

**SECTION 13 42 00  
ISO INTERMODAL SHIPPING CONTAINER ASSEMBLIES**

**PART 1 - GENERAL**

**1.01 REFERENCE STANDARDS**

- A. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials; 2021.
- B. ASTM D523 - Standard Test Method for Specular Gloss; 2014 (Reapproved 2018).
- C. ASTM D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine; 2017.
- D. ASTM D4039 - Standard Test Method for Reflection Haze of High-Gloss Surfaces; 2009 (Reapproved 2023).
- E. ASTM D5767 - Standard Test Method for Instrumental Measurement of Distinctness-of-Image (DOI) Gloss of Coated Surfaces; 2018 (Reapproved 2023).

<b>1.01</b>		<b>RELATED DOCUMENTS</b>
	<b>A.</b>	<b>DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS, APPLY TO THIS SECTION.</b>
<b>1.02</b>		<b>SUMMARY</b>
	<b>A.</b>	<b>SECTION INCLUDES</b>
		<p><b>1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY TO FABRICATE, MOCK- UP, TEST AND INSTALL FULLY ASSEMBLED SHIPPING CONTAINER UNITS AS DETAILED ON THE DRAWINGS WITH DOORS, INTERIOR WALLS, CEILINGS, LIGHTING, PLUMBING SYSTEMS, COMPLYING WITH THE SPECIFIED PERFORMANCE REQUIREMENTS, APPROVED SHOP DRAWINGS, BUILDING CODE AND OTHER PROJECT REQUIREMENTS.</b></p> <p><b>2. PROVIDE SHIPPING CONTAINER UNITS FABRICATED IN THE FACTORY, DELIVERED TO SITE, AND FIELD-INSTALLED</b></p>

		<p>ON GRAVEL AS SHOWN ON THE DRAWINGS.</p> <p>3. INSTALL SWING DOORS AND OVERHEAD DOORS, VENTS, CEILING LIGHTS, AND ELECTRICAL OUTLETS AND SWITCHES AS DETAILED ON THE DRAWINGS.</p> <p>4. INSTALL CONCRETE FLOOR.</p> <p>5. SEE DRAWINGS FOR ADDITIONAL DESCRIPTION OF SCOPE OF WORK.</p>
	<b>B.</b>	<p>RELATED SECTIONS: SPECIFICATION SECTIONS THAT ARE RELATED TO SHIPPING CONTAINER CONSTRUCTION WORK AND INCLUDE DESCRIPTIONS OF MATERIALS AND COMPONENTS TO BE FACTORY-INSTALLED WITHIN SHIPPING CONTAINER UNITS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:</p>
		<p>1. SECTION 03 30 00 "CAST IN PLACE CONCRETE"</p> <p>2. SECTION 05 50 00 "MISCELLANEOUS METALS"</p> <p>3. SECTION 07 92 00 "JOINT SEALERS"</p> <p>4. SECTION 08 11 13 "HOLLOW METAL DOORS AND FRAMES"</p> <p>5. SECTION 08 33 23 "OVERHEAD COILING DOORS"</p> <p>6. SECTION 09 91 13 "EXTERIOR PAINTING"</p> <p>7. SECTION 09 91 23</p>

		<p><b>“INTERIOR PAINTING”</b></p> <p><b>8. DIVISION 22</b></p> <p><b>“PLUMBING”</b></p> <p><b>9. DIVISION 26</b></p> <p><b>“ELECTRICAL”</b></p>
<b>1.03</b>		<b>PREINSTALLATION MEETINGS</b>
	<b>A.</b>	<b>PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE IN THE FACTORY TO REVIEW MOCKUP, PROGRESS AND REVIEW PRIOR TO SHIPMENT.</b>
<b>1.04</b>		<b>SYSTEM DESCRIPTION</b>
	<b>A</b>	<b>DESIGN REQUIREMENTS:</b>
		<p><b>1. PROVIDE, FOR APPROVAL BY THE ARCHITECT, SHOP DRAWINGS COMPLYING WITH THE CONTRACT DOCUMENTS AND THE DESIGN APPROVED BY THE ARCHITECT.</b></p> <p><b>2. ARCHITECT/ENGINEER SHALL REVIEW MODULES IN THE FACTORY AT MUTUALLY AGREED UPON FABRICATION MILESTONE FOR APPROVAL PRIOR TO SHIPMENT.</b></p>

**A. SUBMITTALS**

1. Comply with Submittals requirements of Related Sections.
2. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Submit the following:
  - a. Materials list of items proposed to be provided under this Section.
  - b. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
  - c. Manufacturer's recommended installation procedures.
3. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction. Shop drawings shall include sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades. Provide floor plans, ceiling plans and elevations indicating wall locations and all items of work included as part of shipping container unit. Provide coordinated shop drawings showing all elements including but not limited to swing doors, overhead doors, interior walls, ceiling assembly, structural stiffeners, lighting, plumbing, structural, anchorage and MEP systems.

4. Coordination plan of the modules with the concrete shop drawings showing:
  - a. All floor slab assemblies, penetrations, openings, bearing conditions and their corresponding existing utilities/foundations.
  - b. Identify installation tolerances at each condition.
  - c. Confirm tolerances are adequate for module installation.
  - d. Concrete floor:
    - 1) Manufacturer's Data: Submit manufacturer's product data with installation instructions for color additive and penetrating sealer.
    - 2) Submit proposed location and details of construction joints to the engineer for approval.
    - 3) Performance Requirements:
      - (a) Dynamic Coefficient of Friction: DCOF of 0.42 or higher under wet conditions when measured according to ANSI B101.3.
      - (b) Measurement by Image Clarity Meter ((ASTM D5767)): The DOI (distinctness of image), Image Clarity Value from the measurement per ASTM.

CLASS	NAME	SURFACE EXPOSURE %
A	CEMENT FINES	85-95% CEMENT FINES
		5-15% FINE AGGREGATES
B	FINES AGGREGATE	85-95% FINE AGGREGATES
		5-15% BLEND OF CEMENT FINES AND COARSE AGGREGATE
C	COARSE AGGREGATES	80-90% COARSE AGGREGATE 10-20% BLEND OF CONTENT FINES AND FINE AGGREGATE

(c) Aggregate Exposure: to be selected by the Architect.

- e. Manufacturers to perform work as per NYC DOB Buildings Bulletin 2011-009 OTCR and NYC DOB Buildings Bulletin 2014-003.
5. Paint Color Samples
  - a. Provide 6" square samples of all paint finishes for final approval by architect / engineer. Samples shall be physical samples on a rigid material and true representatives of the final paint finishes.

**F. MOCKUP:**

- 1) Prepare mockup of one condition of the following elements. Mockups can be prepared at the factory or an off-site facility in the tri-state area.
- 2) Swing door
- 3) Roll up door
- 4) Interior flooring
- 5) Exterior and interior paint finishes

**B. QUALITY ASSURANCE**

1. The fabricator shall provide all paperwork to confirm OTCR certification from the NYC Department of Buildings.
2. Comply with governing codes and regulations. All shipping containers must be ISO 1496 compliant. All units fabricated shall bear markings in compliance with ISO 6346. Dimensions of all units shall comply with ISO 668.
3. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

4. Fabricator Qualifications: The fabricator shall have been in business for a minimum of 5 years under their current business name, have proven "Off-Site" building experience, and have successfully completed a minimum of 5 projects similar in scope and size in the New York Metro Area.
  5. The bidder shall name the fabricator to be used on their bid form. The Contractor shall have completed a project with the shipping container fabricator.
  6. Comply with requirements of Related Sections.
  7. Shipping container Unit Inspection: Provide access prior to transport to the site of the shipping container units for the architect and/or CM to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  8. Concrete floor
    - a. Mock-Ups: Cast colored concrete mockups to demonstrate typical joints, surface finish, bonding, texture, color, tolerances, and standard of workmanship.
    - b. Build mock-ups approximately 100 sq. ft. in the location indicated or, if not indicated, as directed by Architect.
    - c. Notify Architect seven days in advance of dates and times when mock-ups will be constructed.
    - d. Obtain Architect's approval of mock-ups before starting construction.
      - 1) If Architect determines that mock-ups do not meet requirements, demolish and remove them from the site and cast others until mock-ups are approved.
      - 2) Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed Work.
      - 3) Demolish and remove mock-ups when directed.
      - 4) Provide mock-ups for light, medium, and hard sandblast finish; Architect will review for texture. Provide 9'-0" x 9'-0" mock-ups for interior finishes, minimum four mock-ups. Provide patterned concrete finishes as indicated.
- C. DELIVERY, STORAGE, AND HANDLING
1. Deliver shipping container units to the site in manner to ensure continuity of installation. Lift and support units only at designated lifting or supporting points as shown on final shop/erection drawings.
  2. Store and handle materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breaking, chipping, and other causes.
  3. Use all means necessary to protect the materials of this Section before, during and after installation and to protect the installed work and materials of all other trades.
  4. In the event of damage, immediately make all repairs and replacements necessary.
- D. COORDINATION
1. Coordinate installation of anchorages for shipping container units.
  2. Coordinate installation of roof penetrations for items to be installed in the field.
  3. Coordinate shipping container unit assemblies with rain drainage work, flashing, trim and construction of supports and other adjoining work to provide a leakproof, secure, noncorrosive installation.
- E. WARRANTY
1. Manufacturer's Product Warranty: Submit manufacturer's standard warranty form for each product as required in the related specifications, Division through (if applicable).
  2. Material and installation Warranty Period: As listed in the individual material specification sections but in no case less than five years from date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

1. Manufacturers shall have a minimum of 5 years of experience in procuring, modifying, strengthening, refurbishing and transporting shipping containers of similar size and complexity.
2. Provide containers from the following

- a. SEABOX, 856-303-1101;
- b. Jake Containers, 973-957-7600;
- c. Super Cubes, 952-283-2783;
- d. Integrated Industries, 732-831-7431; or approved equal.

**B. MATERIALS**

1. Refer to the Related Sections for material descriptions and work required to be built into and upon each shipping container unit.
2. Provide shipping container units as indicated on Drawings. Each shipping container unit shall be factory constructed as a shipping container unit, brought to the job site, hoisted into place and anchored as indicated on drawings.
  - a. Provide steel frame module including floor, ceiling, and roof structure where applicable.
  - b. Install facades on steel frame module. Provide interior wall types as indicated on Drawings.
  - c. Install interior work at exterior wall including, but not limited to, piping, electrical, and paint.
  - d. Install unit interiors, flooring, equipment, accessories, appliances, HVAC, electric, plumbing, floors.
  - e. All required reinforcement based on engineering calculations.
  - f. Replace existing plywood subfloor with minimum 3/4" thick fire resistance treated marine grade plywood. Install anti-crack membrane above plywood and below concrete floor.
  - g. All welds exposed to view shall be ground smooth.
  - h. All structural steel shall be hot dipper galvanized and painted.
  - i. All hot dipped galvanizing shall be G90.
3. Swing Doors : Provide as shown in contract drawings and as outlined in specifications.
4. Overhead Doors : Provide as shown in contract drawings and as outlined in specifications.
5. Walls, floors and furring : as shown in contract drawings and as outlined in specifications including drywall, FRP.
6. Plumbing – as shown in contract drawings, where applicable.
7. Lighting – as shown in contract drawings.
8. Metal containers utilized shall be single use/one trip.
9. Metal containers utilized shall conform to the following
  - a. ISO 1496-1:1990 Series 1 – container shipping. Specification and testing.

**PART 1 : CONTAINERS FOR MARINE APPLICATIONS IN USE.**

**2.01 ISO 668:1995 SERIES 1 - CONTAINER SHIPPING. CLASSIFICATION, DIMENSIONS AND CALCULATIONS;**

- a. ISO 3874:1997 Series 1- Container shipping. Handling and safety.
- b. ISO 830:1999 Freight containers - Vocabulary.
2. Concrete floor:
  - a. Portland Cement: ASTM C150, Type I or Type III.
  - b. Portland Cement: ASTM C150, Type I or Type III.
  - c. Standard Aggregate: ASTM C33.
  - d. Standard Topping: Design mix to produce topping material with following characteristics:
    - 1) Compressive strength, 4000 psi minimum.
    - 2) Slump, 4" maximum.
    - 3) Cement per cu. yd., 590 lb. minimum.
    - 4) W/C ratio, 0.45 maximum.
  - e. Mixing: Provide batch type mechanical mixer for mixing topping material at project site. Equip batch mixer with a suitable charging hopper, water storage tank, and a water-measuring device. Use mixers that are capable of mixing aggregates, cement

and water into a uniform mix within specified time, and of discharging mix without segregation.

- f. Mix each batch of 2 cu. yds., or less, for at least 1-1/2" minutes after ingredients are in mixer. Increase mixing time 15 seconds for each additional cu. yd. or fraction thereof.
- g. Joints: Provide control and construction joints as indicated or required. Use standard pre- molded joint filler at perimeters finished with backer-rod and sealant.
- h. Reinforcing: Provide bar reinforcement as noted. Unless otherwise detailed or required, reinforce all areas with fiber mesh at rate required per manufacturer to minimize cracking.
- i. Bonding Agent: Larsen's, for intended purpose.
- j. Concrete Sealer: Subject to compliance with requirements, provide "Key Acrylic Sealer" as manufactured by Key Resign Company.
- k. General: Decorative ground concrete is produced by grinding and finishing trowel finished cured concrete in a manner similar to that for terrazzo.
- l. Do not consolidate concrete with the use of vibrating or tamping. Allow concrete to cure minimum 28 days.
- m. Color Additive: ASTM C979, as selected by Architect.
- n. Polished Concrete Chemical Sealer/Hardener/Densifier Compounds:
- o. High performance chemical densifier manufactured specifically for application over polished concrete.
- p. Satin sheen to match finish luster as measured with specular gloss meter in accordance with ASTM D523 of 30 when measured with 60 degree meter.
- q. Acceptable Products:
  - 1) RetroPlate, Advanced Floor Products, Inc., Provo, UT
  - 2) Certi-Shine, Vexcon Chemicals, Inc., Philadelphia, PA
  - 3) FGS/Permashine, L&M Construction Chemicals, Inc., Omaha, NE.
  - 4) Perfect Polish.
  - 5) HTC Superfloor, HTC-America, Knoxville, TN.
- r. Cleavage Membrane (if unbonded installation): "ECB 75 Anti Fracture Membrane" by NAC or approved equal.

## **2.02 ACCESSORIES**

- 1. Provide materials and components required for complete installation of shipping container units.

### **B. FABRICATION**

- 1. Fabricate shipping container units complying with ISO 1496 and the Drawings and Specifications. All fabrication shall be done according to final set of approved shop drawings.
- 2. All fabrication, including but not limited to, preparatory works such as disinfection and cleaning, openings, strengthening, connections, surface preparation, painting etc. shall be performed at the manufacturing location.
- 3. All welding shall comply with the American Welding Society
- 4. Shipping container buildings shall be complete in all respects to be placed and installed in the field. Specification sections that are related to modular construction work and listed under section 1.2B of this specification shall be factory installed to the fullest extent possible. On-site connections for power and water may be required to complete the installation process.
- 5. Final Electrical, Plumbing, Sanitary field connections shall be by others. Manufacturer/Fabricator shall be responsible for coordination of the same in terms of type, location, capacity etc.

### **C. FINISHING**

- 1. All surface preparation and finishing shall be completed prior to installation of door, overhead Doors, coiling doors, interior finishing etc.

2. All finishes, including but not limited to, floors, walls, ceilings etc. shall be shop applied. Incidental touch-up in the field shall be in strict compliance with the finish manufacturer's recommendations.
3. Surface preparation and exterior finish system shall be:
  - 1) CARC (Chemical Agent Resistant Coating) Paint
  - 2) Blast: Full Blast IAW SSPC SP10
  - 3) Zinc Primer: 90% Zinc Rich Primer A-A-59745
  - 4) Epoxy Primer: Epoxy Primer per MIL-DTL-53022E Type III
  - 5) Top Coat: Top Coat per MIL-DTL-53039C Type IV
  - 6) Color: Custom, as selected by Architect

## **PART 3 - EXECUTION**

### **3.01 INSPECTION**

1. Examine the areas and conditions where shipping container units are to be installed and correct any conditions detrimental to the proper and timely completion of the work. Examine supporting substrates for compliance with requirements for installation tolerances and other conditions affecting performance.
  - a. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. EXAMINATION
  1. Examine the areas and conditions where polished concrete floor finishing is to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
  2. Ensure concrete has cured for sufficient amount of time before commencing polishing operations, in order to match texture of approved sample.
  3. Verify that surfaces are clean, dry, dust free, and free of efflorescence, oil, or other matter detrimental to sealer/hardener application.
  4. Verify that joint sealant work in adjoining surfaces is complete prior to applications of sealers. Delay application until sealants have cured.
- C. PREPARATION
  1. Provide protection as necessary to protect adjacent materials and surfaces from dirt, dust, and other surface or physical damage.
  2. Remove loose particles, foreign matter, and oil by method which will not affect sealer/hardener application.
  3. Prepare surfaces in accordance with manufacturer's directions.
  4. Provide protection as necessary to protect adjacent materials and surfaces from dirt, dust, spillage, overspray and other surface or physical damage.
  5. Once polished concrete flooring operations begin, do not allow construction traffic in work area until floor is completely finished and covered with protective materials to prevent damage and staining.
  6. Follow CPAA (Concrete Polishing Association) recommendation for evaporation control and wet curing concrete slabs according to ACI308R-01.
- D. COORDINATION
  1. Coordinate as required with other trades to ensure proper and adequate provision in the work of those trades for interface with the work of this Section.
- E. PERFORMANCE CRITERIA
  1. The containers shall be designed to meet all applicable codes and per the design criteria shown on the contract documents.
- F. QUALITY ASSURANCE
  1. All containers used shall have similar original manufacturing dates (no more than a period of 2 years).
  2. All bracing and structural reinforcement shall comply with all local codes and ordinances.

3. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer, licensed in the State of New York outlining all reinforcement required and welding types.
4. All entities, including the manufacturer, performing work shall have experience on at least five projects involving size complexities similar to those required under this.
5. All entities, including the manufacturer, performing work shall have experience performing similar projects for no less than 5 years.
6. Entities shall execute work in compliance with NYC Buildings Department Buildings Bulletin 2014-003 Operational or NYC Buildings Department. Buildings Bulletin 2011-009 OTCR.

#### G. INSTALLATION

1. Shipping Container
  - a. Install shipping container units in orientation, sizes and locations indicated on Drawings. Anchor shipping container units and other components of the Work securely in place as indicated on the drawings.
  - b. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other Sections.
    - 1) Set shipping container units as noted on the drawings.
    - 2) Fasten securely to base with anchorage indicated.
    - 3) Connect to utilities for plumbing and electrical.
    - 4) Connect to electrical power service and data systems as indicated.
    - 5) Adjust doors and hardware to operate smoothly, easily, properly, and without binding.
    - 6) Lubricate hardware and other moving parts.
    - 7) After completing installation, inspect exposed finishes and repair damaged finishes.
  - c. Concrete Floor
  - d. Topping Applied to Hardened Concrete: Remove dirt, loose material, oil, grease, paint or other contaminants, leaving a clean surface.
  - e. Base slab surface shall be brushed with a coarse wire broom and roughened by chipping or scarifying before cleaning a minimum of 1/16" in depth.
  - f. At unbonded slabs, provided wire mesh bond breaking between existing slab and topping slab. Provide control joints in accordance with ACI requirements.
  - g. Prior to placing topping mixture, dampen concrete slab surface but do not leave standing water.
  - h. Over dampened surface, and immediately before placing topping, apply bonding agent. Apply by brush or spray, and at recommended rates, in accordance with manufacturer's directions.
  - i. Placing and Compacting: Spread topping mixture evenly over prepared base, bring to required level with straight-edge and strike-off.
  - j. After placement, do not work surface further until ready for floating. Begin floating when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power driven floats.
  - k. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units.
  - l. Slab Finishes
    - 1) Screed to true and level alignment unless indicated sloped on drawings, then uniformly slope as indicated.
    - 2) Tool all salient edges of concrete.
    - 3) Do not absorb water with neat cement.
    - 4) Make sharp arises at wall to floor conditions unless otherwise indicated.
    - 5) Finish/steel trowel.
    - 6) Floor Tolerances Ff=50/FI=30

- 7) Cut down high areas and fill low areas.
  - 8) Uniformly slope surfaces to drains.
  - 9) Immediately after leveling, refloat surface to a uniform, smooth finish.
  - 10) Wet cure topping after refloating surface.
  - 11) Performance: Failure of concrete topping to bond to substrate (as evidenced by a hollow sound when tapped), or disintegration or other failure of topping to perform as a floor finish, will be considered failure of materials and workmanship. Repair or replace toppings in areas of such failures.
- m. Concrete Finishes
- 1) Polished Concrete Finish Preparation: Clean concrete of loose foreign matter.
  - 2) Saw cut control joints and accent lines as indicated. Interior saw cut joints shall be grouted.
  - 3) Clean dust and debris from saw cut joints and fill with approved epoxy joint filler colored to match with concrete color as selected by the Architect.
- n. Concrete Grinding.
- 1) Follow manufacturer's instructions and use same procedures and personnel used in creating approved sample. Approved sample will be used to judge acceptability of polished concrete finishing.
    - (a) Grind and smooth concrete with diamond impregnated abrasive discs fitted to large, heavy floor grinding and polishing machines. Use dry or wet method as approved by manufacturer for selected system.
      - (1) Produce ground finish surface to match approved field sample.
      - (2) Ensure 50 percent minimum aggregate exposure.
      - (3) Initial Grinding:
        - (4) Grind concrete with #30 or #40 or finer diamond plates.
        - (5) Follow initial grind with #80 or finer grit stones.
      - (6) Grouting:
        - (7) Cleanse with clean water and rinse thoroughly.
        - (8) Remove excess rinse water and allow to dry.
        - (9) Steel trowel cement paste to fill voids completely.
        - (10) Allow grout to cure.
      - (11) Final Grinding:
        - (12) Polish with progressively finer grit stones to achieve satin finish (10-39% image clarity haze index 10) or polish finish (40-69% image clarity haze index 10); finish matching approved sample.
        - (13) Cleanse with clean water and rinse thoroughly.
        - (14) Remove excess rinse water and allow to dry.
        - (15) Finish floor to meet ADA slip resistance requirements when tested in accordance with ASTM D2047 and achieving value (Wet) of not less than 0.5 per ANSI A326.3 Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
- o. Sealer application
- 1) Provide finishes to match approved samples at locations indicated.
  - 2) Apply materials in accordance with manufacturer's printed instructions.
  - 3) Sealer/Densifier: Apply minimum of 2 coats of sealer/densifier to harden exposed concrete to depth of 1/16 to 1/8 inch of floor resulting in hardened floor with satin shine.
- p. Field quality control
- 1) Measure slip resistance using BOT-3000 slip-tester; ensure compliance with specified slip resistance rating.
  - 2) Test image clarity value to ASTM D5767 and haze to ASTM D4039 prior to application of sealer, at rate of three tests per 1000 sq feet of polished concrete.
- q. Adjusting, cleaning and protection
- 1) Repair or replace adjacent Work that has been damaged by finishing operations.

- 2) Clean up and remove debris daily.
- 3) Clean spillage, overspray, or drift from adjacent surfaces; remove immediately in accordance with manufacturer's instructions.
- 4) Once polished concrete flooring operations begin, do not allow construction traffic in work area until floor is completely finished and covered with protective materials to prevent damage and staining.
- 5) Protect finished concrete surfaces from damage by construction equipment and operations.

**END OF SECTION**

**LIST OF SUBMITTALS**

**SUBMITTAL DATE SUBMITTED DATE APPROVED**

**MANUFACTURERS QUALIFICATIONS INCLUDING NAMES AND ADDRESSES OF REFERENCES FOR FIVE SIMILAR PROJECTS.** \_\_\_\_\_

**INSTALLER'S QUALIFICATIONS INCLUDING NAMES AND ADDRESSES OF REFERENCES FOR FIVE SIMILAR PROJECTS.** \_\_\_\_\_

**PRODUCT DATA: FOR EACH TYPE OF PRODUCT/EQUIPMENT/FIXTURE INDICATED.** \_\_\_\_\_

**SHOP DRAWINGS: LARGE SCALE, DIMENSIONED SHOP DRAWINGS CLEARLY INDICATING ALL MATERIALS, DIMENSIONS, PROFILES, HARDWARE, FABRICATION AND INSTALLATION DETAILS, AND LOCATION OF EACH ITEM.** \_\_\_\_\_

**STRUCTURAL CALCULATIONS AND DETAILS FOR ALL REQUIRED REINFORCEMENTS SIGNED AND SEALED BY P.E. CURRENTLY LICENSED IN THE NEW YORK STATE CLEARLY IDENTIFYING ALL CONDITIONS.** \_\_\_\_\_

**COLOR CHIPS: CUSTOM COLOR SAMPLES SHALL BE SUBMITTED ON METAL CHIPS FOR ARCHITECT'S APPROVAL.** \_\_\_\_\_

(a) \* \* \*