

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for:
 - 1. Selection of products for use in Project.
 - 2. Product delivery, storage, and handling.
 - 3. Fastener requirements.
 - 4. Manufacturers' standard warranties on products.
 - 5. Special warranties.
 - 6. Comparable products.
- B. Related Sections:
 - 1. Supplementary General Requirements for special warranties.
 - 2. Section governing substitution procedures for requests for substitutions.
 - 3. Section governing allowances for products selected under an allowance.
 - 4. Section governing alternates for products selected under an alternate.
 - 5. Section governing references for applicable industry standards for products specified.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable

Products" Article.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section governing submittal procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section governing submittal procedures. Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.
 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section governing closeout procedures.

1.7 PRODUCT SELECTION PROCEDURES

- A. Proposed Product List: Refer to section governing substitutions for submittal listing Contractor's proposed products and proposed substitutions.
- B. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 - 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "acceptable equivalent" or "Architect acceptable equivalent" or "approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.
- C. Product Options and Selection Procedures:
 - 1. Named Products, Named Manufacturers:
 - a. Restricted List:
 - 1). Provide one of the products listed that complies with requirements.
 - 2). Where Specifications list manufacturers' names without specific products, provide

- a product by one of the manufacturers listed that complies with requirements.
- 3). Request for substitute will not be considered, except for reasons specified with substitution requirements.
- b. Open List:
 - 1). As Approved: Where Specifications list one or more manufacturers or products, provide one of the listed products/manufacturers. To propose another product/manufacture, the product will be evaluated per provisions governing comparable products.
- c. Reference Standards: Where specification is made by reference standard without listing product/manufacture, propose a product that meets the standard. Where additional product description modifies the reference standard, proposed product shall meet the standard as modified.
 - 1). A product specified by reference standard shall comply with the requirements of the standard in effect on the date of the Bidding Documents, except:
 - a). Where a date is specified with the standard; then the edition of the standard so dated shall govern.
 - b). Where the governing code requires compliance to another edition of the standard.
- 2. Basis-of-Design Product: Where Specifications or Drawings name a product and include a list of other acceptable manufacturers, provide the specified or indicated product or an equivalent product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers. Where no other manufacturers are named for basis-of-design specifications, products of other manufacturers may be submitted; comply with "Comparable Products" requirements.
- D. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section governing Substitution procedures" for proposal of product.
- E. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, texture, and similar characteristics from manufacturer's product line that includes both standard and premium items.

1.8 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 - 1. The product option and selection procedure, as described in this Section, governing the specified product:
 - a. allows the Contractor to make comparable product requests.
 - b. does not require the use of the product substitution procedure.
 - 2. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 3. Detailed comparison of significant qualities of proposed product with those named in the

Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

4. Evidence that proposed product provides specified warranty.
5. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
6. Samples, if requested.
7. By proposing a product that is not listed, for consideration as a comparable product, the Contractor affirms that it meets requirements, except where clearly indicated otherwise. Approval, if granted, will be contingent upon the product meeting requirements as comparable product. In the absence of clear indication of non-compliance in product submittal, approval of the comparable product by Architect, will be based on Contractor's affirmation, whether explicit or implicit.

1.9 FASTENER REQUIREMENTS

- A. Fasteners: Includes bolts, chemical bolts, epoxy anchors, expansion bolts, nails, pins, powder actuated devices, screws, wedge bolts, and all other types of mechanical connections.
- B. Fasteners Completely Specified: All aspects of the fastener are specified.
 1. "Completely Specified": All aspects of the fastener type have been specified. This includes, without limitation: type, material, finish, size, diameter, length and spacing.
- C. Fasteners Incompletely Specified: May occur in the Contract Documents. This provides the General Contractor fastener type options and ability to control the means, methods and techniques of construction. When fasteners are incompletely specified, provide:
 1. Fasteners appropriate for each unique condition, substrate, load, exposure and usage.
 2. Size and Spacing: Use manufacturer's published recommendations and load tables.
 3. Safety Factor: Five or greater.
 4. Safety Factor, Working Load: ≤ 20 percent of ultimate load capacity.
 5. Corrosion Resistance: Provide equal to or higher than items being fastened.
 6. Fastener for Architect's Review: Required prior to use.
 7. Compatibility: Ensure materials and fasteners are compatible
 8. Head Type: As approved by Architect.
 9. Undercut at Flush Alignments: Provide to maintain flush alignment at sheet metal applications.
- D. Country of Manufacture: United States of America, except for those "Basis-of-Design" specified.
- E. Bolts, Nuts, Washers: Matched, from same manufacturer.
- F. Exposed to View Fasteners: Prohibited, except if preapproved by Architect.
- G. Fastener Installation: Conform to manufacturer's recommendations and the following:
 1. Driver Speed and Clutch: Adjust to comply with fastener manufacturer's recommendations.
 2. Torque: Install each fastener with fastener manufacturer's recommended torque.
 3. Impact Drivers: Prohibited.
 4. Overdrive / Tightening: Prohibited
 5. Exposed to View: If fastener is exposed to view, align head orientation alike
 6. Damage to Head: Stripped, or otherwise, replace with undamaged fastener.
 7. Damage to Threads: Stripped, or otherwise, replace with undamaged fastener.
 8. Broken Fasteners: Prohibited. Do not break.
 9. Framing: Locate prior to driving fasteners.

10. "Hunting" or "Searching" For Framing by Drilling Holes or Test Fasteners: Prohibited.
 11. Driver Skipping Off Fastener, Damaging Surface: Prohibited.
 12. Unnecessary Holes in Materials: Prohibited
 13. Driving Fasteners: As shown, or if not shown, perpendicular to anchoring surface.
 14. Fastener Head: Seat to bear uniformly
 15. Fastener Finish: As shown, or if not shown, match surrounding surface color
 16. Minimum Withdrawal Resistance: Achieve for each fastener.
 17. Factory Provided Screw Hole: Provide fastener for each.
 18. Fastener Quantity, Individual Items: As shown, or if not shown, at least two fasteners.
 19. Metal Substrate: Drill and tap as appropriate.
 20. Wood, Concrete: Provide pilot hole, as appropriate.
 21. Fastener Inspection: Confirm every fastener is correctly installed.
- H. Unacceptable Fasteners: Those which do not comply with "Fastener Installation"
- I. Fasteners Which Miss Framing: Prohibited, and unacceptable.
- J. Fasteners Which Spin Freely and Cannot Be Torqued: Prohibited, and unacceptable.
- K. Fasteners Requiring Pilot or Predrilled Holes:
1. Drill Bit Diameter: Use fastener manufacturer's coordinated and recommended bit diameter.
 2. Drill Hole Depth: As recommended by fastener manufacturer.
 3. Drill Hole Cleaning: Immediately before fastener installation.
 4. Structural Capacity: Do not compromise with drill hole. Follow manufacturer's requirements and recommendations.
- L. Fasteners within Delegated Design Assemblies: Provide fasteners indicated on approved engineered submittals.
1. Working Load Capacity: Install each fastener to achieve manufacturer's published capacity.
 2. Working Load Capacity: Is not ultimate load capacity.
 3. Torque: Each fastener within the minimum / maximum range recommended by fastener manufacturer.
- M. Submittals: Comply with Section 01 3300 - Submittal Procedures. Provide the following submittals for each type of fastener used:
1. Product Data (load capacity, safety factor, recommendations, limitations, instructions)
 2. Samples: Provide with finish associated driver bits.
 3. Label each sample with intended usage, including recommended substrates.
- N. Remedial Work for Unacceptable Fasteners:
1. Remove each unacceptable fastener.
 2. Plug holes in substrate. At Gypsum Sheathing, use sealant.
 3. Repair finish to comply with manufacturer's repair recommendations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION