-272).
   4. Sealant: 70991 or 70995 urethane sealant.
   5. Aggregate: 7992-U silica (quartz) sand or #16 aluminum oxide.
   6. Base Coat: FC7500/FC7960 urethane coating.
   7. Wear Coat: 70714/70715-09 clear 100% solids epoxy.
   8. Topcoat:
      a. Epoxy: 70714/70715-09 pigmented 100% solids epoxy and/or,
      b. Urethane: FC7540/FC7964 aliphatic urethane.

2.3 MATERIAL PERFORMANCE CRITERIA

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

PERFORMANCE REQUIREMENTS OF CURED FILM				
PHYSICAL PROPERTIES	**TEST METHOD**	**FC7500/ FC7960**	**70714/ 70715-09**	**FC7540/ FC7964**
Tensile Strength	ASTM D412	1,500 psi	N/A	2,000 psi
	ASTM D638	N/A	2,000 PSI	N/A
Elongation	ASTM D412	500%	N/A	75%
	ASTM D638	N/A	40%	N/A
Permanent Set	ASTM D412	<20%	N/A	<10%
Tear Resistance	ASTM D1004	150 pli	N/A	155 pli
Water Resistance	ASTM D471	1% @ 7 days	N/A	<2%@7 days
	ASTM D570	N/A	0.17%	N/A
Taber Abrasion, 1,000 cs-17	ASTM D4060	30 mg	61mg	90 mg
Shore A	ASTM D2240	74-79	77	80-90
Adhesion	ASTM D4541	400 psi	N/A	400 psi

Note: Further technical information can be found at http://www.neogard.com.

2.4 ACCESSORIES

A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, etc., shall be compatible with the specified vehicular 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 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 70714/70715-09 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. 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's 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. Acid Etching: 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 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 FC7500/FC7960 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 or 70995 sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with thoroughly mixed FC7500/FC7960 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 70995 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 C 1193 and manufacturer's instructions. Detail sealed joints with thoroughly mixed FC7500/FC7960 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 FC7500/FC7960 urethane coating and apply at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 20 dry mils. Extend base coat over cracks and control joints which have received detail treatment.

D. Wear Coat: Edit Note - The system is designed for one wear coat application. For **standard duty** applications, follow the application instructions in 3.3D1. For **heavy duty** applications such as ticket booths, spiraled ramps, turn areas or in other areas subjected to high traffic abrasion, follow the application instructions in 3.3D2.
   1. Standard Duty: Thoroughly mix 70714/70715-09 clear 100% solids epoxy and apply at a rate of 133 sf/gal (0.75 gal/100 sf or 12 wet mils) to yield 12 dry mils, and immediately broadcast selected aggregate, evenly distributed, into wet epoxy at the rate of 15 to 20 lbs per 100 square feet. When dry, remove excess aggregate.
   2. Heavy Duty: For heavy traffic areas such as ticket booths, spiraled ramps, turn areas, or in other areas subjected to high traffic abrasion, heavy duty application is required. In such areas, thoroughly mix 70714/70715-09 clear 100% solids epoxy and apply at a rate of 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 16 dry mils, and immediately broadcast selected aggregate, evenly distributed, into wet coating at the rate of 15 to 20 lbs per 100 square feet. When dry, remove excess aggregate.

E. Topcoat: Edit Note - Depending on the application, select topcoat as required. For interior/covered applications **not exposed** to UV light (i.e. sunlight and some fluorescent lighting), use epoxy topcoat under 3.3E1. Urethane topcoat under 3.3E2 can be used for interior/covered or exterior applications **exposed** to UV light.
   1. Epoxy: Thoroughly mix 70714/70715-09 pigmented 100% solids epoxy and apply at a rate of 110 sf/gal (0.90 gal/100 sf or 14 wet mils) to yield 14 dry mils. Note: Using epoxy topcoat, standard system coating thickness is 46 dry mils exclusive of primer and aggregate. Heavy duty application areas will yield 50 dry mils exclusive of primer and aggregate.
   2. Urethane: Thoroughly mix FC7540/FC7964 aliphatic urethane coating and apply at a rate of 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 14 dry mils. Note: Using urethane topcoat, standard system coating thickness is 46 dry mils exclusive of primer and aggregate. Heavy duty application areas will yield 50 dry mils exclusive of primer and aggregate.

3.4 CLEANING

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

B. Reference NEOGARD® Traffic-Bearing Systems 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 24-36 hours at 75°F. and 50% R.H., or until completely cured.

END OF SECTION

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