



# Guide Specification

## Heavy Duty Polyurethane Floor System

### Neocrete HD 250

#### PART 1-GENERAL

##### 1.01 SUMMARY

- A. Provide labor, materials, equipment and supervision necessary to install a heavy duty polyurethane flooring system as outlined in this specification to new or existing concrete surfaces.
- B. The manufacturers application instruction for each product used are considered part of this specification and should be followed at all times.
- C. Related Work Specified Elsewhere:
  - 1. Paving and Surfacing: Section 0261\_\_\_\_\_.
  - 2. Site Improvements: Section 0272\_\_\_\_\_.
  - 3. Expansion and Contraction Joints: Section 0315\_\_\_\_\_.
  - 4. Cast-in-Place Concrete: Section 0330\_\_\_\_\_.
  - 5. Sealants: Section 0790\_\_\_\_\_.

##### 1.02 SYSTEM DESCRIPTION

- A. Neocrete HD 250 shall be a complete system of compatible materials manufactured by Neogard to create a seamless flooring surface.
- B. Neocrete HD 250 shall be designated for application on the specific type of substrate indicated on the drawings.

##### 1.03 SUBMITTALS

- A. Product Data: Submit Neogard's product literature and installation instructions.
- B. Project Reference List: Submit list of projects as required by this specification.
- C. Samples: Submit samples of specified heavy duty polyurethane floor system. Samples shall be construed as examples of finish only.
- D. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the heavy duty polyurethane floor system.
- E. Product Warranty: Submit copy of manufacturers product warranty to cover a period of one year.

##### 1.04 QUALITY ASSURANCE

- A. Supplier Qualifications: Neocrete HD 250, as manufactured by Neogard, is approved for use on this project.
- B. Applicator Qualifications: Applicators shall be approved to install specified system.

##### 1.05 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 (23.8°C). Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

##### 1.06 JOB CONDITIONS

###### A. Environmental Conditions:

1. Do not proceed with application of materials when substrate is less than 40°F (6°C) or above 85°F (29.4°C).
2. Do not apply materials unless surface to receive coating is clean and dry.
3. Moisture content of concrete not to exceed four pounds per 1,000 square feet per 24 hours when tested by the referee or the quantitative calcium chloride test method.

###### B. Safety and Health Conditions:

1. During coating application, it is **essential** that maximum effort is made to protect the coating mechanic and others near the workplace from breathing vapors and coming in contact of material with skin or eyes.
2. In confined areas, the best form of protection against organic solvents or other potentially sensitizing vapors is a **fresh air supply**. For maximum protection, it is recommended to use NIOSH-approved, self-contained breathing apparatus with a full-face piece operated in a positive pressure mode.
3. In unrestricted (open outdoor) areas, it is recommended to wear a suitable mask or respirator of a type approved by NIOSH.
4. To prevent excessive skin contact with the material, it is recommended to use fabric coveralls and neoprene or other resistant gloves. To prevent eye contact, wear a full-face mask or OSHA-approved protective goggles.

###### C. Protection:

1. Keep products away from heat, sparks, and flames. Do not allow use of spark producing equipment during application and until vapors are gone. Post "No Smoking" signs.
2. The overspray and/or solvents from coatings can carry considerable distances and care should be taken to do the following:
  - a. Post warning signs a minimum of 100 feet from the work area.
  - b. Mask off or cover all air intakes near the work area to prevent odors from entering occupied areas of the building or structure.
  - c. Set up wind breaks when needed.
  - d. Minimize or exclude all personnel not directly involved with the coating application.
  - e. Have CO<sub>2</sub> or other dry chemical fire extinguishers available at the jobsite.
  - f. Provide adequate ventilation.

3. After completion of application, do not allow traffic on coated surfaces for a period of at least 18 hours at 75°F (23.8°C).
4. Protect plants, vegetation and animals which might be affected by coating. Use drop cloths or masking as required.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Heavy Duty Polyurethane Floor Material:
  1. Resin: 70800 series, gray or red in color.
  2. Hardener: 70801
  3. Powder: 70802.
  3. Flexible Epoxy: 70718/70719 or other flexible epoxy approved by Neogard.
  4. Sealant: 70991 or other polyurethane sealant approved by Neogard.

### 2.02 MATERIAL PERFORMANCE CRITERIA

- A. Minimum performance requirements for the heavy duty polyurethane floor system to be used on this project are:

PERFORMANCE REQUIREMENTS OF CURED FILM		
PHYSICAL PROPERTIES	TEST METHOD	RESULTS
Compressive Strength	ASTM C579	6,800 psi
Tensile Strength	ASTM C307	850 psi
Flexural Strength	ASTM C580	1,800 psi
Modulus of Elasticity	ASTM C580	167,000 psi
Shore D Hardness	ASTM D2240	80
Adhesion	ASTM D4541	400 psi
Water Resistance	ASTM C413	0.5%
Density	ASTM C905-01	132 lbs/ft <sup>3</sup>
Coefficient of Thermal Expansion	ASTM C531	1.09x10 <sup>-6</sup> in/in°F
Resistance to Fungal Growth	ASTM G21	No Support of Growth

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify that the work done under other sections meets the following requirements:
  1. The concrete substrate is free of ridges and sharp projections, sound and dry.
  2. 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. The damaged areas of the concrete substrate be restored to match adjacent areas. Use heavy duty polyurethane floor material for filling and leveling.

### 3.02 PREPARATION

- A. Surface Preparation: Depending on the substrate consult Neogard Technical Service.
- B. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with 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.
- C. Moving Cracks: Route all large cracks, remove dust and debris, and fill flush with flexible epoxy.
- D. Moving Control Joints: Seal secondary control joints with sealant. Re-incorporate expansion joints and control joints into wall and ceiling system if conditions require. Consult Neogard for details on moving cracks, expansion joint details and moving control joints.
- E. Non-moving Cracks and Control Joints: Fill all non-moving cracks with heavy duty polyurethane floor material.
- F. Surface Condition: Surface shall be clean and dry prior to coating. Moisture content of substrate not to exceed four pounds per 1,000 square feet per 24 hours when tested by the referee or quantitative calcium chloride test method.

### 3.03 APPLICATION

- A. Primer: Neocrete HD 250 does not require a primer.
- B. Trowel Grade: Mix 90 fluid oz. of resin with 60 fluid oz. of hardener for one minute. Slowly add one bag of powder to the resin mix. Continue mixing until the powder has been uniformly blended with the resin mix. Mix blended material for an additional 2 minutes. Note: One unit of mixed material covers approximately 18 to 20 square feet at 1/4" thickness. Thickness and coverage rate can vary due to finish of substrate. Screed, rake or trowel mix to a nominal 1/4" thickness. Smooth and tightly close surface with a power trowel or hand trowels. Lightly mist mineral spirits as a trowel lubricant to help smooth and finish the trowel grade surface and allow to cure 6 to 10 hours @ 70°F (21.1°C) before allowing foot traffic.

### 3.04 CLEANING

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

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