

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

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REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 09200 – GYPSUM WALLBOARD SYSTEMS

PART 1 - GENERAL

1.1 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specification, submittals, and/or test data) in terms of recycled content, and indoor air quality.
3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. Emission test data is required only if gypsum board with recycled content is provided. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.

1.2 DELIVERY STORAGE AND HANDLING

A. Packaging: Refer to Division 1.

B. Mold and mildew prevention:

1. Refer to Section 01350.1.6.D.1

1.3 SITE CONDITIONS

A. Mold and mildew prevention:

1. Refer to Section 01350.1.6.D.1.

1.4 SEQUENCING

A. Install high-VOC-emitting materials before low-VOC-emitting materials.

PART 2 - PRODUCTS

2.1 MATERIALS

A. WALLBOARD PRODUCTS:

1. GENERAL:

- a. At the Contractor's option, provide gypsum board products complying with one of the following options:
 - i. Option 1: Provide gypsum board with paper faces containing 100%

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- recycled content paper and gypsum cores containing 0% recycled gypsum (virgin gypsum).
- ii. Option 2: Provide gypsum board with paper faces containing 100% post-consumer recycled content paper and gypsum cores containing 10% recycled gypsum content.
- b. If Option 2 is selected, provide manufacturer's certification that gypsum board used on the project does not contain:
 - i. Demolition waste.
 - ii. Construction and demolition waste gypsum board that is contaminated by mold, mildew, paint, wall coverings, laminates, fasteners, joint compounds, tapes, or adhesives.
 - iii. Synthetic gypsum.
 - c. In addition, if Option 2 is selected, provide emission test data as specified in Part 1 of the Section.
- B. INDOOR QUALITY TESTS: Test Option 2 gypsum board separately in accordance with the requirements of Section 01350. Submit copies of test reports in accordance with SUBMITTALS Article above.
- C. DELIVERY, STORAGE, AND HANDLING:
1. ENVIRONMENTAL REQUIREMENTS: Comply with the packaging, delivery, storage, and handling requirements of Section 01350.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09200 – GYPSUM WALLBOARD SYSTEMS – NOTES****JUSTIFICATION**

- 1.1 Indoor Air Quality--Testing for TVOCs, IVOCs, SOVOCs, MVOCs, and particulates is required in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not affect Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclable, embodied energy, packaging, durability). Reduce impact on landfill and preserve natural resources. Goal: 100% recycled content facing paper.
- 1.3 Lack of quality control for the recycled core could pose a problem. If demolition waste is used, this could be a source of contamination. Paint, wall coverings, laminates, adhesives, mold, mildew, fasteners, etc. can contribute unknown effects to the gypsum and, in turn, affect indoor air quality.

APPLICATION

- 2.1 Assembly/system for finishing interior walls.

COST IMPACT

- 3.1 None. Facing paper contains 100% recycled content by virtually every manufacturer.

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 USG has a plant in Fremont, California which produces boards with no recycled content core. (800) 874-4968
- 4.2 Domtar Gypsum (Georgia Pacific) has plants in California (non-synthetic gypsum) and in Mid-West (synthetic gypsum). (800) BUILD-GP
- 4.3 Celotex has a plant in Wyoming. (Jacksonville plant has typical gypsum recycled content of 50% - 90%). (800) 227-1216

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SECTION 09310 – CERAMIC TILE

PART 1 - GENERAL

1.1 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content.

1.2 DELIVERY STORAGE AND HANDLING

- A. Packaging: Refer to Division 1.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Recycled Content

1. Provide tile with minimum 77% post consumer recycled content.
2. Provide paver tile with 100% post consumer recycled glass content.

B. Recyclability

1. Tile products shall be 100% recyclable.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09310 – CERAMIC TILE – NOTES****JUSTIFICATION**

- 1.1 The use of tile with recycled content (usually post industrial glass) conserves natural resources.
- 1.2 Tiles are durable (extending life span) and some varieties are recyclable.
- 1.3 Energy expended for recycling tile should be investigated.
- 1.4 Energy expended for manufacturing recycled content tile should be investigated and balanced with the amount of energy expended for manufacturing new tile.

APPLICATION

- 2.1 Walls and floors in restrooms, kitchens, “wet” areas. Also used as countertops and other surfacing applications.

COST IMPACT

- 3.1 \$

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Terra Green
- 4.2 Environmental Stone Products
- 4.3 Scatter Creek Enterprises (glasscrete pavers)
- 4.4. Heath Ceramics
(415) 332-3732

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SECTION 09500 – ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource Efficient Product Data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.
2. Indoor Air Quality: Submit material safety data sheets (MSDS) for the acoustical ceiling panels or tile, the fungicide, biocide, or microbial used in the tile, and emission test data for acoustic ceiling panels. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.
3. Environmental Issues Certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specification, submittals, and/or test data) in terms of recyclability, and indoor air quality requirements.
4. Provide test data and other relevant information to prove the efficacy of fungicide, biocide, or microbial as it is applied to the ceiling panels or tile. Such data would include or be similar to ASTM D6329-98, "Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers."

1.2 DELIVERY STORAGE AND HANDLING

- A. Packaging: Refer to Division 1.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Recycled Content:

1. Provide acoustical ceiling tile with a range of 79%-85% post consumer recycled content.
2. Provide suspension system with minimum 25% recycled content.

B. Recyclability:

1. Product shall be 100% recyclable.

C. Emission testing criteria:

1. Ceiling panels shall have zero formaldehyde emission when tested per Section 01350.

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PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09500 – ACOUSTICAL CEILINGS – NOTES****JUSTIFICATION**

- 1.1 Indoor Air Quality: Testing for TVOCs, IVOCs, and formaldehyde is recommended in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not adversely affect Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclability, embodied energy, packaging, durability) – acoustical ceiling systems' resource efficiency needs to be evaluated to determine to what extent/how the criteria are met.

APPLICATION

- 2.1 Lay-in, dropped ceiling panel and support grid applications.

COST IMPACT

- 3.1 \$

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Armstrong, Ultima
2500 Columbia Avenue
Lancaster, PA 17606
717-396-6109
www.ceilings.com
- 4.2 USG, Astro Clima Plus
125 South Franklin
Chicago, IL 60606-4678
800-USG-4YOU
www.usg.com

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 09650 – RESILIENT FLOORING

PART 1 - GENERAL

1.1 SUBMITTALS

A. SPECIAL ENVIRONMENT REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content and recyclability.
2. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data for resilient flooring and adhesives. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.

1.2 SITE CONDITIONS

- A. Provide Temporary Ventilation during installation as required by Section 01350.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Resilient Sheet and Tile Flooring

1. Recycled Content: ___% of post-industrial recycled content and ___% post-consumer recycled content.
2. Recyclability: 100%. Unused material on site, old material without leveling compounds, adhesive or coatings and scrap material should be returned for recycling.
3. Indoor Air Quality: Provide vinyl-free and chlorine-free resilient tile conforming to the emissions testing requirements of Section 01350:

B. Resilient Flooring Adhesive

1. Indoor Air Quality: Provide low odor, solvent-free, water-based contact adhesives.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management

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program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09650 – RESILIENT FLOORING – NOTES****JUSTIFICATION:**

- 1.1 Indoor Air Quality: Testing for TVOCs, IVOCs, and formaldehyde is recommended in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not adversely affect Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclable, embodied energy, packaging, durability)—Flooring products with recycled content and that are recyclable are becoming more available and reduce the need for virgin materials. The amount of recycled content will need to be confirmed by the architect and should be based on what is currently available in the marketplace.

APPLICATION

- 2.1 Horizontal applications (flooring)

COST IMPACT

- 3.1 \$\$

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Tile: Amtico International, Stratica (vinyl-free, chlorine-free resilient flooring)
Amtico International
6480 Roswell Road
Atlanta, GA 30328
404-267-1921
- 4.2 Resilient Flooring Adhesive: Foremost Products Co., Inc.
W.F. Taylor
11545 Pacific Avenue, Suite A
Fontana, CA 92337
909-360-9840

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SECTION 09680 – CARPET

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

- A. Recycled content: minimum 50% total recycled content, with not less than 10% post consumer recycled materials and the balance post-industrial recycled materials.
- B. Materials: all materials shall be high quality and of the type generally accepted for use in the industry. When used as intended, the materials shall be non-toxic, non-allergenic and free of similar health hazards. These materials include, but are not limited to, adhesives, cleaners, solvents, etc.
- C. Recyclability: The carpet must be 100% recyclable.
- D. Carpet shall inhibit the growth of fungi, gram-positive and gram-negative bacteria, in accordance with AATCC 138 or AATCC 174, parts 2 and 3.

1.2 SUBMITTALS

- A. SPECIAL ENVIRONMENTAL REQUIREMENTS:
Submit the following in accordance with the requirements of Section 01350:
 - 1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.
 - 2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specification, submittals, and/or test data) in terms of recycled content, and Indoor Air Quality.
 - 3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.

1.3 DELIVERY STORAGE AND HANDLING

- A. Packaging: Refer to Division 1.
- B. Provide temporary Ventilation as required by Division 1.
- C. Mold and mildew prevention.

1.4 SITE CONDITIONS

- A. Provide temporary ventilation as required by Section 01350.
- B. Mold and mildew prevention.

1.5 SEQUENCING

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

A. Install high VOC–emitting materials before low VOC–emitting materials.

1.6 WARRANTY

A. Provide extended warranties for carpet, carpet tile, and adhesives.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Carpet, Carpet Tile and Adhesive:

1. Provide carpet products complying with the physical and performance requirements of article 1.1, System Description.
2. Provide releasable adhesive for carpet tile as recommended by carpet tile manufacturer and complying with the requirements of Section 01350. Adhesive must allow the removal of carpet tile at any time without damage to the carpet tile, backing or substrate.
3. Adhesives: materials must comply with the toxicity and emission limits specified above and with Section 01350.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning with HEPA vacuum as required by Section 01350.
- B. Remove and recycle excess material as required by the Construction Waste Management Program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09680 – CARPET – NOTES****JUSTIFICATION**

- 1.1 Indoor Air Quality: Testing for TVOCs, IVOCs, and formaldehyde is recommended in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not adversely affect Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclable, embodied energy, packaging, durability) reduce the need for virgin materials and reduce the use of landfill for post-consumer carpet material.

APPLICATION

- 2.1 Horizontal applications (flooring)

COST IMPACT

- 3.1 \$

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SECTION 09720 – WALL COVERING

PART 1 - GENERAL

1.1 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.
2. Environmental issues certification: submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content, recyclability.
3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data for substrate, sizing, primer, adhesive, and wallcovering. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.

PART 2 - PART 2 – PRODUCTS

2.1 MATERIALS

A. Polyethylene

1. Indoor air quality:
 - a. Provide vinyl-free, chlorine-free, plasticizer-free wallcovering.
2. Recyclability:
 - a. 100% without backing.

B. Fabric

1. Recycled content:
 - a. Fabric wall covering panel fabrics using 100% post industrial recycled content polyester.
2. Recyclability:
 - a. Provide fabrics that can be recycled.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management

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program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09720 – WALLCOVERING – NOTES****JUSTIFICATION:**

- 1.1 Indoor Air Quality: Testing for TVOCs, IVOCs, and formaldehyde is recommended in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not adversely affect indoor air quality.

APPLICATION

- 2.1 Vertical surfacing (walls)

COST IMPACT

- 3.1 \$

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Carnegie, Xorel
110 North Centre Avenue
Rockville Centre, NY 11570
800-727-6770
www.xorel.com
www.carhegiefabrics.com
- 4.2 Interface, Terratex Process by various fabric manufacturers including:
Guilford of Maine
Deepa

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SECTION 09750 – STONE FACING

PART 1 - GENERAL

1.1 SUMMARY

A. Floor, walls (interior stone)

1.2 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

B. Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability,
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content.

1.3 DELIVERY STORAGE AND HANDLING

A. Packaging:

1. Refer to Division 1.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Provide and fabricate stone from source:

1. Within a 500-mile radius of the project site.

PART 3 - EXECUTION

3.1 CLEANING

A. Final cleaning shall be as described in Section 01350.

B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09750 – STONE FACING – NOTES****JUSTIFICATION**

- 1.1 Specify locally quarried and locally fabricated stone.
- 1.2 Energy: Reduced transportation energy should result in cost savings.
- 1.3 Durability: Use of long-lasting material will avoid the need to replace it often. Stone is resource efficient because of its durability.
- 1.4 Recyclability (reuse or reclamation) of stone should be explored.

APPLICATION

- 2.1 Exterior cladding, flooring, paving, furniture, surfacing, paneling or other architectural features.

EXAMPLE PRODUCTS/MANUFACTURERS

- 3.1 Cold Spring Granite
www.coldspringgranite.com

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SECTION 09910 – PAINTS

PART 1 - GENERAL

1.1 SUBMITTALS

- A. SPECIAL ENVIRONMENTAL REQUIREMENTS:
- B. Submit the following in accordance with the requirements of Section 01350:
 - 1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, product recyclability,
 - 2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content, recyclability and indoor air quality.
 - 3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. For assembly systems (e.g., floor and wall systems where the finish material is installed over a substrate, either with or without the use of adhesives), individual components of the system shall be tested separately. If all components meet the criteria established in Section 01350, no further testing shall be required. If one or more of the components of a system does not meet the criteria, the material may be tested again as an assembly. If this option to re-test is selected, then the specimen preparation must be constructed following manufacturer's recommended procedures for application of wet components and assembly of the system. If there is a difference between the manufacturer's recommended procedures and procedures required by the project specifications, request clarification from the Architect.

1.2 DELIVERY STORAGE AND HANDLING

- A. Packaging:
 - 1. Refer to Section 01350.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Indoor Air Quality
 - 1. Provide low-or no-VOC paints and primer system.
- B. Recycled Content
 - 1. No recycled content paints and primers will be allowed on interior applications.
 - 2. 80% recycled content total (minimum 10% post-consumer) paints and primers may be used at exterior locations only.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 09910 – PAINTS – NOTES****JUSTIFICATION:**

- 1.1 Indoor Air Quality: Testing for TVOCs, IVOCs, and formaldehyde is recommended in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not adversely affect Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclability, embodied energy, packaging, durability) – Recycled content paints are available that reduce the need for new paint; however, the VOC emissions from recycled content paint should be carefully reviewed prior to use of such paints in indoor environments.

APPLICATION

- 2.1 Coating systems for various substrates including plywood, gypsum board, metal.

COST IMPACT

- 3.1 \$

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Frazee
Envirokote
6625 Miramar Road
San Diego, CA 92121
619-276-9500
- 4.2 Glidden/ ICI Gliden
Spred 2000/Lifemaster 2000 (or revised product name)
925 Euclid
Cleveland, OH 44115
800-221-4100
- 4.3 AFM Safecoat
(800) 239-0321

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 10270 – ACCESS FLOORING

PART 1 - GENERAL

1.1 RELATED WORK

A. See Carpet, Section 09680, and Resilient Flooring, Section 09650.

1.2 SYSTEM DESCRIPTION

A. Provide carpet tile and raised floor by a single manufacturer [option].

1.3 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability,
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content.

1.4 WARRANTY

A. Provide extended warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Adhesive: provide adhesive for pedestals according to manufacturer's recommendations and in compliance with Section 01350 indoor air quality requirements and special adhesive requirements.
- B. Cementitious filled formed panels: provide panels using 30% post-consumer recycled steel and 17%-30% fly ash in the cementitious fill mix.
- C. Floor covering: Refer to carpet section.

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 10270 – ACCESS FLOORING – NOTES****JUSTIFICATION**

- 1.1 Energy Issues: Less energy required to heat air and to force air.
- 1.2 Cost: If raised floor functions as a plenum then deduct cost of ducting in ceiling.
- 1.3 Resource efficient materials (recycled content, recyclability, embodied energy, packaging, durability). Raised floors system's resource efficiency needs to be evaluated to determine to what extent/how the criteria are met.
- 1.4 Integration with carpet and resilient floor system; ease of operation and maintenance.
- 1.5 Indoor Air Quality: Testing for TVOCs, IVOCs, SOVOCs, MVOCs, and particulates is required in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not cause poor Indoor Air Quality.
- 1.6 Underfloor area should be treated as an underfloor air supply in terms of cleanliness.

APPLICATION

- 2.1 Raised floor is applied over structural slabs, pedestals supporting modular panels are fixed to substrate. Individual registers allow individual user to control air into space.

COST IMPACT

- 3.1 \$\$
- 3.2 None if raised floor replaces ceiling plenum space and ductwork.

EXAMPLE PRODUCTS/MANUFACTURERS

- 4.1 Interface Architectural Resources
Interface Access Flooring, Tec-Crete
5001 Birch Street
Newport Beach, CA 92660
949-263-8330
800-336-0225
www.interfacear.com
- 4.2 Tate
www.tateaccessfloors.com

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 12484 – FLOOR MATS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. **WORK INCLUDED:** Furnish and install all recessed, stainless steel grid entrance mats and frames.

1.2 SUBMITTALS:

- A. **SPECIAL ENVIRONMENTAL REQUIREMENTS:**
Submit the following in accordance with the requirements of Section 01350:
 - 1. **Resource efficient product data:** Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability,
 - 2. **Environmental issues certification:** Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content.
- B. **PRODUCT DATA:** Submit manufacturer's published descriptive literature and complete specifications for products specified herein.

1.3 DELIVERY, STORAGE, AND HANDLING:

- A. **ENVIRONMENTAL REQUIREMENTS:** Comply with the packaging, delivery, storage, and handling requirements of Section 01350.
- B. **STORAGE AND PROTECTION:** Store mats and frames under cover, in a dry, protected, area until ready for installation.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 CLEANING:

- A. **CONSTRUCTION CLEANING:** Remove scraps, packaging material, and other debris from the Project site. Leave mats in clean condition.
- B. Remove and recycle excess material as required by the construction waste management program, Section 01350.
- C. Final cleaning shall be as described in Section 01350.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 12484 – FLOOR MATS AND FRAMES – NOTES****JUSTIFICATION**

- 1.1 Indoor Air Quality—Indoor air quality is improved by the use of metal walk off mats. Bacteria and other contaminants are removed to a certain degree from the shoes of people entering the building.
- 1.2 Mats are best located inside of all exterior doors and should be large enough to be usable (to catch both feet).

APPLICATION**COST IMPACT** \$**EXAMPLE PRODUCTS/MANUFACTURERS**

- 4.1 Kadee
- 4.2 Arden Architectural

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 12490 – WINDOW SHADES

PART 1 - GENERAL

1.1 SUBMITTALS

- A. SPECIAL ENVIRONMENTAL REQUIREMENTS:
- B. Submit the following in accordance with the requirements of Section 01350:
 - 1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability,
 - 2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 CLEANING

- A. Final cleaning shall be as described in Section 01350.
- B. Remove and recycle excess material as required by the site waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 12490 – WINDOW SHADES – NOTES****JUSTIFICATION**

- 1.1 Enhance daylight control design through blinds
- 1.2 Shades for glare control around computer monitors
- 1.3 Energy: Cost and use savings are reaped

APPLICATION

- 2.1 Apply shades at window

COST IMPACT**EXAMPLE PRODUCTS/MANUFACTURERS**

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 12500 – FURNITURE

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. RECYCLED CONTENT:

1. SABRC (State Agency Buy Recycled Campaign) Standards: Provide recycled content minimums for all steel derived products as described by CIWMB. (Refer to the following website for updated recycled content percentages: <http://www.ciwmb.ca.gov/BuyRecycled/StateAgency>)
2. Recycled content for MDF shall be as described in Section 6100, Section 06200, and Section 06400.

1.2 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, product recyclability,
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content, recyclability and indoor air quality.
3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. A four-day chamber test of the assembled system shall take place following a period of 10 day conditioning. Concentration calculations as described in Section 01350 must reflect the density of the furniture installation in the building. Refer to notes Section for more information.

1.3 DELIVERY STORAGE AND HANDLING

- ###### **A. Precondition in a ventilated warehouse for ten (10) days prior to testing and subsequent delivery to job site. During conditioning period, controlled temperature and humidity shall be maintained and 1 ac/h of clean air must circulate freely around furniture components (assembly is not required).**

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Certified sustainably harvested woods
- B. No particle board
- C. Use core board, composite wood products, and MDF as described in Division 7.
- D. Low-VOC sealers and adhesives

PART 3 - EXECUTION

3.1 CLEANING

- ###### **A. Final cleaning shall be as described in Section 01350.**

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

- B. Remove and recycle excess material as required by the construction waste management program, Section 01565.

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 12500 – FURNITURE – NOTES****JUSTIFICATION**

- 1.1 Indoor Air Quality--Testing for TVOCs, IVOCs, SOVOCs, MVOCs, and particulates is required in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not cause poor Indoor Air Quality.
- 1.2 Resource efficient materials (recycled content, recyclable, embodied energy, packaging, durability) Furniture's resource efficiency needs to be evaluated to determine to what extent/how the criteria are met.

APPLICATION**COST IMPACT \$****EXAMPLE PRODUCTS/MANUFACTURERS**

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 12510 – OFFICE SYSTEMS FURNITURE

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. Recycled Content:

1. Recycled content for MDF shall be as described in Section 06100, Section 06200, and Section 06400.

1.2 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, product recyclability,
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content, recyclability and indoor air quality.
3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. A four-day chamber test of the assembled system shall take place following a period of 10 day conditioning. Concentration calculations as described in Section 01350 must reflect the density of the furniture installation in the building. Refer to notes section for more information.

1.3 DELIVERY STORAGE AND HANDLING

- ###### **A. Precondition in a ventilated warehouse for ten (10) days prior to testing and subsequent delivery to job site. During conditioning period, controlled temperature and humidity shall be maintained and 1 ac/h of clean air must circulate freely around furniture components (assembly is not required).**

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 CLEANING

- ###### **A. Final cleaning shall be as described in Section 01350.**
- ###### **B. Remove and recycle excess material as required by the construction waste management program, Section 01565.**

END OF SECTION

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY**SECTION 12510 – OFFICE SYSTEMS FURNITURE – NOTES****JUSTIFICATION**

- 1.1 Ventilation at desk top allows individual control better Indoor Air Quality.
- 1.2 Indoor Air Quality--Testing for TVOCs, IVOCs, SOVOCs, MVOCs, and particulates is required in order to determine emissions levels. Emissions testing is an emulation of how a product will perform when installed. Testing is needed to establish that the product does not cause poor Indoor Air Quality.
- 1.3 Resource efficient materials (recycled content, recyclability, embodied energy, packaging, durability). Office systems furniture's resource efficiency needs to be evaluated to determine to what extent/how the criteria are met.
- 1.4 Reuse workstations to increase useful life and avoid frequent replacement, thus reducing impact on landfill.
- 1.5 Modular units will provide versatility and increase useful life.
- 1.6 Emissions testing with good results will improve indoor air quality.

APPLICATION

- 2.1 Open office furnishing systems

COST IMPACT**EXAMPLE PRODUCTS/MANUFACTURERS**

- 4.1 Steelcase
- 4.2 Herman Miller
- 4.3 Knoll
- 4.4 Studio eg

REFERENCE SPECIFICATIONS FOR ENERGY AND RESOURCE EFFICIENCY

SECTION 12520 – SEATING

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. Recycled Content:

1. Recycled content for MDF shall be as described in Section 06100, Section 06200, and Section 06400.

1.2 SUBMITTALS

A. SPECIAL ENVIRONMENTAL REQUIREMENTS:

Submit the following in accordance with the requirements of Section 01350:

1. Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, product recyclability,
2. Environmental issues certification: Submit written certification stating that the products installed are essentially the same as those defined by the Project requirements (specifications, submittals, and/or test data) in terms of recycled content, recyclability and indoor air quality.
3. Indoor Air Quality: Submit Material Safety Data Sheets (MSDS) and emission test data. A four-day chamber test of the assembled system shall take place following a period of 10 day conditioning. Concentration calculations as described in Section 01350 must reflect the density of the furniture installation in the building. Refer to notes section for more information.

1.3 DELIVERY STORAGE AND HANDLING

- ###### **A. Precondition in a ventilated warehouse for ten (10) days prior to testing and subsequent delivery to job site. During conditioning period, controlled temperature and humidity shall be maintained and 1 ac/h of clean air must circulate freely around furniture components (assembly is not required).**

PART 2 - PRODUCTS

2.1 MATERIALS

- ###### **A. Product shall emit no formaldehyde when tested per Section 01350.**

PART 3 - EXECUTION

3.1 CLEANING

- ###### **A. Final cleaning shall be as described in Section 01350.**
- ###### **B. Remove and recycle excess material as required by the construction waste management program, Section 01565.**

END OF SECTION