ArmorGarage II – Commercial Epoxy Floor System

CSI Section 09 96 00 – High-Performance Coatings

PART 1 – GENERAL

1.01 SUMMARY

A. Furnish and apply a two-layer high-performance epoxy floor coating system consisting of 100% solids pigmented epoxy base coat and urethane-fortified high-wear topcoat.
B. System shall be a complete turnkey kit including surface preparation materials, application tools, and non-slip additive.
C. Manufacturer: ArmorGarage Inc., Miami, FL / Springfield, NJ. Tel: 866-532-3979.

1.02 SUBMITTALS

A. Product data sheets for each component.
B. Safety Data Sheets (SDS) for each component.
C. Color samples or color chart.
D. Manufacturer's written application instructions.
E. Evidence of USDA approval for food-contact areas (where applicable).

1.03 QUALITY ASSURANCE

A. Manufacturer shall have minimum 10 years experience in high-performance epoxy floor systems.
B. Products shall be manufactured in the United States using 100% domestic resins.
C. System shall have documented installations in commercial, military, and institutional facilities.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's original sealed containers with batch numbers intact.
B. Store at 60°F–80°F. Do not allow materials to freeze.
C. Shelf life: 2 years from date of manufacture in unopened containers.

1.05 PROJECT CONDITIONS

A. Floor temperature: ≥ 50°F during application and through full cure period.
B. Ambient temperature: 50°F–90°F.
C. Relative humidity: ≤ 85%.
D. Concrete moisture: shall pass plastic sheet test per ASTM D4263.
E. Surface temperature shall be minimum 5°F above dew point.

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. ArmorGarage Inc. or approved equal meeting all performance requirements herein.

2.02 MATERIALS

A. Base Coat – 100% Solids Pigmented Epoxy

1. Type: Two-component, 100% solids epoxy.
2. Mix ratio: 1:1 by volume (standard) or 4:1 by volume (Low VOC).
3. DFT: 8–10 mils per coat.
4. VOC: < 10 g/L (standard); compliant for all Low VOC jurisdictions.
5. Adhesion: > 350 psi per ASTM D4541 (concrete failure mode).

B. Topcoat – Urethane-Fortified High-Wear Clear/Tinted

1. Type: Two-component urethane-fortified coating.
2. Mix ratio: 2:1 by volume.
3. DFT: 3–4 mils per coat.
4. Abrasion: ≤ 8 mg loss per ASTM D4060 (Taber CS-17, 1000 cycles).
5. UV stability: Non-yellowing.
6. Gloss: > 85 GU at 60° per ASTM D523.

C. Non-Slip Additive

1. Type: Micro-tubular aluminum aggregate.
2. Coefficient of friction: > 0.65 wet, > 0.75 dry per ASTM D2047.

2.03 PERFORMANCE REQUIREMENTS

Property	Requirement	Test Method
Total System DFT	≥ 12 mils	—
Abrasion Resistance (topcoat)	≤ 8 mg loss	ASTM D4060
Adhesion	≥ 350 psi	ASTM D4541
Impact Resistance	≥ 160 in-lb	ASTM D2794
Compressive Strength	≥ 12,000 psi	ASTM D695
Shore D Hardness	≥ 80	ASTM D2240
Water Absorption	< 0.1%	ASTM D570
Hot Tire Resistance	No pickup or transfer	—
USDA Approval	Required for food-service areas	—

2.04 CHEMICAL RESISTANCE

System shall resist the following without degradation: gasoline, diesel, motor oil, hydraulic fluid, antifreeze, brake fluid, road salt, sodium hydroxide (50%), bleach, commercial sanitizers, and dilute acids (10% HCl, 10% H2SO4). Concentrated solvents (acetone, MEK, xylene) shall be wiped promptly.

PART 3 – EXECUTION

3.01 SURFACE PREPARATION

A. Remove all oil, grease, curing compounds, sealers, and contaminants.
B. Acid etch with manufacturer-supplied etching solution per written instructions, or diamond grind to minimum CSP-3 profile per ICRI 310.2.

C. New concrete shall be etched twice to remove curing residues.
D. Neutralize with manufacturer-supplied TSP powder; rinse thoroughly.
E. Allow minimum 24 hours drying after wet preparation.
F. Prepared surface shall readily absorb water within 20 seconds.
G. For coating over existing sound coatings, use manufacturer's Epoxy Bonding Primer.

3.02 APPLICATION – BASE COAT

A. Mix Part A and Part B at specified ratio. Mix thoroughly for minimum 3 minutes.
B. Apply by roller at 8–10 mils DFT.
C. Allow 4–6 hours dry time before topcoat (thumb test: no fingerprint).
D. Do not exceed 24-hour recoat window.

3.03 APPLICATION – TOPCOAT

A. Mix Part A and Part B at 2:1 ratio. Do not mix more than 1.5 gallons per applicator.
B. Add non-slip additive at 1 pint per 1.5 gallons of mixed topcoat.
C. Apply by roller at 3–4 mils DFT. Stir frequently to keep additive suspended.
D. Allow minimum 36–48 hours before vehicle or forklift traffic.

3.04 CURE SCHEDULE

Milestone	Time at 77°F
Topcoat dry to touch	6–7 hours
Light foot traffic	12–16 hours
Vehicle / forklift traffic	36–48 hours
Full chemical resistance	5–7 days

3.05 SAFETY

A. Provide adequate ventilation during application and cure.
B. Applicators shall wear chemical-resistant gloves, safety glasses, and NIOSH-approved respirator.
C. Materials are DOT regulated. Refer to SDS for classification and handling.
D. Dispose of waste materials per local, state, and federal regulations.