



Sustainable Specifications

There are three key recommendations to including sustainable design information into project specifications.

1. Front end specifications
2. “Unique” sustainable product specifications
3. Sustainable criteria **Division 1 Specifications**

Division 1 specifications define how the Contractor is to administer the work. Specifications that can be added to emphasize sustainable design include **Indoor Environment Protection**. This specification should address construction practices and design requirements with the purpose of minimizing indoor air quality problems that might otherwise negatively impact workers and building occupants.

Environment Protection. The intent of this specification is to minimize environmental pollution and damage as the result of construction operations. For example, soy diesel as an additive to construction equipment fuel could be addressed in this section.

Construction Waste Management. This section identifies materials to be recycled or salvaged during construction and sets the overall diversion goal for the project. Based on the Tier 1 list, the minimum standard for state projects is 50% diversion of Construction and Demolition materials.

Sustainable Design Plan. This section can include a summary of sustainable design requirements found in each specification section. It could also include specific environmental project goals.

Unique product specifications

Sustainable information should be integrated into the standard CSI Format.

PART 1 - GENERAL. There are two crucial paragraphs in Part 1 to convey necessary information on sustainable products. Every building product that has been specified with sustainable attributes is identified in the SUBMITTALS paragraph. The SUBMITTALS paragraph requires that sustainable information found in Part 2 of the specifications is recorded. Likewise, the paragraph “QUALITY ASSURANCE” identifies those properties that make products both sustainable and compliant with accepted performance standards.

PART 2 - PRODUCTS. In the “PRODUCTS” paragraphs of the specification, performance criteria are established and acceptable manufacturers are identified. This is where the specific information that must be submitted is located. It is the intent, where two products are equal in terms of performance characteristics, to only include that product that has better environmental features. Likewise, some products are simply not specified where the Owner and the A/E have previously identified them as not appropriate for the project.

PART 3 - EXECUTION. Typically PART 3 criteria, where not established by recognized standards, are addressed in INDOOR ENVIRONMENT PROTECTION, ENVIRONMENT PROTECTION and CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS documents.

Sample product specifications for Building Insulation and Carpentry are included at the end of this section. Highlights from those specifications are as follows.

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Notes:

Sample Format: Carpentry

Part 1, General

1.1 Quality Assurance. If wood from certified forests is preferred, add the following:

Certification of wood from sustainable forests:

Forest Stewardship Council

SmartWood

1.2 Definitions

Sustainable Forest Certification: A voluntary third party certification in conformance with Scientific Certification System (SCS) that timber harvested meets forest management and ecological standards.

1.3 Submittals

Certification by Forestry Stewardship Council that lumber furnished is from certified sustainable forest.

Part 2 Products

2.1 Materials – Rough Carpentry

Wood product from sustainable forest:

Base: Columbia Forest Products

2.1 F

FSC Certified Fire Resistant

Particleboard:

1. Minimum $\frac{3}{4}$ IN thick.
2. Flame Spread: 25.
3. Density 45 PCF minimum.
4. Willamette Industries; Duraflake FR

Sample Format: Building Insulation

Part 1, General

1.2 Submittals

Certification of a minimum of 20% recovered material content in fiberglass insulation.



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Certification of a minimum of 9% recovered material content in rigid plastic foams.

Certification of a minimum of 75% recovered material content in cellulose insulation.

Part 2, Products

Cellulose insulation – manufactured from 75-80% recovered material, most of which is post-consumer.

Sustainable Criteria

In addition to sustainable products, there are sustainable criteria, or characteristics, of products that can be included in specifications. These characteristics may be “transparent” to the Contractor and occupant, but will still reduce negative environmental and/or health benefits of a particular product.

Examples of sustainable criteria that might be added to standard product specifications include: Emission limits

- Recycled content
- Regional materials
- Certified wood

Example:

Low-Emitting Joint Sealants

Silicone Sealants shall have **0 g/L VOC** in compliance with [Coast Air Quality Management District](#) regulations.

Polyurethane sealants shall have **no more than 250 g/L VOC** in compliance with [Coast Air Quality Management District](#) regulations.

Interior sealants **shall not contain** mercury, butyl rubber, neoprene, SBR (styrene butadiene rubber), nitrile, aromatic solvents (organic solvent with a benzene ring in its molecular structure), fibrous talc or asbestos, formaldehyde,

halogenated solvents, lead, cadmium, hexavalent chromium, or their components.

Compressible foam joint fillers: Polyester polyurethane foam impregnated with neoprene rubber or acrylic ester styrene copolymer, **manufactured without CFC blowing agents**.

Example:

Recycled Content: Carpet

- Minimum 30 percent total recovered nylon fiber material.
- Minimum 15 percent post-consumer and total recovered material for polyurethane backing.
- Minimum 40 percent post-consumer and total recovered material for jute backing.
- Minimum 60 percent post-consumer and total recovered material for rubber backing.
- 100 percent total recovered material for PET.
- Secondary Backing: 100% recycled post-consumer and total recovered material.

Recommendations

- Meet minimum state requirements for recycled content and material emissions
- Meet minimum requirements of [Agency Buy Recycled Campaign](#)
- At a minimum, include recommended Division 01 specifications
- Do not try to “green” all specifications the first time. Instead, select materials used in the largest quantity to make the biggest impact.

i This manual is being developed as part of a ten-point plan to implement the Governor's

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Notes:

sustainable building goal as outlined in Executive Order D-16-00 and the report Building Better Buildings: A Blueprint for Sustainable State Facilities (Blueprint). Task 7 of the Blueprint calls for developing sustainable building technical assistance and outreach tools, including a training program for state departments, as well as local government and private sector partners. This manual was developed by DGS, the Sustainable building task force, and CIWMB as one component of the sustainable building training program for state departments. This document will be undergoing constant revision as other deliverables outlined in the Blueprint are completed and technological and process breakthroughs advance the rapidly emerging field of sustainable design.