

ADDENDUM NO. 2

PROJECT: Draver Community Park and Trailhead  
OWNER: Powell Township  
101 Bensinger Street  
Big Bay, MI 49808

LANDSCAPE ARCHITECT/  
ENGINEER: Beckett & Raeder, Inc.  
113 Howard St.  
Petoskey, MI 49770

DATE: December 30, 2024

BID DUE DATE: Tuesday, January 14, 2025, 2:00 p.m.  
Powell Township Hall  
101 Bensinger Street  
Big Bay, MI 49808

This Addendum is issued to inform Bidders of revisions to the Bidding Documents and to incorporate these changes into the Bidding Documents.

All requirements contained in the Bidding Documents shall apply to this Addendum and the general character of the work called for in the Addendum shall be the same as originally set forth in the applicable portions of the Bidding Documents for similar work unless otherwise specified under this Addendum.

The time of completion will not be affected in this Addendum.

This Addendum is hereby made a part of the Bidding Documents and shall be included in the Contract Documents.

On the Bid Form, the Contractor shall state the addendum number to acknowledge receipt of this Addendum. The Contractor's "Base Proposal Sum" and any applicable Alternates shall reflect this Addendum.

1. **SPECIFICATIONS:**

- .1 Architectural Specifications were inadvertently omitted from the Bidding Documents. The attached Architectural Specifications shall become part of the bidding documents for this project.
- .2 The Bid Due Date has been extended to Tuesday, January 14, 2:00 p.m., Powell Township Hall. Bids may also be electronically submitted to the following email address:  
tknutsen@bria2.com

- END OF ADDENDUM -

06 10 00

## SECTION 06 10 00 - ROUGH CARPENTRY

### PART 1 - GENERAL

### PART 2 - PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: Provide dressed lumber, S4S, marked with grade stamp of inspection agency.
- B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
  - 1. Allowable Design Stresses: Engineered wood products shall have allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be demonstrated by comprehensive testing.

#### 2.2 TREATED MATERIALS

- A. Preservative-Treated Materials: AWPA U1; Use Category UC2.
  - 1. Use treatment containing no arsenic or chromium.
  - 2. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
  - 3. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- B. Provide preservative-treated materials for all rough carpentry unless otherwise indicated. items indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2. Wood sills, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing members that are less than 18 inches above the ground.
4. Wood floor plates that are installed over concrete slabs-on-grade.

C. Fire-Retardant-Treated Materials: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

1. Use Exterior type for exterior locations and where indicated.
2. Use Interior Type A unless otherwise indicated.
3. For enclosed roof framing, framing in attic spaces, and where high-temperature fire-retardant treatment is indicated, provide material with design adjustment factors of not less than 0.85 for modulus of elasticity and 0.75 for extreme fiber in bending for Project's climatological zone.
4. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
5. Identify with appropriate classification marking of a testing and inspecting agency acceptable to authorities having jurisdiction.

D. Provide fire-retardant treated materials for items indicated on Drawings.

## 2.3 FRAMING

A. Dimension Lumber:

1. Maximum Moisture Content: 15 percent.
2. Non-Load-Bearing Interior Partitions: Construction or No. 2: Northern species: NLGA.
3. Framing Other Than Non-Load-Bearing Interior Partitions: No. 2: Hem-fir (north): NLGA.

B. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research/evaluation report for I-joists.

1. Manufacturer: Provide products by same manufacturer as I-joists.
2. Material: All-veneer product glued-laminated wood or product made from any combination solid lumber, wood strands, and veneers.
3. Thickness: 1-1/4 inches.

## 2.4 MISCELLANEOUS LUMBER

- A. Miscellaneous Dimension Lumber: Construction, or No. 2 grade with 15 percent maximum moisture content of any species. Provide for nailers, blocking, and similar members.
- B. Concealed Boards: Northern species, No. 3 Common: NLGA; with 15 percent maximum moisture content.

## 2.5 MISCELLANEOUS PRODUCTS

- A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
  1. Power-Driven Fasteners: CABO NER-272.
  2. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- B. Metal Framing Anchors: Structural capacity, type, and size indicated.
  1. Use anchors made from hot-dip galvanized steel complying with ASTM A 653/A 653M, G60 coating designation for interior locations where stainless steel is not indicated.
  2. Use anchors made from stainless steel complying with ASTM A 666, Type 304 for exterior locations and where indicated.
- C. Sill Sealer: Glass-fiber insulation, 1 inch thick, compressible to 1/32 inch.
- D. Flexible Flashing: Self-adhesive product consisting of a butyl rubber compound, bonded to a backing sheet to produce an overall thickness of not less than 0.025 inch.

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## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Do not splice structural members between supports unless otherwise indicated.
- D. Securely attach rough carpentry to substrates, complying with the following:
  - 1. CABO NER-272 for power-driven fasteners.
  - 2. Published requirements of metal framing anchor manufacturer.

END OF SECTION 06 10 00

SECTION 06 20 00 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Samples for siding, hardwood veneer plywood paneling, hardboard paneling and moldings and trim.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
- B. Softwood Plywood: DOC PS 1.

2.2 EXTERIOR FINISH CARPENTRY

- A. Exterior Siding and Trim: see section 074623 Prefinished Composition Siding

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: hot-dip galvanized steel.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer.
  - 1. Wood glue shall have a VOC content of 30 g/L or less.
  - 2. Use waterproof resorcinol glue for exterior applications.
- C. Adhesive for Cellular PVC Trim: Product recommended by trim manufacturer.
  - 1. Adhesive shall have a VOC content of 50 g/L or less.

06 20 00

- D. Continuous Soffit Vents: Aluminum hat channel shape with stamped louvers or perforations.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Condition interior finish carpentry in installation areas for 24 hours before installing.
- B. Prime and backprime lumber for painted finish exposed on the exterior. Cut to length and prime ends.
- C. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Refinish and seal cuts.
  - 1. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
  - 2. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.
- D. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary. Stagger joints in adjacent and related trim. Cope at returns and inside corners and miter at outside corners.
- E. Nail siding at each stud. Do not allow nails to penetrate more than one thickness of siding, unless otherwise recommended by siding manufacturer. Seal joints at inside and outside corners and at trim locations.

END OF SECTION 06 20 00

## SECTION 062060

## EXTERIOR PVC COLUMN WRAPS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and other Contract Documents, listed in the agreement between the Owner and Contractor, apply to this Section.

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Exterior PVC column wraps.

## 1.3 SUBMITTALS

- A. Product Data: For each type of product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of product involving selection of thicknesses and profiles.
- D. Evaluation Reports: For the following, from ICC-ES:
  - 1. Cellular PVC.
- E. Sample Warranties: For manufacturer's warranties.

## 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials flat with spacers between bundles to provide air circulation. Protect materials with waterproof covering.
- B. Do not store packaging materials in direct sunlight to prevent heat build up.

## 1.5 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed.
- B. Do not install PVC materials that are damaged.



## 1.6 WARRANTY

- A. Manufacturer's Warranty for Cellular PVC Column Wraps: Manufacturer agrees to replace components that fails due to defects in manufacturing within specified warranty period.
  - 1. Warranty Period: Limited Lifetime Warranty. Refer to manufacturer's website for details.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. INTEX Millwork Solutions, LLC; 20 Bogden Blvd., Millville, NJ 08332; Tel: (856) 293-4100, Fax: (856) 293-4102.

### 2.2 EXTERIOR PVC COLUMN WRAPS

- A. Cellular PVC: Extruded, expanded PVC, recommended by manufacturer for exterior use, made from UV- and heat-stabilized, rigid material.
  - 1. Basis of Design Product: Subject to compliance with requirements, provide the following: Intex Millwork Solutions; Column Wraps.
- B. Column Wraps: Manufacturer's "Flat Panel" in height and width as indicated on Drawings.
- C. Rail to Post Connection: Manufacturer's standard.
- D. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.

### 2.3 MISCELLANEOUS MATERIALS

- A. Fasteners for PVC Components: Provide manufacturer's recommended fasteners.
- B. Adhesive for Cellular PVC: Product recommended by manufacturer.
- C. Sealants: Type as recommended by manufacturer of substrates for intended application, and complying with ASTM C 834 and with applicable requirements in Division 07 Section "Joint Sealants."

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine PVC materials before installation. Reject materials that are damaged.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound or warped.
  - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install PVC components level, plumb, true, and aligned with adjacent materials.
  - 1. Scribe and cut PVC components to fit adjoining work.
  - 2. Coordinate PVC components with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

### 3.4 COLUMN WRAP INSTALLATION - GENERAL

- A. Install PVC column wraps in strict accordance with manufacturer's written installation instructions, and detailed shop drawings.
- B. Refer to manufacturer's website for latest information and installation videos.

### 3.5 STRUCTURAL POST PREPARATION

- A. Insure that structural post is sound, straight and plumb.

Note that all Intex Column Wrap sizing is given as outside dimensions.

- B. Attach 1/2 x 3 x 5 inch internal spacers to structural post as shown. Locate spacers 4 inches up from bottom, 4 inches down from top and at center of length. If railing will be attached to the Column, locate center spacers at location of handrail.
- C. For 10 inch and 12 inch column wraps only, place the supplied 'U' shaped stand-offs around the structural post and attach to the internal spacers.

### 3.6 COLUMN WRAP INSTALLATION

- A. Cut both halves of Column Wrap to required height.

Note for Columns Wraps with raised, recessed or fluted designs, cut only the tops. This will allow the bottom of the design to remain at the same height across all columns and newels (if used) on the facade. Maximum amount of trim on these columns is 2 inches from standard height. If required height is more than 2 inches shorter than standard height, custom size and design spacing should be ordered.

- B. Place one of the Column Wrap halves in place against the spacers (or stand-offs) on one side of the structural post and attach with stainless steel finish nails, placing nails where they will be hidden by the top and bottom trim wrap whenever possible. If Column Wrap has a design such as recessed, raised or fluted panels, insure correct orientation.
- C. Apply the supplied adhesive liberally along both mitered edges of the Column Wrap half which is installed, and place the other half in position.
- D. Use the Velcro straps provided to keep the halves properly aligned, and secure with stainless steel finish nails as with first half. Wipe off any excess adhesive.

### 3.7 TRIM INSTALLATION

- A. Once adhesive has set on column, install bottom wrap around lower end of column. Apply adhesive liberally along the mitered edges. Use Velcro strap to hold in place and secure with stainless steel finish nails.
- B. Repeat step A with top wrap.
- C. Position and attach pre-mitered WM164 cap and base trim at the lower edge of the top wrap and at the upper edge of the bottom wrap, securing with adhesive and stainless steel finish nails.
- D. Fill all nail holes with a quality exterior grade vinyl spackle such as White Lightning brand.

### 3.8 ADJUSTING

- A. Replace PVC components that are damaged or do not comply with requirements. Adjust joinery for uniform appearance.

### 3.9 CLEANING

- A. Clean exposed and semiexposed PVC surfaces.

### 3.10 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.

END OF SECTION

## SECTION 072100

### THERMAL INSULATION

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data
- B. Surface-Burning Characteristics: According to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

#### PART 2 - PRODUCTS

#### 2.1 INSULATION PRODUCTS

- A. Extruded-Polystyrene Board Insulation: ASTM C 578
- B. Molded-Polystyrene Board Insulation: ASTM C 578
- C. Foil-Faced Polyisocyanurate Board Insulation: ASTM C 1289
- D. Flexible Glass-Fiber-Board Insulation: ASTM C 612, Type IA or ASTM C 553, Types I, II, and III; [unfaced] [foil faced]; nominal density of 1.5 lb/cu. ft. (24 kg/cu. m), with flame-spread and smoke-developed indexes of 25 and 450, respectively.
- E. Glass-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced] [Type III, Class A, foil faced on one side] with flame-spread and smoke-developed indexes of 25 and 450, respectively.
- F. Mineral-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced.
- G. Cellulosic-Fiber Loose-Fill Insulation: ASTM C 739; chemically treated for flame-resistance, processing, and handling characteristics.
- H. Glass-Fiber Loose-Fill Insulation: ASTM C 764, type 1, pneumatic.

#### 2.2 ACCESSORIES

- A. Vapor Retarder: Polyethylene 6 mils (0.15 mm).
- B. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed to fit between roof framing members and to provide cross-ventilation between insulated attic spaces and vented eaves.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install insulation in areas and in thicknesses indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.
- B. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
- C. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
- D. Except for loose-fill insulation and insulation that is friction fitted in stud cavities, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- E. Place loose-fill insulation to comply with ASTM C 1015.
  - 1. Comply with the CIMA's Special Report #3, "Standard Practice for Installing Cellulose Insulation."
- F. Spray-Applied Insulation: Apply insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs.
- G. Install sheet radiant barriers according to ASTM C 1158.
- H. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage. Locate seams at framing members, overlap, and seal with tape. Seal joints caused by pipes, conduits, electrical boxes, and similar items with tape.

END OF SECTION 072100

## SECTION 072500 - WEATHER BARRIERS

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: ICC-ES evaluation reports for water-resistive barrier.

### PART 2 - PRODUCTS

#### 2.1 WATER-RESISTIVE BARRIERS

- A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.
- B. Building Paper: Kraft building paper with not less than 50 lbf/in. tensile strength, 1-hour water resistance, and 75 g/sq. m x 24 h water-vapor transmission.
- C. Building Wrap: ASTM E 1677, Type I air barrier; with water-vapor permeance not less than 5 perms per ASTM E 96/E 96M, Desiccant Method (Procedure A); flame-spread and smoke-developed indexes not greater than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.

#### 2.2 ACCESSORIES

- A. Flexible Flashing: Adhesive butyl rubber]or rubberized-asphalt compound, bonded to plastic film or spunbonded polyolefin, with an overall thickness of 0.030 inch.
- B. Building Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

#### 2.3 DRAINAGE MATERIAL

- A. Drainage Material: Product shall maintain a continuous open space between water-resistive barrier and exterior cladding to create a drainage plane.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Building Paper Installation:

1. Apply building paper immediately after sheathing is installed.
2. Apply horizontally with a 2-inch overlap and a 6-inch end lap.
3. Seal seams, edges, fasteners, and penetrations with tape.
4. Extend into jambs of openings and seal corners with tape.

B. Building Wrap Installation:

1. Apply building wrap immediately after sheathing is installed.
2. Seal seams, edges, fasteners, and penetrations with building wrap tape.
3. Extend into jambs of openings and seal corners with building wrap tape.

C. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

END OF SECTION 072500

## SECTION 074623 - PRE-FINISHED COMPOSITION SIDING

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Factory-finished engineered wood siding.
2. Factory-finished soffit panels.
3. Factory-finished trim and fascia.
4. Starter boards and strips, moldings, flashing, and sealant.

#### 1.2 ADMINISTRATIVE REQUIREMENTS

- ##### A. Coordinate installation of siding, flashings, weather barriers, and adjoining construction.

#### 1.3 ACTION SUBMITTALS

##### A. Product Data:

1. Engineered wood cladding.
2. Soffit panels.
3. Trim and fascia.
4. Sealant.
5. Flashing.
6. Accessories.

##### B. Sustainable Design Submittals:

1. Certified Wood: Certificates from FSC-alternative compliance body. Confirm wood products comply with forest certification requirements. Include statement indicating cost for each certified wood product.
2. Recycled Content: Include statement indicating costs and percentage content for preconsumer and postconsumer recycled materials.
3. Location of Manufacture: Indicate distance to Project and fraction by weight of each regionally manufactured and extracted material.

##### C. Shop Drawings:

1. Include details of construction and installation.

##### D. Selection Samples: Submit manufacturer's full range of standard colors and textures.



- E. Verification Samples: Submit each exposed product, color, and texture specified, in sizes as follows:
  - 1. Lap Siding and Linear Trim: 9 inches long by full width.
  - 2. Panels: 9 inches long by full width.
  - 3. Shingle Siding: Full size unit.
  - 4. Other Trim: 9 inches long.
  - 5. Prefinished Accessories: Full size.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer Certificates: Signed by manufacturer certifying engineered wood cladding complies with requirements specified.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency.
  - 1. ICC-ES ESR-1301.
  - 2. APA PR-N124.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Firm or individual experienced in installing prefinished wood siding, with a record of successful performance.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and industry standards.
- B. Store products in manufacturer's labeled packaging until ready for installation. Protect from damage.
- C. Store products off ground, level, and under waterproof covering or roof.

#### 1.8 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer. Do not install products under environmental conditions outside manufacturer's limits.

## 1.9 WARRANTY

- A. Manufacturer's Standard Warranty: Transferable limited warranty.
  - 1. Labor and Replacement Warranty: Manufacturer agrees to provide replacement materials and reimburse labor to repair or replace products that fail in materials or workmanship within five years from date of Substantial completion.
  - 2. Material Warranty: Manufacturer agrees to provide replacement materials to repair or replace products that fail in materials or workmanship from years six through fifty after date of delivery of the material.
  - 3. Failures include the following:
    - a. Structural failures including buckling.
    - b. Deterioration of materials beyond normal weathering.
    - c. Fungal degradation.
    - d. Cracking, peeling, separating, chipping, flaking, or rupturing of resin-impregnated surface overlay.
    - e. Hail damage consisting of a crack, chip, or dent in the surface overlay exceeding 3/8 inch in length or diameter. Warranty covers hail up to 1-3/4 inches in diameter.
  
- B. Wood Siding Finish Warranty: Manufacturer agrees to repair finishes that deteriorate within specified warranty period.
  - 1. Deterioration includes the following:
    - a. Discoloring due to chalking more than a No. 8 rating when tested according to ASTM D4214.
    - b. Peeling or blistering.
    - c. Eroding and exposing the substrate.
    - d. Discoloring due to yellowing.
    - e. Discoloring due to fading more than 3 Delta E when tested according to ASTM D2244.
  
  - 2. Warranty Period:
    - a. Thirty years, with prorated application costs after year seven and material-only after year fifteen.

## PART 2 - PRODUCTS

### 2.1 APPROVED MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide Diamond Kote® Building Products built on LP® SmartSide®. 7102 Commerce Drive, Schofield, Wisconsin 54476; <https://diamondkotesiding.com/>; (800) 236-1528.
  
- B. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

- C. No Substitutions.

## 2.2 MANUFACTURED PRODUCTS

### A. Prefinished Strand Siding Materials:

1. Description: Exterior-grade phenolic resin-saturated paper overlay laminated to EPA-registered zinc-borate-preserved-treated engineered wood siding; structurally rated; AWWPA compliant; exposed edges sealed for moisture resistance; factory finished.

- B. Certified Wood: Wood products certified through qualified alternative compliance paths.

## 2.3 STACKING LAPPED SIDING

### A. Strand Panel Stacking Lapped Siding: 6" RigidStack™

1. Description: Pre-finished strand siding material furnished with factory-installed heavy-duty plastic spline and beveled top edge.
2. Nominal Thickness: 3/8 inches
3. Nominal Board Width: 6 inches
4. Exposure: 4-3/4 inches
5. Board Length: 16 feet
6. Texture: Smooth
7. Color: As selected by Owner from manufacturer's standard range

### B. Stacking Siding Accessories:

1. Starter Strips: 2-1/2 inch -wide by 10 feet long galvanized steel starter strip, prepunched for fasteners, designed to accommodate RigidStack™ spline.
2. H-Moldings: Prefinished composition siding manufacturer's standard aluminum moldings designed to cover gaps between siding panel butt joints.
  - a. Color: match siding
  - b. Length: Exposure length matching siding.

## 2.4 LAP SIDING

### A. Strand Panel Lapped Siding: Precision Series Lap

1. Description: Pre-finished strand siding material.
2. Nominal Thickness: 3/8 inches
3. Nominal Board Width: 6 inches
4. Board Length: 16 feet
5. Texture: Smooth
6. Color: to be selected by Owner from manufacturer's standard color range.

### B. Lapped Siding Accessories:

1. H-Moldings: Pre-finished composition siding manufacturer's standard aluminum moldings designed to cover gaps between siding panel butt joints.
  - a. Color: Match siding.
  - b. Length: and exposure length matching siding.

## 2.5 TRIM

- A. Straight Nail Fin Trim: Pre-finished strand siding material manufactured with integral aluminum nailing fin.
  1. Thickness: 0.91 inches
  2. Exposure: 3-1/2 inches
  3. Length: 16 feet
  4. Texture: Smooth
  5. Color: As selected by Owner from manufacturer's standard range.
- B. Outside Corner Nail Fin Trim: Pre-finished strand siding material manufactured with integral plastic nailing fin.
  1. Thickness: 0.91 inches
  2. Exposure: 3-1/2 inches
  3. Length: 16 feet
  4. Texture: Smooth
  5. Color: As selected by Owner from manufacturer's standard range.
- C. Siding Accessories: Pre-finished strand siding material manufactured with built-in drip cap and concealed nailing flanges.
  1. Products:
    - a. RigidMount™ UL Electrical: Strand siding material trim with built-in junction box, 5.94 by 6.94 inches
    - b. RigidMount™ Receptacle: Strand siding material trim without built-in junction box, 5.88 by 7.69 inches
    - c. RigidMount™ Blank Universal: Strand siding material trim, 8.25 by 10.313 inches
    - d. RigidMount™ Universal: Strand siding material trim with pass through for utility, 8.25 by 10.313 inches
    - e. RigidMount™ Split Block: Two-piece strand siding material trim with adjustable sized pass through for utility, 5.88 by 7.69 inches
    - f. RigidMount™ Oversize: Strand siding material trim, 8.25 by 14.313 inches
    - g. RigidMount™ Blank Horizontal: Strand siding material trim, 15.875 by 8.75 inches
  2. Texture: Smooth
  3. Color: Match adjacent siding

## 2.6 ACCESSORIES

- A. Fasteners: ASTM A153, hot-dip galvanized or stainless steel nails; size recommended by manufacturer to achieve proper penetration of substrate.
  - 1. Colored Fasteners: Pre-finished nails, color to match siding.
- B. Flashing: Minimum 0.019 inch thick prefinished aluminum.
  - 1. Flashing Types:
    - a. Drip Cap Flashing: Preformed z-shaped flashing for use above horizontal trims.
    - b. Diverter Flashing: Preformed flashing used where sloped roofs meet vertical walls.
    - c. Spacer Flashing: Preformed flashing provides clearance gaps between siding materials and roofing, decks and hardscape materials.
    - d. Brick Ledge Flashing: Preformed flashing for use between masonry and composition siding.
    - e. Z-Flashing: Preformed flashing designed to keep water out of horizontal seams when stacking panel siding.
    - f. Trim Coil: 24 inch wide prefinished aluminum sheet stock for field forming, 50 feet long.
  - 2. Aluminum Flashing Finish: As provided by siding manufacturer.
    - a. Color: Match adjacent siding
- C. Starter Boards: Pre-finished composition siding manufacturer's standard PVC-based trim in colors to match siding.
  - 1. Nominal Thickness: 3/4 inch
  - 2. Height: 7-1/4 inches
  - 3. Exposure: 5-13/16 inches
  - 4. Length: 16 feet
- D. Sealant: ASTM C920, minimum Class 25 sealant, type recommended by siding manufacturer.
- E. Touch-Up Paint: Pre-finished composition siding manufacturer's standard touch-up paint provided in 8 ounce bottles in colors matching siding.

## 2.7 FINISHES

- A. Factory Wood Finishing:
  - 1. Pre-finished composition siding manufacturer's oven-cured, water-based coating with metal oxide pigments.
  - 2. Basis of Design: Subject to compliance with requirements, provide Diamond Kote® Pre-finish.
- B. Aluminum Finishes:

1. Pre-finished composition siding manufacturer's standard finishes in colors to match wood siding.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify concealed framing for support and anchorage of prefinished composition cladding soffit and trim and fascia.
- B. Verify that substrate has been installed to permit proper installation of prefinished composition cladding, soffit, and, trim and fascia.

### 3.2 PREPARATION

- A. Prepare substrates using manufacturer's recommended methods.
- B. Do not install until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected.
- C. Commencement of installation constitutes acceptance of conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
  1. Install in accordance with conditions stated in ICC-ES ESR-1301.
  2. Properly space joints to allow for equilibration.
- B. Do not cut cladding to fabricate trim; use trim components.
- C. Install H-Moldings between siding butt joints as recommended by manufacturer.
- D. Vertical Siding for Board and Batten Applications: Vertical siding or batten may only span one plate to plate. Due to plate shrinkage, each vertical application shall not span beyond one floor to ceiling distance or one floor to top of gable distance.
- E. Seal around penetrations.
- F. Paint exposed cut edges, blemishes, and unfinished exposed fasteners with siding manufacturer's touch-up paint.

### 3.4 ADJUSTING AND CLEANING

- A. Remove and replace damaged, improperly installed, or otherwise defective materials.

- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products.

END OF SECTION | 10.18

## SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and color Samples.
- B. Coordinate installation of sheet metal flashing and trim with adjoining roofing and wall materials, joints, and seams to provide a leakproof, secure, and noncorrosive installation.
- C. Warranty on Finishes: Manufacturer agrees to repair or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 10 years.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Standard: Comply with \_\_\_\_\_ unless otherwise indicated. Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- B. FM Approvals' Listing: Manufacture and install \_\_\_\_\_ that are listed in FM Approvals' "RoofNav" and approved for windstorm classification,. Identify materials with name of fabricator and design approved by FM Approvals.
- C. SPRI Wind Design Standard: Manufacture and install \_\_\_\_\_ tested according to SPRI ES-1 and capable of resisting the following design pressure:
  - 1. Design Pressure: .



## 2.2 SHEET METAL

- A. Copper: ASTM B 370; Temper H00 or H01, cold rolled, not less than 16 oz./sq. ft..
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, not less than 0.032 inch thick; with mill finish.
  - 1. Finish: Manufacturer's standard.
  - 2. Concealed Finish: Manufacturer's standard white or light-colored acrylic or polyester backer finish.
- C. Zinc-Tin Alloy-Coated Stainless Steel: ASTM A 240/A 240M, Type 304, fully annealed stainless-steel sheet, not less than 0.015 inch thick, with 0.787-mil thickness zinc-tin alloy coating applied to each side; with factory-applied gray preweathering.
  - 1. <Double click here to find, evaluate, and insert list of manufacturers and products.>
- D. Metallic-Coated Steel Sheet: Galvanized steel sheet, ASTM A 653/A 653M, G90, or aluminum-zinc alloy-coated steel sheet, ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; 0.022-inch nominal thickness.
  - 1. Finish: Manufacturer's standard epoxy primer and silicone-modified, polyester- enamel topcoat.
  - 2. Concealed Finish: Manufacturer's standard white or light-colored acrylic or polyester backer finish.

## 2.3 ACCESSORIES

- A. Felt Underlayment: ASTM D 226, Type II (No. 30), asphalt-saturated organic felts.
- B. Self-Adhering, High-Temperature Sheet Underlayment: Butyl or SBS-modified asphalt; slip-resisting-polyethylene surfaced; with release paper backing; cold applied. Stable after testing at 240 deg F and passes after testing at minus 20 deg F; ASTM D 1970.
- C. Slip Sheet: Rosin-sized building paper, 3-lb/100 sq. ft. minimum.

- D. Fasteners: Wood screws, annular-threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners.
  - 1. Exposed Fasteners: Heads matching color of sheet metal roofing using plastic caps or factory-applied coating.
  - 2. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
  - 3. Fasteners for Copper: Copper, hardware bronze, or Series 300 stainless steel.
  - 4. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
  - 5. Fasteners for Zinc-Tin Alloy-Coated Stainless-Steel Sheet: Series 300 stainless steel.
  - 6. Fasteners for Metallic-Coated Steel Sheet: Hot-dip galvanized steel or Series 300 stainless steel.
- E. Solder for Copper: ASTM B 32, Grade Sn50.
- F. Solder for Zinc-Tin Alloy-Coated Stainless Steel: ASTM B 32, 100 percent tin.
- G. Butyl Sealant: ASTM C 1311, solvent-release butyl rubber sealant.
- H. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

## 2.4 FABRICATION

- A. Fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to the design, dimensions, geometry, metal thickness, and other characteristics of item indicated.
- B. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- C. Fabrication Tolerances: Fabricate sheet metal flashing and trim that are capable of installation to tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Comply with cited sheet metal standards. Allow for thermal expansion; set true to line and level. Install Work with laps, joints, and seams permanently watertight and weatherproof; conceal fasteners where possible.
- B. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- C. Seams: Fabricate nonmoving seams with flat-lock seams. For aluminum, form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- D. Metal Protection: Where dissimilar metals contact each other, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating.
  - 1. Coat concealed side of aluminum with bituminous coating where it contacts wood, ferrous metal, or cementitious construction.

END OF SECTION 07 62 00

## SECTION 081613 - FIBERGLASS DOORS

## PART 1 - GENERAL

## 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Warranties: Manufacturer's standard written warranty, signed by manufacturer agreeing to promptly repair or replace products that fail in materials or workmanship for the life of the installation.

## PART 2 - PRODUCTS

## 2.1 FIBERGLASS DOORS

- A. Wadena or equal
- B. Performance Requirements: Comply with ENERGY STAR product labeling program.
- C. Faces: Fiberglass-reinforced plastic, molded to panel configuration indicated, with smooth finish.
  - 1. Panel Configuration: Two panel Configuration
- D. Stiles, Rails, and Blocking: Structural composite lumber, not less than 1-1/4-inch- (32-mm-) wide stiles and 2-1/2-inch- (63-mm-) wide rails. Treat bottom rails with water-repellant preservative. Provide 20-inch (508-mm) lock blocks.
- E. Core: Polyurethane foam.
- F. Factory-fit doors to suit frame-opening sizes indicated and to comply with clearances specified.
  - 1. Provide 1/8-inch (3.2-mm) clearance at jambs, heads, and meeting stiles. At thresholds, provide 3/8-inch (9.5-mm) clearance.
  - 2. Comply with NFPA 80 for fire-resistance-rated doors.
- G. Factory-machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3.
- H. Factory-finish doors with manufacturer's standard opaque finish.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install doors level, plumb, true, and aligned with frames with uniform clearances.
- B. Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.

END OF SECTION 081613

## SECTION 08 54 00 – COMPOSITE WINDOWS

### PART 1 GENERAL

#### 1.1 SUMMARY

A. Section Includes: Composite-framed windows of the following types: Single-hung, gliding, and awning.

#### 1.2 REFERENCES

A. General: Standards listed by reference form a part of this specification section. Standards listed are identified by issuing authority, abbreviation, designation number, title or other designation. Standards subsequently referenced in this Section are referred to by issuing authority abbreviation and standard designation.

B. American Architectural Manufacturers Association (AAMA):

1. AAMA 502 - Voluntary Specification for Field Testing of Newly Installed Fenestration Products.
2. AAMA 615 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Plastic Profiles.
3. NAFS - North American Fenestration Standard/Specification for windows, doors and skylights.

C. Andersen Unit Installation Guide.

D. ASTM International (ASTM):

1. ASTM C1036 - Standard Specification for Flat Glass.
2. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
3. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
4. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
5. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls.

Composite Windows

6. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
7. ASTM F2090 - Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms.

E. Insulating Glass Certification Council (IGCC):

1. Insulating Glass Unit Certification.

F. Insulating Glass Manufacturers Alliance of Canada (IGMAC) and Canadian General Standards Board (CGSB):

1. Insulating Glass Units Standard CAN/CGSB 12.8-97.

G. International Standards Organization (ISO):

1. ISO 14021 - Environmental Labels and Declarations -- Self-Declared Environmental Claims (Type II Environmental Labeling).

H. National Fenestration Rating Council (NFRC):

1. NFRC 100 - Procedure for Determining Fenestration Product U-factors.
2. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.

I. U.S. Environmental Protection Agency (EPA):

1. ENERGY STAR.

J. Window and Door Manufacturers Association (WDMA):

1. WDMA Hallmark Certification Program for Manufacturers.

### 1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance Requirements:

1. Comply with requirements of NAFS.

### 1.5 SUBMITTALS

A. Product Data: For each type of product required.

B. Shop Drawings: Showing methods of installation, plans, sections, elevations and details of walls, specified loads, flashings, vents, sealants, and interfaces with all materials not supplied by the window manufacturer, and identification of proposed component parts and finishes.

C. Samples: Selection and verification samples for finishes, colors and textures. Submit two complete sample sets of each type of material required.

D. Certificates: Signed by manufacturer certifying materials comply with specified performance characteristics, criteria and physical requirements.

E. Test and Evaluation Reports: Showing compliance with specified performance characteristics and physical properties.

F. Manufacturer's Instructions: Manufacturer installation, storage, and other instructions.

## 1.6 QUALITY ASSURANCE

### A. Manufacturer Qualifications:

1. Member in good standing of The Insulating Glass Certification Council (IGCC).
2. Hallmark Certified Manufacturer and member in good standing of the Window and Door Manufacturers Association (WDMA).
3. Member in good standing of U.S. Green Building Council.
4. U.S. ENERGY STAR Partner.
5. Capable of demonstrating an extended history of window and door design, production and innovation.

### B. Installer Qualifications:

1. Minimum five years' experience in the commercial installation of products required for the Project.
2. Experience on at least five projects of similar size, type and complexity as the Project.
3. An entity utilizing workers competent in techniques required by manufacturer for product types and applications indicated.

## 1.7 DELIVERY, STORAGE AND HANDLING



A. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

B. Deliver materials to Project in manufacturer's original unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials and accessories protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by manufacturer off ground, under cover and not exposed to weather and construction activities.

## 1.8 WARRANTY

A. Special Warranty: Manufacturer's transferrable, non-prorated limited warranty.

1. Warranty Period, Glass: 20 years.
2. Warranty Period, Non-Glass Parts: 10 years.
3. Warranty Period, Color Fade: 10 years.

## PART 2 PRODUCT

### 2.1 COMPOSITE WINDOWS

A. General: Provide composite windows complying with the performance requirements indicated and tested according to NAFS.

B. Basis-of-Design Product: Subject to compliance with requirements provide Andersen Corporation: Andersen 100 Series windows. Or Equal

### 2.2 MATERIALS

A. Material Composition: Extruded composite profile consisting of 40 percent reclaimed pre-consumer wood fiber and 60 percent thermoplastic polymer, by weight.

B. Manufacturer Designation: Fibrex material.

D. Interior Color: White

E. Exterior Color: White

C. Air Infiltration Requirements:

Composite Windows

1. Air Infiltration Rate: < **0.2 cfm/sf<sup>2</sup>**.

D. Environmental Qualifications:

1. ENERGY STAR performance.

E. Weatherstrip Type and Material: Three fins and pile, polypropylene.

F. Weatherstrip Type and Material: Flexible tubular and leaf, vinyl.

G. Overall Depth: 3-1/4 inches (82.6 mm).

H. Attachment Flange: 1-3/8 inches flange setback

I. Hardware:

1. Hardware Type and Material: Self-latching, polycarbonate with integral color.

2. Balance Type and Material: Spring loaded block and tackle, galvanized steel.

3. Rollers and Guides Type and Material: Dual adjustable, brass with extruded glide track.

J. Divided Lights: only in gable-end window

2. Simulated Divided Light:

a. Style: Contoured profile.

b. Width: 3/4 inch

c. Pattern: As shown in Drawings

d. Exterior Color: Match window

e. Interior Color: Match window

K. Insect Screens:

1. Frame Material: Roll-formed aluminum.

2. Frame Color: Match window frame.

3. Insect Screen Material: Fiberglass cloth secured with vinyl spline.

L. Mullions:

1. Type: Non-reinforced fiberglass mullion system configured to be structurally sound, designed in accordance with AAMA 450 and Hallmark certified.
2. Type: Reinforced fiberglass mullion system configured to be structurally sound, designed in accordance with AAMA 450 and Hallmark certified.

E. Glass Units: Provide insulating glass units certified through Insulating Glass Certification Council as conforming to the requirements of IGCC and ASTM E2190.

1. Manufacturer Designation: Andersen High-Performance Low-E Glass.
2. Glazing Configuration: Dual Pane
3. Seal and Spacer Type: Dual sealed insulating glass units with polyisobutylene primary seal, silicone secondary seal and stainless steel spacers.
4. Glass Spacer Color: Stainless Steel.
5. Glass Type: Heat strengthened tempered glass, ASTM C1048.
6. Glass Pattern: None

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify that all substrate conditions are suitable for installation in compliance with manufacturer's recommendations.

B. Do not begin installation until substrates have been properly prepared and any conditions not in compliance with manufacturer's recommendations have been corrected.

### 3.2 INSTALLATION

A. General: Comply with manufacturer's product recommendations, including but not limited to the Andersen Unit Installation Guide, and installation information in product literature and on product packaging. Comply with Drawings for installing windows, hardware, accessories, and other components.

B. Install windows plumb, level and square. Anchor windows securely to structure in correct orientation to flashing and adjacent construction as indicated. Comply with installation instructions for proper flashing integration of window into wall system. Install windows so as to drain water penetration to the exterior.

C. Adjust sashes, insect screens, ventilators, hardware and accessories as applicable for correct fit. Adjust weatherstrip for smooth operation and weather-tight closure.

### 3.3 CLEANING

A. Refer to manufacturer for guidance on timing for when best to remove protective films and non-permanent labels after installation.

B. Remove excess sealant, soiling, dirt and other substances. Clean window frame and glass surfaces. Avoid damaging coatings and finishes.

C. Touch-up, repair or replace glass or other window components broken, scratched or damaged during construction prior to Substantial Completion.

D. Remove and lawfully dispose of construction debris from Project site.

### 3.5 PROTECTION

A. Protect installed windows and finish surfaces from damage during construction until completion of Project and acceptance by Owner.

END OF SECTION 08 54 00 – COMPOSITE WINDOWS

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product data.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

- A. Provide in maximum lengths available to minimize end-to-end butt joints.
- B. Interior Gypsum Board: ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges. Type X abuse rated gypsum board.
- C. ACCESSORIES
- D. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.
  - 1. Provide cornerbead at outside corners unless otherwise indicated.
  - 2. Provide LC-bead (J-bead) at exposed panel edges.
  - 3. Provide control joints where indicated.
- E. Aluminum Accessories: Extruded-aluminum accessories indicated with manufacturer's standard corrosion-resistant primer.
- F. Joint-Treatment Materials: ASTM C 475/C 475M.
  - 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
  - 2. Joint Compounds: Drying-type, ready-mixed, all-purpose compounds.

3. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.
  4. Cementitious Backer Unit Joint-Treatment Materials: Products recommended by cementitious backer unit manufacturer.
- G. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- H. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834.
- I. Sound-Attenuation Blankets: ASTM C 665, Type I (unfaced).

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install gypsum board to comply with ASTM C 840.
1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
  2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
- B. Finishing Gypsum Board: ASTM C 840.
1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
  2. Provide a Level 5 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges. Apply skim coat to entire surface.
- C. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

09 29 00

- D. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.

END OF SECTION 09 29 00

## SECTION 096723

### RESINOUS FLOORING

#### SHERWIN-WILLIAMS HIGH PERFORMANCE FLOORING, RESUFLOL DECO QUARTZ DB23

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Resinous Systems of the Following Types:
  - 1. Sherwin-Williams HPF, Resuflor Deco Quartz DB23.

##### 1.2 RELATED SECTIONS

- A. Section 03300 – Cast-In-Place Concrete.

##### 1.3 REFERENCES

- A. ASTM International (ASTM):
  - 1. ASTM C 29 / C 29M - Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate.
  - 2. ASTM C 128 - Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate.
  - 3. ASTM C 413 - Standard Test Method for Absorption of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
  - 4. ASTM C 566 - Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying.
  - 5. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
  - 6. ASTM D 695 - Standard Test Method for Compressive Properties of Rigid Plastics.
  - 7. ASTM D1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.
  - 8. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
  - 9. ASTM D 2240 - Standard Test Method for Rubber Property—Durometer Hardness.
  - 10. ASTM D 2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
  - 11. ASTM D2369 - Standard Test Method for Volatile Content of Coatings.
  - 12. ASTM D 2370 - Standard Test Method for Tensile Properties of Organic Coatings.
  - 13. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
  - 14. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
  - 15. ASTM D 4366 - Standard Test Methods for Hardness of Organic Coatings by Pendulum Damping Tests
  - 16. ASTM D5441 - Standard Test Method for Analysis of Methyl Tert-Butyl Ether (MTBE) by Gas Chromatography.
  - 17. ASTM D 7234 - Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.



18. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
  19. ASTM F 2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
  20. ASTM G 154 - Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials.
  21. ASTM G 155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.
- B. Deutsches Institut fur Normung (DIN):
1. DIN 53460 – Testing of Plastics; Determination of the Vicat Softening Temperature of Thermoplastics.
- C. International Concrete Repair Institute (ICRI):
1. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
- D. Military Specifications (MIL):
1. MIL-D-3134J - Deck Covering Materials.
- E. National Floor Safety Institute (NFSI):
1. ANSI/NFSI B101.1 - Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data:
1. Manufacturer's data sheets on each product to be used, including properites, VOC content, wet static coefficient of friction, compressive strength, tensile strength, elongation and similar properties.
  2. Preparation instructions and recommendations.
  3. Storage and handling requirements and recommendations.
  4. Typical installation methods.
- C. Verification Samples: Two representative units of each system, including color and texture.
- D. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- F. Manufacturer's Project References: Submit manufacturer's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems furnished.
- G. Applicator's Project References: Submit applicator's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems applied.
- H. Care and Maintenance Instructions: Submit manufacturer's care and maintenance instructions, including cleaning instructions.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
- B. Applicator's Qualifications:
  - 1. Applicator regularly engaged, for a minimum of 5 years, in application of resinous flooring systems of similar type to that specified.
  - 2. Employ persons trained for application of resinous flooring systems.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
- D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
  - 1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
  - 2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
  - 3. Retain mock-up during construction as a standard for comparison with completed work.
  - 4. Do not alter or remove mock-up until work is completed or removal is authorized.

## 1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, and batch number.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until application.
  - 3. Store materials in clean, dry area indoors between 65 and 80 degrees F (18 and 27 degrees C).
  - 4. Store materials out of direct sunlight.
  - 5. Keep materials from freezing.
  - 6. Protect materials during storage, handling, and application to prevent contamination or damage.

## 1.8 PROJECT CONDITIONS

- A. Apply flooring system under the following ambient conditions:
  - 1. Ambient and Concrete Floor Temperatures: Between 65 and 85 degrees F (18 and 29 degrees C).
  - 2. Material Temperature: Between 65 and 85 degrees F (18 and 29 degrees C).
  - 3. Relative Humidity: Maximum 80 percent.
  - 4. Dew Point: Floor temperature more than 5 degrees over dew point.

- B. Do not apply flooring system under ambient conditions outside manufacturer's limits.

## 1.9 WARRANTY

- A. Submit manufacturer's standard warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: The Sherwin-Williams High Performance Flooring, 866-540-1299 [swflooring@sherwin.com](mailto:swflooring@sherwin.com) Website: <https://industrial.sherwin-williams.com/na/us/en/resin-flooring.html>
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 2.2 SHERWIN-WILLIAMS HPF, RESUFLOL DECO QUARTZ DB23

- A. Resufloor Deco Quartz DB23.
  1. First Broadcast Coat with decorative quartz broadcast: Resufloor MPE, 10-12 mils.
  2. Second Broadcast Coat with decorative quartz broadcast: Resufloor MPE, 15 mils.
  3. Grout Coat: Resufloor UVE, 15 mils.
  4. Topcoat: Resutile HTS 100, 3 mils.
  5. Color: As selected by Architect from manufacturer's full range.

### 2.3 SYSTEM PROPERTIES

- A. Tennant Quartz DB
  1. Abrasion Resistance, Taber Abraser CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060, 18 mg/loss
  2. Adhesion to Concrete, psi [MPa], ASTM D4541, 450 [3.10] (concrete failed)
  3. Adhesion to Concrete, psi [MPa], ASTM D7234, 732 [4.48] (concrete failed)
  4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047, 0.63
  5. Coefficient of Friction-Wet Static, BOT 3000, ANSI/NFSI B101.1, 0.94
  6. Compressive Strength, psi [MPa], ASTM D695, 13,500 [93.079]
  7. Flammabilitymm/min, ASTM D635, 182 mm/min
  8. König Hardness, ASTM D22540, 171.3
  9. Shore D hardness, ASTM D2240, 80-85 @ 0 sec | 75-80 @ 15 sec
  10. Sward Hardness (1mil film), ASTM D2240, 30-40
  11. Tensile Strength, psi [MPa], ASTM D2370, 8,000 [55.158]
  12. Percent Elongation (resin only), ASTM D2370, 6%
  13. Volatile Organic Compound, VOC,lb/gal [g/l], ASTM D3960, Resufloor MPE A+B= 0.41 [49] Resufloor UVE A+B=0.67 [81] Resutile HTS 100 A+B+C=0.05 [6]
  14. Water Absorption (24 hours), ASTM D570, 0.2% weight increase

### 2.4 PRODUCT PROPERTIES

- A. Resufloor MPE: A neutral, two-component, high solids epoxy.
  1. Percent Solids, by weight (by volume), ASTM D1475, A + B: 95.45 (94.56).
  2. Volatile Organic Compound-VOC, ASTM D3960, Mixed A + B: 0.41 lb./gal (49 g/L).
  3. Abrasion Resistance, mg loss, Taber Abraser, C-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060: 83.1.

4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047: 0.59-0.62.
  5. Adhesion to Concrete, ASTM D5441: 732 psi (4.48 MPa) concrete failed.
  6. Adhesion to Concrete, ASTM D7234: 450 psi (3.10 MPa) concrete failed.
  7. Compressive Strength, ASTM D695: 13,500 psi (93.079 MPa).
  8. Tensile Strength, ASTM D2370: 8,000 psi (55.158 MPa).
  9. Percent Elongation, ASTM D2370: 5.
  10. Shor D Hardness, ASTM D2240: 80-85 @ 0 sec, 75-80 @ 15 sec.
- B. Resufloor UVE: A two-component, high solids, UV resistant epoxy.
1. Percent Solids, by weight (by volume), ASTM D2369, A + B: 92.60 (92.11).
  2. Volatile Organic Compound-VOC, ASTM D3960, A + B: 0.67 lb./gal (81 g/L).
  3. Abrasion Resistance, mg loss, Taber Abraser, C-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060: 80-90.
  4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047: 0.59-0.62.
  5. Compressive Strength, ASTM D69: 13,500 psi (93,150 MPa).
  6. Tensile Strength, ASTM D2370: 8,000 psi (55,158 MPa).
  7. Present Elongation, ASTM D2370: 5.
  8. Shore D Hardness, ASTM D2240: 80-85 @ 0 sec, 70-85 @ 15 sec.
- C. Resutile HTS 100: A clear high solids, three-component, satin finish, aliphatic, moisture-cure urethane.
1. Percent Solids, by weight (by volume), ASTM D2369, A + B + C: 94.02 (92.57).
  2. Volatile Organic Compound-VOC, ASTM D3960, Mixed A + B + C: 0.05 lb/gal (6 g/L).
  3. Abrasion Resistance, mg loss, Taber Abraser, C-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060: 18.
  4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047: 0.63.
  5. Wet Static Coefficient of Friction, BOT 3000, ANSI/NFSI B101.1: 0.94.
  6. Flammability, ASTM G154: 182 mm/min.
  7. Resistance to Yellowing as measured using ASTM D2244 after 1000 consecutive hours UV exposure in QUV, ASTM G154, <10 increase of yellow units (CIE Lab  $\Delta b$ )
  8. Tensile Strength, (resin only), ASTM D2370: 6,250 psi (43,092 MPa).
  9. Percent Elongation, (resin only), ASTM D2370: 6.
  10. König Hardness, (3 mil/76.2 micron film), ASTM D4366: 171.3.
  11. Water Absorption, 24-hour immersion, ASTM C413: 0.2 percent weight increase.
1. Color: Selected by Architect.
- D. Decorative Quartz (Broadcast): Description, Color-coated, uniformly shaped and sized quartz granules
1. Grain Size: 40 mesh.
  2. Mohs Hardness: 6.5-7.
  3. Bulk Density, ASTM C29, packed: 90-105 pcf.
  4. Specific Gravity, ASTM C128: 2.65.
  5. Moisture Content, ASTM C566: Less than 0.05 percent.
  6. Colorfastness/UV Stability, ASTM G155: 1,000 hours, pass.
  7. Color: Selected by Architect.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine concrete surfaces to receive flooring system. Verify concrete is structurally sound.

- B. Moisture Testing of Concrete: Perform at least one of the following two tests to determine moisture in concrete. Type of test and frequency as recommended by manufacturer and installer.
  - 1. In-situ Probe Test:
    - a. Measure relative humidity in concrete in accordance with ASTM F 2170.
    - b. Application of flooring system shall start only if test results are below 75 percent relative concrete humidity.
    - c. If test results are above limits, notify Architect and flooring manufacturer in writing.
- C. Do not begin preparation or installation until satisfactory moisture test results are achieved. Provide flooring manufacturer's recommended moisture vapor control coating if required.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Protection of In-Place Conditions: Protect adjacent surfaces and adjoining walls from contact with flooring system materials.
- C. Surface Preparation:
  - 1. Prepare concrete surface in accordance with manufacturer's instructions.
  - 2. Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint, coatings, sealers, silicones, and other surface contaminants which could adversely affect application of flooring system.
  - 3. Steel shot blast concrete to a minimum surface profile of ICRI 310.2R, CSP 5.
  - 4. Key-cut termination points with 1/4-inch (6-mm) by 1/4-inch (6-mm) cut.
  - 5. Patch depressions, divots, and cracks in concrete in accordance with manufacturer's instructions.
  - 6. Mechanically remove loose, delaminated, and damaged concrete and repair in accordance with manufacturer's instructions.
  - 7. Joints: Fill joints in accordance with manufacturer's instructions.

### 3.3 INSTALLATION

- A. Install flooring system in accordance with manufacturer's instructions and approved submittals at locations indicated on the Drawings.
- B. Ensure concrete is dry, clean, and prepared in accordance with manufacturer's instructions.
- C. Allow concrete to cure a minimum of 7 days before applying flooring system.
- D. Mixing:
  - 1. Mix material components together in accordance with manufacturer's instructions.
  - 2. Mix only enough material that can be applied within working time.
  - 3. Add and mix colorants with materials in accordance with manufacturer's instructions to achieve uniform color.
- E. Apply flooring system materials to obtain consistent mil thickness and smooth, uniform appearance and texture.
- F. Overlay: Apply overlay in accordance with manufacturer's instructions. Apply overlay to prepared concrete surface.

- G. Traction Aggregate: Broadcast traction aggregate in accordance with manufacturer's instructions. Broadcast traction aggregate into wet overlay.
- H. Cove:
  - 1. Apply cove primer and cove in accordance with manufacturer's instructions at locations indicated on the Drawings.
  - 2. Apply cove to height and shape as indicated on the Drawings.
  - 3. Apply cove to create seamless, smooth transition between flooring and walls.
- I. Seal Coat:
  - 1. Apply seal coat in accordance with manufacturer's instructions.
  - 2. Apply seal coat over traction aggregate.

#### 3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
- B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

#### 3.5 CLEANING AND PROTECTION

- A. Allow flooring system to dry in accordance with manufacturer's instructions before opening to traffic.
- B. Allow flooring system to dry a minimum of 1 week before cleaning by mechanical means.
- C. Protect completed flooring system from damage during construction.

END OF SECTION

## SECTION 099600

### HIGH PERFORMANCE RESINOUS WALL COATINGS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes:
  - 1. High-performance resinous wall and ceiling coating systems.

##### 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Installer Certificates for Qualification: Signed by manufacturer stating that installers comply with specified requirements.
- C. Material Certificates: For each resinous wall and ceiling component, from manufacturer.
- D. Maintenance Data: For maintenance manuals.
- E. Samples: Submit two 6" X 6" samples of each resinous wall and ceiling system applied to a rigid backing. Provide sample which is a true representation of proposed field applied finish. Provide sample color and texture for approval from Owner in writing or approved by General Contractor prior to installation.
- F. Product Schedule: For resinous wall and ceiling coating systems.

##### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of wall and ceiling systems required for this Project.
  - 1. Engage an installer who is approved in writing by resinous wall and ceiling manufacturer as qualified to apply resinous wall and ceiling systems indicated.
  - 2. Installer Letter of Qualification: Installer to provide letter stating that they have been in business for at least 5 years and listing 5 projects in the last 2 years of similar scope. For each project provide: project name, location, date of installation, contact information, size of project, and manufacturer of materials with system information.
- B. Source Limitations: Obtain primary resinous wall and ceiling materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.
- C. Pre-installation Conference: Conduct conference at Project site before work and mockups begin.
- D. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. Do not cover up mockup area.
  - 1. Apply full-thickness mockups on 16 square foot floor area selected by Architect.
  - 2. Finish surfaces for verification of products, color, texture, and sheen.
  - 3. Simulate finished lighting conditions for Architect's review of mockups.
  - 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
  - 5. Mockup shall demonstrate desired slip resistance for review and approval by Owner's representative in writing.

##### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.

## 1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with resinous wall and ceiling manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous wall and ceiling application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application unless manufacturer recommends a longer period.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by:
  - 1. The Sherwin Williams Company, Cleveland, OH. Representative Contact: Michael Starnier (484) 624-2360 [michael.starnier@sherwin.com](mailto:michael.starnier@sherwin.com) .
- B. ResuWall, 10-14 mils nominal thickness.
  - 1. Primer: Resuflor Aqua 3479 at 300-350 sq. ft. per gallon.
  - 2. Base Coat (2 Coats @ 3-5 mils): Resuflor Aqua 3479 at 300-350 sq. ft. per gallon.
  - 3. Finish Coat: ResuTile 4410/4411 at 400-500 sq. ft. per gallon.

### 2.2 MATERIALS

- A. VOC Content of Resinous Wall and Ceiling Coating: Provide resinous wall and ceiling systems, for use inside the weatherproofing system, that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24)].
  - 1. Resinous Flooring: 100 g/L.

### 2.3 HIGH-PERFORMANCE RESINOUS WALL AND CEILING COATING SYSTEM

- A. Resinous Wall and Ceiling Coating: Abrasion-, impact- and chemical-resistant, high-performance, resin-based, monolithic floor surfacing designed to produce a seamless floor.
- B. System Characteristics:
  - 1. Color and Pattern: As indicated from manufacturers listed above.
  - 2. Slip Resistance: Provide smooth, orange peel finish unless otherwise specified.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Inspection: Prior to commencing Work, thoroughly examine all underlying and adjoining work, surfaces and conditions upon which Work is in any way dependent for perfect results. Report all conditions which affect Work. No "waiver of responsibility" for incomplete, inadequate or defective underlaying and adjoining work, surfaces and conditions will be considered, unless notice of such unsatisfactory conditions has been filed and agreed to in writing before Work begins. Commencement of Work constitutes acceptance of surfaces.
- B. Surface Preparation: Remove all surface contamination, loose or weakly adherent particles, laitance, grease, oil, curing compounds, paint, dust and debris by blast track method or approved mechanical means (acid etch not allowed). If surface is questionable try a test patch. Create a minimum surface profile for the system specified in accordance with the methods described in ICRI No. 03732 to achieve profile numbers as follows:



- C. CONCRETE SURFACE PROFILE (CSP)
  - 1. **Thin film, to 10 mils** **CSP-1 to CSP-3**
  - 2. Thin and medium films, 10 to 40 mils CSP-3 to CSP-5
  - 3. Self-leveling mortars, to 3/16" CSP-4 to CSP-6
  - 4. Mortars and laminates, to 1/4" or more CSP-5 to CSP-10
  
- D. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
  - 1. Moisture Testing: Perform tests indicated below.
    - a. Calcium Chloride Test: Perform anhydrous calcium chloride test per ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours. Perform tests so that each test area does not exceed 1000 sq. ft. and perform 3 tests for the first 1000 sq. ft. and one additional test for every additional 1000 sq ft.
    - b. In-Situ Probe Test: Perform relative-humidity test using in-situ probes per ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative-humidity-level measurement.

### 3.2 ENVIRONMENTAL CONDITIONS

- A. All applicators and all other personnel in the area of the RF installation shall take all required and necessary safety precautions. All manufacturers' installation instructions shall be implicitly instructions shall be implicitly followed.
- B. Repair damaged and deteriorated concrete according to resinous wall and ceiling manufacturer's written instructions.
- C. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- D. Resinous Materials: Mix components and prepare materials according to resinous wall and ceiling manufacturer's written instructions.
- E. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
- F. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous wall and ceiling according to manufacturer's written instructions.

### 3.3 APPLICATIONS

- A. Install resinous wall and ceiling coating system over properly prepared concrete surface in strict accordance with the manufacturer's directions.
  - 1. Install the primer and/or base coats over thoroughly cleaned and prepared concrete.
  - 2. Install topcoat over wall and ceiling coating system after excess aggregate or sand dust has been removed.
  - 3. Maintain a slab temperature of 60°F to 80°F for 24 hours minimum before applying wall and ceiling coatings, or as instructed by manufacturer.
- B. Apply components of resinous wall and ceiling system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.
  - 1. Coordinate application of components to provide optimum adhesion of resinous wall and ceiling system to substrate, and optimum intercoat adhesion.
  - 2. Cure resinous wall and ceiling components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
  - 3. At substrate expansion and isolation joints, comply with resinous wall and ceiling manufacturer's written instructions.
- C. Sealant: Saw cut resinous wall and ceiling topping at expansion joints in concrete slab. Fill sawcuts with sealant prior to final seal coat application. Follow manufacturer's written recommendations.

- D. Apply primer over prepared substrate at manufacturer's recommended spreading rate.
- E. Sand between coats and remove sand dust prior to next coat.
- F. Apply topcoats in number indicated for wall and ceiling system and at spreading rates recommended in writing by manufacturer.

#### 3.4 COMPLETED WORK

- A. Cleaning: Upon completion of the Work, clean up and remove from the premises surplus materials, tools, appliances, empty cans, cartons and rubbish resulting from the Work. Clean off all spattering and drippings, and all resulting stains.
- B. Protection: Protect Work in accordance with manufacturer's directions from damage and wear during the remainder of the construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.
- C. Contractor shall insure that coating is protected from any traffic until it is fully cured to the satisfaction of the coating manufacturer.

END OF SECTION 096723

## SECTION 101400 - SIGNAGE

- A. Submittals: Product Data, Shop Drawings, and Samples.
  - 1. Submit full-size rubbings for metal plaques.

## PART 2 - PRODUCTS

## 2.1 SIGNS, GENERAL

- A. Regulatory Requirements: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC A117.1.

## 2.2 PANEL SIGNS

- A. Exterior Panel Signs: Engraved plastic laminate or Matte-finished opaque acrylic with adhesively applied vinyl film copy with square-cut edges and square corners.
  - 1. Finishes and Colors: As selected from manufacturer's full range.
  - 2. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch (0.8 mm) above surface with contrasting colors.
  - 3. Provide signs for all rooms mounted on the room door.

## 2.3 MATERIALS

- A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).
- B. Plastic Laminate: High-pressure laminate engraving stock with face and core in contrasting colors.

## PART 3 - EXECUTION

## 3.1 INSTALLATION

- A. Locate signs where indicated or directed by Architect. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.

END OF SECTION 101400

## SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, Shop Drawings, and Samples.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Flame-Spread Index: 200 or less.
- B. Smoke-Developed Index: 450 or less.
- C. Regulatory Requirements: Comply with applicable provisions in ICC A117.1 for toilet compartments designated as accessible.

### 2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Toilet-Enclosure Style: Floor and ceiling anchored.
- B. Urinal-Screen Style: Overhead braced.
- C. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.
  - 1. Heat-Sink Strip: Continuous, Stainless-steel strip.
- D. Pilaster Shoes and Sleeves: Manufacturer's standard design; Stainless-steel.
- E. Brackets:
  - 1. Stirrup Type: Stainless steel.
  - 2. Full-Height (Continuous) Type: Stainless steel.
- F. Doors: Unless otherwise indicated, 24-inch- (610-mm-) wide in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments indicated to be accessible to people with disabilities.
- G. Door Hardware: Stainless steel.
  - 1. Hinges: Self-closing type.
  - 2. Latches and Keepers: Recessed unit designed for emergency access and with combination rubber-faced door strike and keeper.

3. Coat Hook: Combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
  4. Door Bumper: Rubber-tipped bumpers at out-swinging doors or entrance screen doors.
  5. Door Pull: Provide at out-swinging doors. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.
- H. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use rust-resistant materials compatible with related materials.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install units rigid, straight, level, and plumb, with not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls.
1. Stirrup Brackets: Align brackets at pilasters with brackets at walls.
  2. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

END OF SECTION 102113.19

## SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

### PART 2 - PRODUCTS

#### 2.1 TOILET AND BATH ACCESSORIES

- A. Toilet Tissue Dispenser:
1. Basis-of-Design Product
  2. Type: Double-roll dispenser.
  3. Mounting: Surface mounted with concealed anchorage.
  4. Material: Stainless steel Controlled-delivery units cannot be used at accessible toilets.
  5. Operation: Non control delivery with standard spindle
  6. Capacity: Designed for 4-1/2- or 5-inch- (114- or 127-mm-) diameter-core tissue rolls.
- B. Waste Receptacle:
1. Type: Freestanding.
  2. Capacity: 10. gal
  3. Material and Finish: Rubber.
- C. Liquid-Soap Dispenser:
1. Mounting Wall mounted
  2. Refill Indicator: Window type.
- D. Grab Bar:
1. Material: Stainless steel, 0.050 inch (1.3 mm) thick.
  2. Mounting: Concealed
  3. Gripping Surfaces: Slip-resistant texture.
  4. Outside Diameter: 1-1/2 inches (38 mm).
- E. Warm-Air Dryer:
1. Type: Electronic-sensor activated.
  2. Mounting: Surface.
  3. Material: Molded plastic, white
- F. Robe Hook:
1. Description: **Single** prong unit.
  2. Material and Finish: **Stainless steel, No. 4 finish**
  3. Basis-of-Design Product: **<Insert manufacturer; product name or designation>**.

- G. Underlavatory Guard:
  - 1. Description: Insulating pipe coverings for supply and drain piping assemblies, which prevent direct contact with and burns from piping and allow service access without removing coverings.
  - 2. Material and Finish: Antimicrobial, molded plastic, white.

## 2.2 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, No. 4 finish (satin), 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B 19, ASTM B 16/B 16M, or ASTM B 30.
- C. Sheet Steel: ASTM A 1008/A 1008M, 0.036-inch (0.9-mm) minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, G60 (Z180).
- E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.
- G. Mirrors: ASTM C 1503, mirror glazing quality, clear-glass mirrors, nominal 6.0 mm thick.
- H. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- I. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.
- J. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of two keys to Owner's representative.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install accessories using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
  - 1. Install grab bars to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.
- B. Adjust accessories for unencumbered, smooth operation, and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings.

END OF SECTION 102800



**DIVISION: 08 00 00 – OPENINGS**

(Subject to Renew January 1, 2024 or next code cycle)

THIS DOCUMENT CONTAINS (4) PAGES. THIS DESIGN EVALUATION TO BE PREPARED & SUBMITTED ALONGSIDE A CORRESPONDING, SEALED, SITE-SPECIFIC DOCUMENT BY A DESIGN PROFESSIONAL. ENGINEER'S DIGITAL OR ORIGINAL HAND SEAL REQUIRED FOR USE. UNCERTIFIED COPIES NOT VALID FOR PERMIT.

**EVALUATION SUBJECT: MAGNATRACK ROLLING SCREEN WIND ABATEMENT SYSTEM**

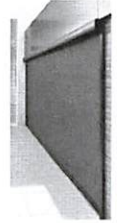
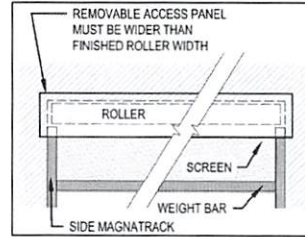
**TER-22-52902**

**REPORT HOLDER:**

Progressive Screens  
7839 Fruitville Rd  
Sarasota, FL 34240  
(941) 360-0037 | PROGRESSIVESCREENS.COM



Florida Building Code Seventh Edition (2020)  
International Building Code (2015 & 2018)



**SCOPE OF EVALUATION (compliance with the following codes):**

**THIS IS A STRUCTURAL (WIND) PERFORMANCE EVALUATION ONLY. NO ENERGY / UV / FIRE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN.**

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Building Code Seventh Edition (2020) per ASCE 7, FBC Building Ch. 16, FBC Building Sections 104.11 & 1622.2.1, & FBC Residential Sections AH103.1 & R301.2.1.1.1.1. This report is also in accordance with the International Building Code (2012, 2015, & 2018). The product noted on this report has been tested and/or evaluated as summarized herein.

**IN ACCORDANCE WITH THESE CODES EACH OF THESE REPORTS MUST BEAR THE ORIGINAL SIGNATURE & RAISED SEAL OR DIGITAL SEAL OF THE EVALUATING ENGINEER.**

**SUBSTANTIATING DATA:**

**• Product Evaluation Documents**

Substantiating documentation has been submitted to provide this TER and is summarized in the sections below.

**• Structural Engineering Calculations**

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- Max. allowable system wind pressure integrity

Calculation summary is included in this TER and appears herein. NOTE: No 33% increase in allowable stress has been used in the design of this product.

Calculations supported by Magnatrack FSA FL# 30798, signed & sealed by Hermes F Norero, P.E. & testing reports listed on Page 4 of this TER

**HURRICANE WARNING REQUIREMENT:**

Screen system is not designed to withstand named storm wind events and is not rated for impact resistance of any kind. Screen only design. Therefore, screen shall be retracted during any named storm (75 mph sustained winds) to preserve system integrity.

**LIMITATIONS & CONDITIONS OF USE:**

Use of the product(s) listed herein shall be in strict accordance with this TER as noted herein. The host structure shall be designed to resist all superimposed loads as determined by others on a site-specific basis as may be required by the Authority Having Jurisdiction. Host structure conditions which are not accounted for in this product's respective anchor schedule shall be designed on a site-specific basis by a registered professional engineer. No evaluation is offered for the supporting structure by use of this document. Adjustment factors noted herein and the applicable codes must be considered, where applicable. This evaluation does not offer any evaluation to meet large/small missile impact debris requirements or named storm resistance rating.

**OPTIONS:**

This evaluation is valid for recessed or surface installation of Magnatrack Rolling Screen Wind / Sun / Insect abatement System using a 4" or 5.5" roller with appropriate fabric detailed herein, at (1) project address. Maximum installed dimensions are not to exceed 30 ft width x 12 ft height as detailed in the design schedules herein. Any structural changes outside of the design as described herein would void this certification.

**SYSTEM MATERIALS:**

U-channel made of aluminum 6063-T6, Magnatrack Side Track aluminum 6063-T5, Side Track Clip aluminum 6063-T5, Roller aluminum 6063-T6, #6x 1/2" TEK screw (Robertson/ square drive) 1018 Steel and js500 coating (or Equiv.) between side track and clip. Materials not noted to be 6063-T6 aluminum min.

**NOTE: THE GRAPHICAL DEPICTIONS IN THIS REPORT ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.**

**FINISH:** Powder-coated, optional wet coat.

**STRUCTURAL PERFORMANCE:**

Models referenced herein are subject to the following design limitations:  
(See schedule table herein for sizes and allowable pressures):

**Rated For Wind Speeds *Not Exceeding 75 MPH***  
**ASCE-7 / Exposure D / Installation Elevation Up To (60 ft)**  
*System to be Fully Retracted When Sustained Wind Speeds Exceed 40 MPH to Avoid Damage To Screen Material. Rips or Tears in Screen Material Shall Void Certifications Provided Herein & May Void Manufacturer Warranty.*

- Required design wind pressures shall be determined on a site-specific basis in accordance with ASCE 7 and applicable sections of the building code(s) being referenced in accordance with ASD methodology.
- Required design pressures shall be less than or equal to the allowable design pressure capacity values listed herein for any assembly as shown.
- Valid for installation inside and outside the High-Velocity Hurricane Zone (HVHZ). No Wind Resistance or Impact rating is offered by this product.
- Site-specific design analysis may produce alternate limitations provided maximum rated wind pressures stated herein are not exceeded.

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July 19, 2022

Frank Bennardo, P.E., SECB  If Checked, Certifying  
ENGINEERING EXPRESS® Engineer and PE #  
FL PE #0046549 FLCA #9885 Appear Above

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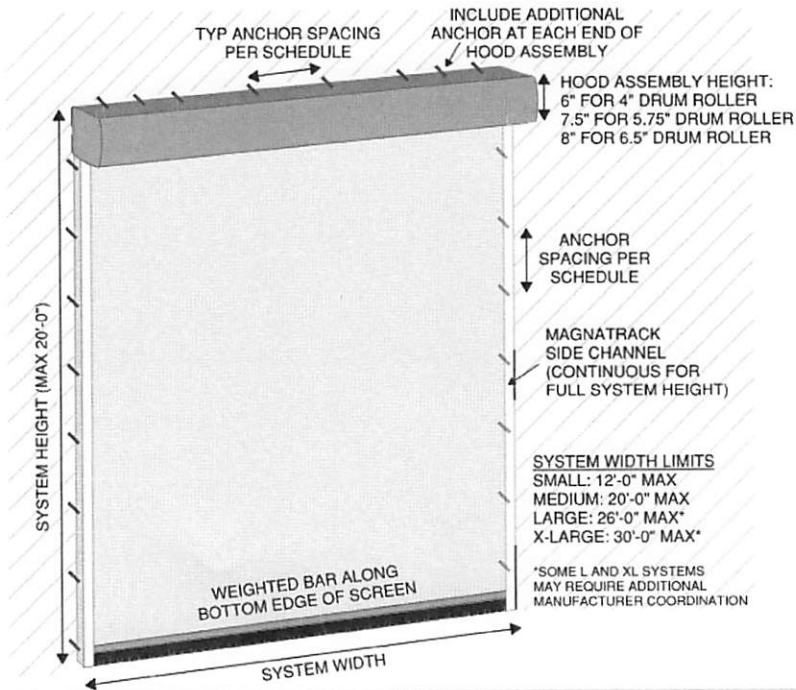
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**PRODUCT INSTALLATION**

**INSTALLATION:**

The product(s) listed in this report shall be installed in strict compliance with this TER & manufacturer-provided model specifications. The product components shall be of the material(s) specified in the manufacturer-provided product specifications. All anchors must be installed in accordance with the applicable provisions & anchor manufacturer's published installation instructions.



**Allowable Screen Fabrics:**

|                    |  |
|--------------------|--|
| <b>Bug Screen:</b> | SuperScreen 17/14 Fiberglass Mesh. Porosity ~50% To 80%                |
|                    | SuperScreen 20/20 No-See-Um Mesh Screen. Porosity ~70% To 80%          |
| <b>Sun Shade:</b>  | Textiline Nano 95 Sun Screen. Porosity ~95%                            |
|                    | Textiline Nano 97 Sun Screen. Porosity ~97%                            |
| <b>Solid:</b>      | Solid Screen Material Utilized May Vary. Porosity = 100% (Fully Solid) |

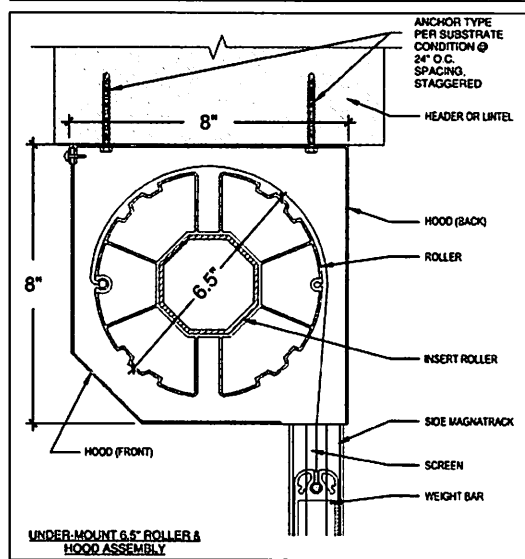
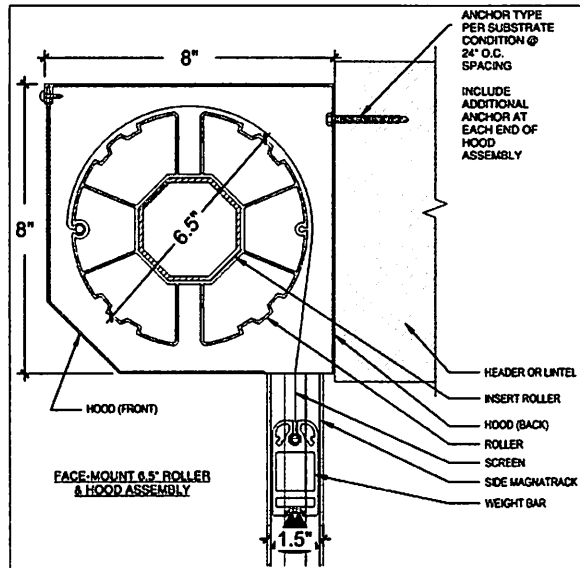
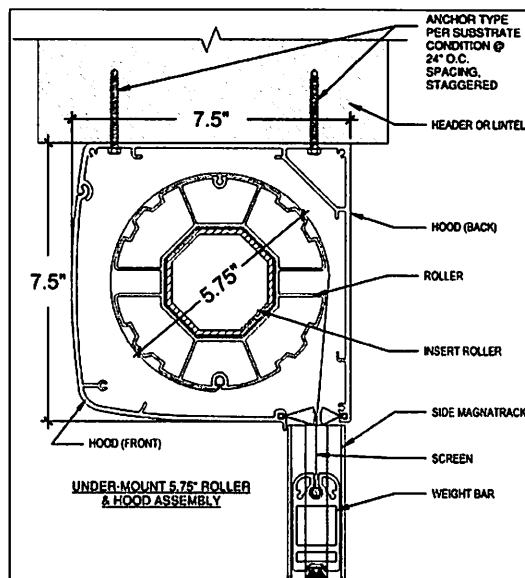
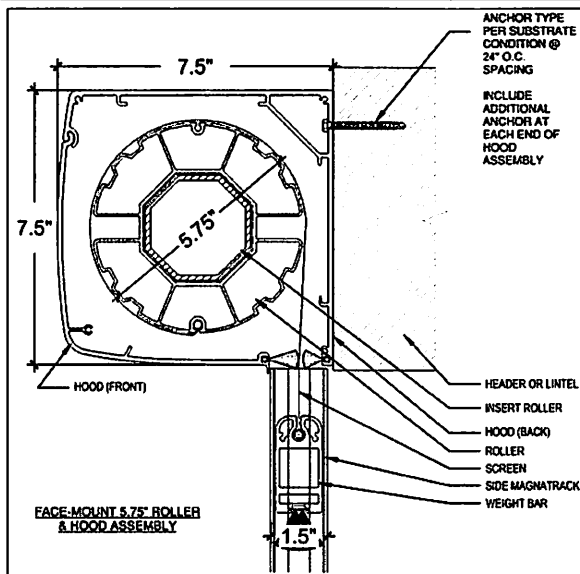
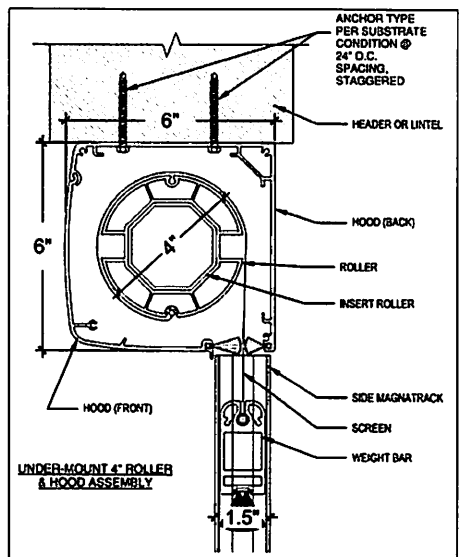
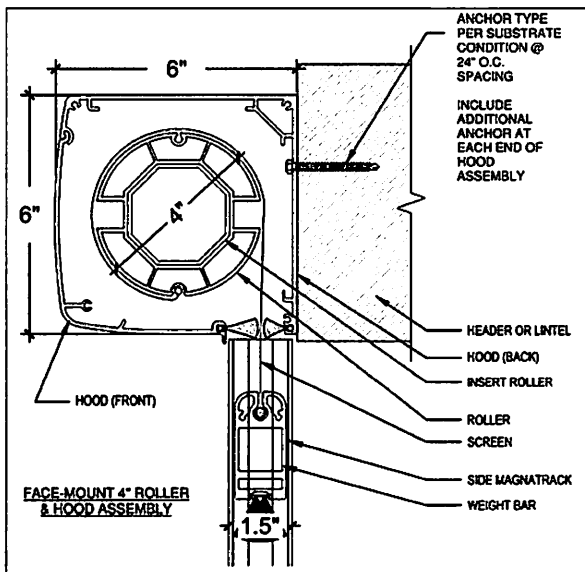
**Magnatrack Side Track Anchor Spacing Requirement Schedule**

Maximum Allowable Wind Speed = **75 MPH** (Sustained Winds); Design Loading not to Exceed **±10 PSF (ASCE 7, ASD)**  
Screens are to be fully retracted during wind events exceeding the design criteria above.  
For Build-Out Conditions, Refer appropriate Flush or Recessed Spacing for host connection.

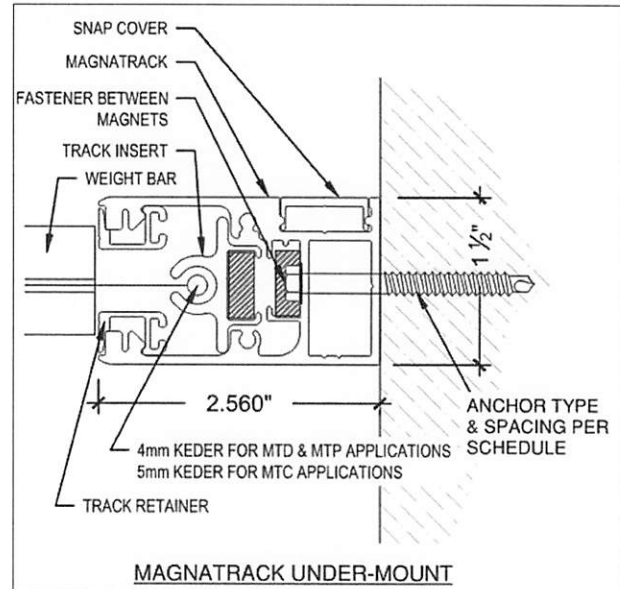
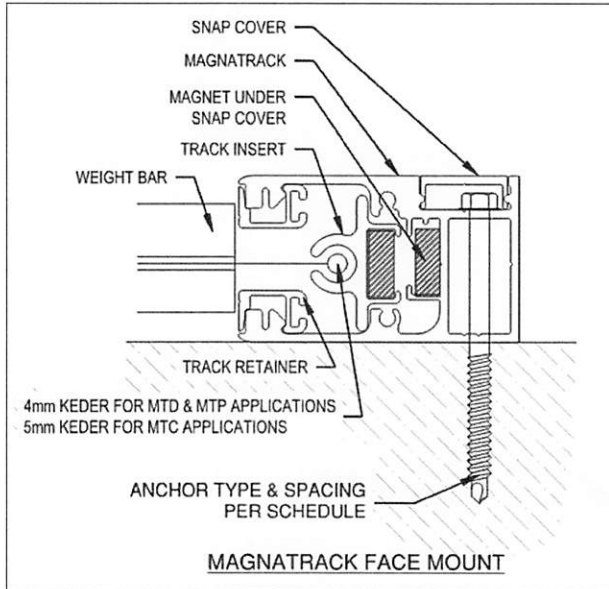
| Screen Fabric Style | System Size | Roller Size | To Concrete<br>Use Anchor A        |       | To Wood<br>Use Anchor B or C       |       | To Filled CMU<br>Use Anchor D      |       |
|---------------------|-------------|-------------|------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|
|                     |             |             | O.C. Spacing Per Mount Orientation |       | O.C. Spacing Per Mount Orientation |       | O.C. Spacing Per Mount Orientation |       |
|                     |             |             | Face                               | Under | Face                               | Under | Face                               | Under |
| Bug Screen          | S           | 4"          | 24"                                | 24"   | 24"                                | 24"   | 24"                                | 24"   |
|                     | M           | Drum        | 24"                                | 24"   | 18"                                | 15"   | 24"                                | 24"   |
|                     | L           | 5.75"       | 24"                                | 24"   | 12"                                | 12"   | 18"                                | 18"   |
|                     | XL          | Drum        | 24"                                | 24"   | 12"                                | 12"   | 18"                                | 18"   |
| Sun Shade           | S           | 4"          | 24"                                | 24"   | 24"                                | 21"   | 24"                                | 24"   |
|                     | M           | Drum        | 24"                                | 24"   | 15"                                | 15"   | 21"                                | 21"   |
|                     | L           | 5.75"       | 24"                                | 24"   | 12"                                | 12"   | 18"                                | 18"   |
|                     | XL          | 6.5"        | 24"                                | 24"   | 12"                                | 9"    | 15"                                | 15"   |
| Solid Vinyl Screen  | S           | 4"          | 24"                                | 24"   | 24"                                | 21"   | 24"                                | 24"   |
|                     | M           | Drum        | 24"                                | 24"   | 15"                                | 15"   | 21"                                | 21"   |
|                     | L           | 5.75"       | 24"                                | 24"   | 12"                                | 12"   | 18"                                | 18"   |
|                     | XL          | 6.5"        | 24"                                | 24"   | 12"                                | 9"    | 15"                                | 15"   |

**IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE RATED GRAVITY, LATERAL, AND UPLIFT FORCES BY SITE-SPECIFIC DESIGN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS UNIT.**

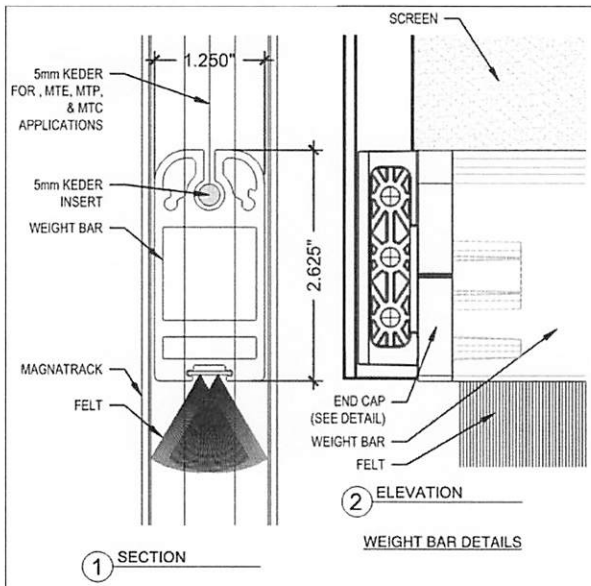
ROLLER & HOOD MOUNTING ORIENTATIONS & ASSEMBLIES



MAGNATRACK MOUNTING ORIENTATIONS & ASSEMBLIES



WEIGHT BAR ASSEMBLY



PRODUCT TESTING INFORMATION

Per testing information provided by the client

- Product Testing Performed by Blackwater Testing Inc (FBC Organization #TST10394)  
Report # BT-PGS-19-001 Date: 10/16/2019  
Signed & Sealed by Constantin Bortes, P.E. FL# 77915  
Report # BT-PGS-20-001 Date: 12/02/2020  
Signed & Sealed by Michael Caldwell, P.E. FL# 49979

Additional testing information for this product per test reports referenced on FSA FL# 30798

| Proj. #  | Remarks       | By  | Checked | Date    |
|----------|---------------|-----|---------|---------|
| 22-52902 | Initial Issue | CCB | FLB     | 6/29/22 |
|          |               |     |         |         |
|          |               |     |         |         |

Anchor to Host Structure Details  
(Anchor Spacing As Listed In Schedule)

- 1/4" ITW Redhead Tapcon embedded 1 3/4" into 3,000 psi. 2 1/2" from edges minimum.
- 1/4" ITW Redhead Tapcon embedded 2 1/4" into SG= 0.55 wood. 2" from edge minimum.
- #16 or 1/4" Wood screw Gr 2. Min, 2.4" min penetration into main member (SG= 0.55) edge distance 1.5" min
- 1/4" Redhead Trubolt Wedge Anchor embedded 2" into Grout filled masonry (f<sub>m</sub>= 1500 psi) minimum. With edge distance of 3.75" minimum.

System Notes:

- Design considers minimum wind & loading conditions (75 MPH / 10 PSF) & fabric porosity as required. System to be fully retracted during named wind events & conditions exceeding those listed herein
- Design pressures are STATIC UNIFORM LOAD only. Cyclical forces have not been considered in this evaluation.
- In no case has the product been tested or approved for any missile level (B, C, D, or E) per ASTM 1886/1996
- The product(s) listed in this report shall be installed in strict compliance with this TER & manufacturer-provided model specifications.
- Use reinforced clip with additional manufacturer specified screw to increase capacity as an option, if required. Equivalent anchors are permitted as long as they have proven capacity.
- Fabric seam and zipper welds are outside the scope of this engineering.

HURRICANE WARNING REQUIREMENT:

Screen system is not designed to withstand named storm wind events, and is not rated for impact resistance of any kind. Therefore, screen shall be retracted during any named storm (75 mph sustained winds) to preserve system integrity.