

This is a guidance document with sample specification language intended to be inserted into project specifications on this subject as appropriate to the agency's environmental goals. Certain provisions, where indicated, are required for U.S. federal agency projects. Sample specification language is numbered to clearly distinguish it from advisory or discussion material. Each sample is preceded by identification of the typical location in a specification section where it would appear using the SectionFormat™ of the Construction Specifications Institute; the six digit section number cited is per CSI Masterformat™ 2004 and the five digit section number cited parenthetically is per CSI Masterformat™ 1995.

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SECTION 07 92 00 (SECTION 07900) – JOINT SEALANTS

SPECIFIER NOTE:

resource management: A variety of sealants, single component and multi-component, are available for different applications. There are few, if any, alternative agriculture or recycled content choices.

toxicity/IEQ: VOCs may be emitted during the curing process. Generally, sealants continue to outgas throughout their life. Closed cell backer rods outgas when ruptured. Open cell polyurethane backer rods are sponge-like and may absorb moisture.

performance: Performance is comparable for green methods and standard methods. Sealants reduce air infiltration and moisture penetration. Verify that the proper sealant is specified for the given application. Improper selection can result in reapplication, air infiltration, water damage.

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior joint sealants.
 - 2. Exterior joint sealants.

1.2 SUBMITTALS

- A. Product data. Unless otherwise indicated, submit the following for each type of product provided under work of this Section:

SPECIFIER NOTE:

Specifying local materials may help minimize transportation impacts; however it may not have a significant impact on reducing the overall embodied energy of a building material because of efficiencies of scale in some modes of transportation.

Green building rating systems frequently include credit for local materials. Transportation impacts include: fossil fuel consumption, air pollution, and labor.

USGBC-LEED™ v3 includes credits for materials extracted/harvested and manufactured within a 500 mile radius from the project site. Green Globes US also provides points for materials that are locally manufactured.

- 1. Local/Regional Materials:
 - a. Sourcing location(s): Indicate location of extraction, harvesting, and recovery; indicate distance between extraction, harvesting, and recovery and the project site.

- b. Manufacturing location(s): Indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
- c. Product Value: Indicate dollar value of product containing local/regional materials; include materials cost only.
- d. Product Component(s) Value: Where product components are sourced or manufactured in separate locations, provide location information for each component. Indicate the percentage by weight of each component per unit of product.

SPECIFIER NOTE:

Green building rating systems may include credit for low emitting materials. USGBC-LEED™ v3, for example, includes credits for low-emitting materials, including: adhesives and sealants, paints and coatings, carpets, and composite wood and agrifiber products. Under LEED™ v3, adhesives and sealants are to comply with California's South Coast Air Quality Management District (SCAQMD) #1168; aerosol adhesives are to comply with Green Seal GS-36; interior architectural paints are to comply with Green Seal GS-11; anti-corrosive paints are to comply with Green Seal GS-03 (note – Green Seal has withdrawn GS-03; as of November 2008, anti-corrosive paints are included in a revised GS-11); clear wood finishes are to comply with SCAQMD #1113; carpet with the Carpet and Rug Institute (CRI) Green Label Plus; carpet cushion with CRI Green Label program; hard surface flooring with FloorScore; tile setting adhesives and grout with SCAQMD #1168; and, composite wood and agrifiber products are to contain no added urea-formaldehyde. As per USGBC published Credit Interpretations, the credits for low-emitting materials are directed towards interior, site-installed (i.e. not prefabricated) products. Verify project requirements for low VOC products.

Both the Adhesive and Sealant Council (ASC) and the SCAQMD have indicated that low VOC adhesives may have performance difficulties in extreme temperature and humidity conditions.

Green Seal, an independent, non-profit organization, certifies low-emitting products using internationally recognized methods and procedures. Green Seal certification meets the criteria of ISO 14020 and 14024, the environmental standards for ecolabeling set by the International Organization for Standardization (ISO); the U.S. Environmental Protection Agency's criteria for third-party certifiers of environmentally preferable products; and the criteria for bona fide ecolabeling bodies of the Global Ecolabeling Network.

2. VOC data:

a. Architectural Sealants:

- 1) Submit manufacturer's product data for sealants. Indicate VOC limits of the product. Submit MSDS highlighting VOC limits.
- 2) Submit manufacturer's certification that products comply with Bay Area Resources Board, reg. 8, rule 51.

- B. Submit environmental data in accordance with Table 1 of ASTM E2129 for products provided under work of this Section.

PART 2 PRODUCTS

SPECIFIER NOTE:

EO 13423 includes requirements for Federal Agencies to use "sustainable environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products"

Specifically, under the Sustainable Building requirements per Guiding Principle #4 Enhance Indoor Environmental Quality, EO13423 directs Federal agencies to use "materials and products with low pollutant emissions, including adhesives, sealants, paints, carpet systems, and furnishings."

Executive Order 13514; *Federal Leadership in Environmental, Energy, and Economic Performance*; was signed on October 5, 2009. <http://www.ofee.gov/execorders.asp> It expands upon the environmental performance requirements of EO 13423. http://www1.eere.energy.gov/femp/regulations/printable_versions/eo13423.html

EO 13514 sets numerous federal requirements in several areas, including sustainable buildings and communities. Federal agencies must implement high performance sustainable federal building design, construction, operation and management, maintenance, and deconstruction, including:

- Ensuring all new Federal buildings, entering the design phase in 2020 or later, are designed to achieve zero net energy by 2030.
- Ensuring all new construction, major renovations, or repair or alteration of Federal buildings comply with the Guiding Principles of Federal Leadership in High Performance and Sustainable Buildings <http://www1.eere.energy.gov/femp/pdfs/mouhighperfsustainfedfac.pdf>
- Ensuring at least 15% of existing agency buildings and leases (above 5,000 gross square feet) meet the Guiding Principles by fiscal year 2015 and that the agency makes annual progress towards 100% compliance across its building inventory.

2.1 MATERIALS

A. Architectural Sealants:

1. Toxicity/IEQ:

- a. Comply with applicable regulations regarding toxic and hazardous materials, and as specified. Sealants must meet or exceed requirements of Bay Area Resources Board, reg. 8, rule 51.
- b. **[Sealants containing aromatic solvents, fibrous talc, formaldehyde, halogenated solvents, mercury, lead, cadmium, chromium and their compounds, are not permitted.]**

B. Backer Rods: Provide composite backer rods.

PART 3 - EXECUTION

3.X SITE ENVIRONMENTAL PROCEDURES

A. Indoor Air Quality:

1. Temporary ventilation: Provide temporary ventilation during work of this Section.
 - a. Coordinate interior application of joint sealants with interior finishes schedule.

END OF SECTION