

SECTION 01600
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Submittal of Shop Drawings, Product Data, Samples: Section 01330.
 - 2. Applicable industry standards for products specified: Section 01400, "Quality Requirements."

1.02 DEFINITIONS

- A. Products: Items purchased 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. 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. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," 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 other named manufacturers.
- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.03 SUBMITTALS

- A. For procedural requirements for Submittals required in conjunction with specified products, refer to Section 01330.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form provided at end of Section.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - 3. Provide additional information requested by Architect to facilitate Architect's evaluation of the substitution request.

1.04 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- B. Products with asbestos: Asbestos containing materials are not to be purchased or installed in this project.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 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 ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 5. Store products to allow for inspection and measurement of quantity or counting of units.
 - 6. Store materials in a manner that will not endanger Project structure.
 - 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 9. Protect stored products from damage.
- B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.06 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.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01770, "Closeout Procedures."

PART 2 - PRODUCTS

2.01 PRODUCT OPTIONS

- A. 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 "or approved substitute" or approved," comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.
 2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.

3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. Basis-of-Design Products: "Basis-of-Design Product" means that the named product has been used as the basis for drawing details and for specification characteristics. Provide either the basis-of-design product, or one of the other named products (if products are named), or an equal product by one of the other named manufacturers (if manufacturers are named but not products) which complies with the specifications; minor variations that are particular to each manufacturer and that do not, in the opinion of the Architect, alter the design intent will be acceptable.
6. Visual Matching: Where Specifications require matching an established Sample, or matching a pattern, color, texture or similar properties described by reference to one manufacturer's products, select a product (and manufacturer) that complies with requirements and that matches the referenced sample or product in appearance.
 - a. Architect's decision will be final on whether a proposed product matches satisfactorily.
 - b. If no product available from the proposed manufacturer satisfactorily provides the required appearance, the Architect will reject the proposed product and manufacturer, and the Contractor shall provide a product from a different manufacturer capable of matching the established Sample.

2.02 PRODUCT SUBSTITUTIONS

- A. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 2. Requested substitution does not require extensive revisions to the Contract Documents.
 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 4. Substitution request is fully documented and properly submitted.
 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
 6. Requested substitution has received necessary approvals of authorities having jurisdiction.

7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.03 LIMITS ON VOC CONTENT; RESTRICTED MATERIALS

- A. For interior applications use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24). VOC limits listed are from South Coast Air Quality Management District Rule #1168 for adhesives and from Bay Area Air Quality Management District Regulation 8, Rule 51, for sealants and sealant primers.
 1. Wood glues: 30 g/L.
 2. Metal to metal adhesives: 30 g/L.
 3. Adhesives for porous materials other than wood: 50 g/L.
 4. Plastic foam adhesives: 50 g/L.
 5. Carpet adhesives: 50 g/L.
 6. VCT and cove base adhesives: 50 g/L.
 7. Gypsum board adhesives: 50 g/L.
 8. Rubber floor adhesives: 60 g/L.
 9. Multipurpose construction adhesives: 70 g/L.
 10. Contact adhesive: 250 g/L.
 11. Plastic cement welding compounds: 350 g/L.
 12. ABS Welding Compounds: 400 g/L.
 13. CPVC Welding Compounds: 490 g/L.
 14. PVC Welding Compounds: 510 g/L.
 15. Adhesive Primer for Plastic: 650 g/L.
 16. Sealants: 250 g/L.
 17. Sealant Primers for Nonporous Substrates: 250 g/L.
 18. Sealant Primers for Porous Substrates: 775 g/L.
- B. For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):
 1. Flat Paints and Coatings: VOC not more than 50 g/L.
 2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
 3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
 4. Varnishes and Sanding Sealers: VOC not more than 350 g/L.
 5. Stains: VOC not more than 250 g/L.
- C. Paints and Coatings, Restricted Components: For interior applications, use paints and coatings that comply with the following chemical restrictions:
 1. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).

2. Paints and coatings shall not contain any of the following:
 - a. Acrolein.
 - b. Acrylonitrile.
 - c. Antimony.
 - d. Benzene.
 - e. Butyl benzyl phthalate.
 - f. Cadmium.
 - g. Di (2-ethylhexyl) phthalate.
 - h. Di-n-butyl phthalate.
 - i. Di-n-octyl phthalate.
 - j. 1,2-dichlorobenzene.
 - k. Diethyl phthalate.
 - l. Dimethyl phthalate.
 - m. Ethylbenzene.
 - n. Formaldehyde.
 - o. Hexavalent chromium.
 - p. Isophorone.
 - q. Lead.
 - r. Mercury.
 - s. Methyl ethyl ketone.
 - t. Methyl isobutyl ketone.
 - u. Methylene chloride.
 - v. Naphthalene.
 - w. Toluene (methylbenzene).
 - x. 1,1,1-trichloroethane.
 - y. Vinyl chloride.

PART 3 - EXECUTION (Not Used)

SECTION CONTINUES WITH SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST FORM

Project: USM Portland/Biosciences Institute Substitution Request Number: _____
To: _____ From: _____
Re: _____ Date: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No. _____

Attach:

- 1. Product description, specifications, drawings, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.
- 2. List of similar installations for complete projects with names and addresses of project, owner, architect.
- 3. Description of changes to the Contract Documents that the proposed substitution will require for its proper installation, including changes to the Contract Price and the Contract Time.

The Undersigned certifies:

- 1. The proposed substitution offers a substantial advantage to the Owner, as described in Section 01600.
- 2. The product is consistent with the Contract Documents, compatible with other portions of the Work and, when installed, it will provide a result of equal or better quality than the product(s) specified.
- 3. The substitution will not adversely affect the Contractor's Construction Schedule or the Contract Time.
- 4. The proposed substitution has received the necessary approvals of authorities having jurisdiction.
- 5. The same warranty will be provided for the Substitution as for the specified Product.
- 6. Contractor has coordinated or will coordinate installation with all affected trades and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
- 7. Contractor will waive claims for additional costs or time extension that may subsequently become apparent.

Submitted By: _____
Signed By: _____
Firm: _____
Address: _____
Telephone: _____ Fax: _____

A/E's REVIEW AND ACTION

- Submission approved - Make submittals in accordance with Specification Section 01330.
- Submission approved as noted - Make submittals in accordance with Specification Section 01330.
- Submission rejected - Use specified materials.
- Submission request received too late - Use specified materials.

Signed by: _____ Date: _____

Supporting Data Attached: Drawings Product Data Samples Tests Reports
 Other _____
