SECTION 05 73 00

ORNAMENTAL ALUMINUM RAILINGS FOR BALCONIES AND DECKS

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\*\* NOTE TO SPECIFIER \*\* Syntec Industries; multifamily housing carpet and laminate flooring.  
This section is based on the products of Syntec Industries, which is located at:  
438 Lavender Dr.  
Rome, GA 30165  
Toll Free Tel: 800-526-8428  
Tel: 706-235-1158  
Fax: 706-235-1768  
Email: [request info (customerservice@syntecind.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Syntec+Industries&coid=50641&rep=&fax=706-235-1768&message=RE:%20Spec%20Question%20(02825syn):%20%20&mf=)  
Web: [syntecind.com](http://syntecind.com)   
 [ [Click Here](http://www.arcat.com/arcatcos/cos50/arc50641.html) ] for additional information.  
In 1986, Syntec started manufacturing and selling carpet to Original Equipment Manufacturers (OEM) in the Marine Industry. Today, we are the leading supplier of carpet and other market-specific products to OEM's in the Marine, Manufactured Housing, Multifamily Housing and Recreational Vehicle Markets. Our product lines include basic and patterned carpets, Beauflor resilient flooring, Madera® LVT, steering wheels, wide selection of vinyls, leathers, suedes, designer fabrics, mats, trims, headliners, adhesives and topping materials.  
Our success has been attributed to an unwavering commitment to a working partnership with each customer. We bring our specialists, customers and product partners together creating a unique synergy where our combined effect is greater than the sum of our individual efforts. Over the years this synergy has helped us to achieve unparalleled success in our goal of exceeding our customers' objectives, creating product separation and bringing each industry innovative products.  
Syntec creates strategic alliances to bring unparalleled value and product performance to our customers. One of our strategic partners is CMI Enterprises, the world-renowned leader in vinyl, leather, fabric and innovative topcoat solutions. This partnership has allowed Syntec to offer customers the first complete leather/vinyl match program on an in-stock basis. It has also paved the way for award winning innovations like our NBT Marine™ Vinyl and CoolTouch™ Technology, vinyl technology so innovative it is certain to change the landscape of marine interior design.  
We also represent some of the nation's top fabric mills and product lines- P. Kaufmann®, Ralph Lauren®,Nautica® and Sunbrella® to name a few. These relationships give us an added dimension and a more expansive source of products to help pull your interior project together.  
Syntec also joined forces with Gussi Italia® to offer the most comprehensive line of extraordinary steering wheels and dash components in the Marine Industry. A true compliment to the other Syntec products that are designed to reward each user with every touch.

1. GENERAL
   1. SECTION INCLUDES
      1. Ornamental aluminum railings for balconies and decks.
   2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 31 10 00 - Site Clearing.
    2. Section 03 30 00 - Cast-in-Place Concrete.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. AAMA 603.8 - Performance requirements and testing procedures for pigmented organic coatings.
    2. AAMA 2604 - Performance requirements and testing procedures for organic coatings.
    3. ASCE 7 - Minimum Design Loads For Buildings and Other Structures.
    4. ASTM B221 - Specification for aluminum alloy extruded bars, shapes and tubes.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Provide dimensioned plan and details of corners and connections.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
     2. Installer Qualifications: Minimum 2 year experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Refinish mock-up area as required to produce acceptable work.
  1. PRE-INSTALLATION MEETINGS
     1. Convene minimum two weeks prior to starting work of this section.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Handling: Handle materials to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Syntec Industries, which is located at: 438 Lavender Dr.; Rome, GA 30165; Toll Free Tel: 800-526-8428; Tel: 706-235-1158; Fax: 706-235-1768; Email: [request info (customerservice@syntecind.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Syntec+Industries&coid=50641&rep=&fax=706-235-1768&message=RE:%20Spec%20Question%20(02825syn):%20%20&mf=); Web: [syntecind.com](http://syntecind.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. PERFORMANCE REQUIREMENTS
     1. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
        1. Handrails and Top Rails of Guards:
           1. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
           2. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
           3. Uniform and concentrated loads need not be assumed to act concurrently.
        2. Infill of Guards:
           1. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
           2. Infill load and other loads need not be assumed to act concurrently.
     2. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
        1. Temperature Change: 120 degree F (67 degree C), ambient; 180 degree F (100 degree C), material surfaces.
  2. RAILING SYSTEM

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Avon as manufactured by Syntec Industries.
       1. Design: Handrail panels and stair rail panels are shipped pre-assembled and ready for installation.

\*\* NOTE TO SPECIFIER \*\* Delete height not required.

* + - 1. Height: 36 inches (914 mm).
      2. Height: 42 inches (1067 mm).

\*\* NOTE TO SPECIFIER \*\* Delete rail top not required.

* + - 1. Rail Top: Smooth Breadloaf Rail Top.
      2. Rail Top: Standard Square Rail Top.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Bridgeport as manufactured by Syntec Industries.
       1. Design: Concealed fastener. Handrail panels and stair rail panels are shipped pre-assembled and ready for installation.
       2. Handrail Panel Height: 42 inches (1067 mm).
       3. Stair Panel Height: 36 inches (914 mm).

\*\* NOTE TO SPECIFIER \*\* Delete rail top not required.

* + - 1. Rail Top: Smooth Breadloaf Rail Top.
      2. Rail Top: Standard Square Rail Top.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Juliet Wall/Window Railing Panels as manufactured by Syntec Industries.
       1. Design: Creative mounting methods, allowing full functionality of windows, French doors, and similar items while maintaining the same structural properties as standard railing systems. Panels are shipped pre-assembled and ready for installation.

\*\* NOTE TO SPECIFIER \*\* Where required, our ADA railing designs enable you to combine style with functionality in a reliable, sturdy, safe and long-lasting manner. Using our standard connectors/brackets, the 950 Series ADA compliant railing can be easily added to any existing Syntec handrail system as well as any other brand of handrail allowing you the flexibility to meet ADA requirements in any circumstance. Delete if not required.

* + 1. Product: Specrail 950 Series ADA Compliant Secondary Rail

\*\* NOTE TO SPECIFIER \*\* Delete application not required.

* + - 1. Provided as an accessory to the railing systems. Refer to Drawings.
      2. Provide in a stand-alone application. Refer to Drawings.
    1. Materials:
       1. Aluminum Extrusions: All components shall be made of 6063-T52 and 6105-T5 in accordance with ASTM B221.
       2. Fasteners: All screws shall be 302 stainless self-drilling head. All screws shall be painted to match the finish on the railing panels.
       3. Accessories: Aluminum castings shall be used for all post caps, wall brackets, scrolls, finials and other miscellaneous hardware. Hinges and latches shall be fabricated from aluminum extrusions with stainless steel springs.
    2. Finish:
       1. The railing shall be coated with Powdura, an environmentally approved, premium polyester powder coating which exceeds AAMA 2604. Application of Powdura™ shall be electrostatic spray. Curing shall be at a temperature of 375 degrees F (190 degree C) to 400 degrees F (204 degrees C).

\*\* NOTE TO SPECIFIER \*\* Delete finish color not required.

* + - * 1. Finish Color: Black.
        2. Finish Color: White.
        3. Finish Color: Bronze.
    1. Fabrication:
       1. Design shall be tested to comply with ASCE 7 Standard, Section 4.4 paragraph 4.42 for structural performance.
       2. Stringers: (Horizontal rails) shall be punched to allow pickets to pass through the top of the rail. The number of stringers shall vary with the style, height and grade as determined by the manufacturer.
       3. Pickets: (Vertical members) shall be fastened to stringers mechanically using stainless steel TEK screws on one side of the stringers only or secured with a concealed retention bar.
       4. Posts shall be blank to allow the use of brackets for attachment of stringers or pre-punched to allow the stringers to slide in and be fastened with stainless steel TEK screws. Posts shall be attached to surface by welded aluminum plate containing four equally spaced bolt holes, one located in each corner of the plate. Plate to be powder coated after fabrication by manufacturer to a color matching the railing panel color. Plates shall be placed at bottom of posts for surface mounting or offset for side-mounting as determined by architect and application need. Cast aluminum post caps shall be affixed to all posts.
       5. Stationary and Adjustable Brackets: Provide as required for complete assembly.
       6. Gates shall be fabricated using the same components as for the complete railing system. Walk gates shall have adjustable self-closing hinges and will be self-latching. \* (Refer to Drawings for style and dimensions).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Infill Panels: Canton Infill System as manufactured by Syntec Industries.

\*\* NOTE TO SPECIFIER \*\* Delete infill panel not required.

* + - * 1. Panel: Expanded Metal
        2. Panel: Welded Wire Mesh
        3. Panel: Perforated
        4. Panel: Woven Wire Mesh
        5. Panel: Glass
        6. Panel: Aircraft Cabling

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Prepare the grade and remove surface irregularities, if any, which may cause interference with the installation of the ornamental aluminum fence.
   3. INSTALLATION
      1. Install railings in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent flooring.
      2. Attach railing posts to surface (if applicable) at on-center (O.C.) distance set forth on post spacing guide included with the Tech Manual. Posts shall be secured with only bolts or screws as approved/recommended by the manufacturer. Attach gate posts for gate openings specified in the construction drawings.
      3. Insert stringers into the provided brackets or pre-punched posts and fasten securely with stainless steel TEK screws as provided by manufacturer to posts, wall, or columns.
      4. Install gates (if applicable) plumb, level and secure for full opening without interference. Adjust all hardware for smooth operation.
   4. CLEANING
      1. Contractor shall clean jobsite of excess materials and debris from installation process. Clean ornamental aluminum railings panels, brackets and posts with a mild solution of household detergent and clean water. Rinse well.
   5. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION