

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..

.....
SECTION 10 21 13.19 (SECTION 10170) - PLASTIC TOILET COMPARTMENTS

SPECIFIER NOTE:

resource management: Refer to Section 06 60 00 (06600) - Plastic Fabrications.

toxicity/IEQ: Refer to Section 06 60 00 (06600) - Plastic Fabrications.

performance: Plastic partitions perform as well or better than most toilet partitions. They are water resistant, graffiti resistant, and non-absorbent, with plastic face sheets permanently fused to plastic core.

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Includes:
 - 1. Solid plastic toilet compartments, **[floor mounted, head rail braced] [xxxx]**.
 - 2. Solid plastic urinal screens, **[wall mounted with floor mounted pilaster brace] [xxxx]**.
 - 3. Attachment hardware.
- B. Related Sections:
 - 1. 06 10 00 (06100) - Rough Carpentry: Framing and plates within walls for partition attachment.
 - 2. 10 28 00 (10810) - Toilet Accessories: Coordinate compartment installation with subsequent accessory installation.

1.2 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible To and Usable by Physically Handicapped People.

1.3 SUBMITTALS

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

SPECIFIER NOTE:

Green building rating systems often include credit for materials of recycled content. USGBC-LEED™ v3, for example, includes credit for materials with recycled content, calculated on the basis of pre-consumer and post-consumer percentage content, and it includes credit for use of salvaged/recovered materials. Green Globes US also provides points for reused building materials and components and for building materials with recycled content.

- 1. Recycled Content:

- a. Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
- b. Indicate relative dollar value of recycled content product to total dollar value of product included in project.
- c. If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
- d. If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.

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.

2. 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.
- B. Submit environmental data in accordance with Table 1 of ASTM E2129 for products provided under work of this Section.
- C. Operating And Maintenance Manuals Submittals:

SPECIFIER NOTE:

The marking system indicated below is intended to provide assistance in identification of products for making subsequent decisions as to handling, recycling, or disposal.

Society of Plastic Inc. resin codes are easily recognized by the consumer. These are the numerical designations within chasing arrows. At the present time there is not a separate resin code for PLA (bio-resins). PLA (bio-resins) are classified as #7 (Other). Nor are there specific indications for additives or blends. The Society of Plastics resin code symbols are common for plastic packaging materials; for example:



ASTM D1972 standard specifies a resin code that provides substantially more information regarding the plastic resin, including blends and additives. ASTM D1972 labeling protocols are not common for packaging materials; however, they are recognized and utilized in the construction industry and other industry sectors. Many construction products are labeled according to ASTM D1972. Such detailed

information is anticipated to be necessary data for future deconstruction (and recycling) efforts. Therefore, plastic construction products and plastic components of assemblies should be labeled in accordance with ASTM D1972. Example for a polypropylene containing 30 mass percentage of mineral powder use:

>PP-MD30<

- a. Verify that plastic products, including plastic components in assemblies, to be incorporated into the Project are labeled in accordance with ASTM D1972. Where products are not labeled, provide product data indicating polymeric information in Operation and Maintenance Manual.
 - 1) Products made from compositions containing a single filler, reinforcing, or other modifying material in a concentration of more than one percent by mass shall be marked with the abbreviated term for the polymer, followed by a dash, then the abbreviated term or symbol for the additive, with its percentage by mass, arranged as shown in the example and set off with brackets. For example, a polypropylene containing 30 mass percentage of mineral powder use would be labeled: >PP-MD30<

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform to ANSI A117.1 code for access for the handicapped operation of toilet compartment door and hardware.

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 #5 Reduce Environmental Impact of Materials, EO13423 directs Federal agencies to “use products meeting or exceeding EPA’s recycled content recommendations” for EPA-designated products and for other products to “use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.”

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/mouhighperfsustainfedfacs.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. Solid plastic compartments and screens: water resistant; graffiti resistant; non-absorbent; with plastic face sheets permanently fused to plastic core; 1" thick panels unless otherwise indicated.

SPECIFIER NOTE:

US-EPA Comprehensive Procurement Guidelines (CPG) recommend 20-100 percent post-consumer recycled content for plastic toilet partitions.

1. Recycled Content: Minimum **[20] [xxxx]** percent post-consumer recycled content.

- B. Pilaster Shoes: 3 inches high; **[Aluminum] [Stainless Steel] [One piece molded HDPE] [xxxx]**.

SPECIFIER NOTE:

Green building rating systems often include credit for materials of recycled content and may distinguish allowable credit for post-consumer and post-industrial (or pre-consumer) recycled content. USGBC-LEED™ v3, for example, factors 100 percent of post-consumer recycled content but only 50 percent of pre-consumer (post-industrial) recycled content into calculations for its recycled content materials credit. LEED v3 grants one credit to a project for using materials with recycled content such that the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10 percent of the total value of the materials in the project; 10% (post-consumer + 1/2 post-industrial). It grants an additional point for 20% (post-consumer + 1/2 post-industrial).

Green Globes US also provides points for reused building materials and components and for building materials with recycled content.

Recycled content is typically determined by calculating the weight of the recycled material divided by the total weight of the product and expressed as a percentage by weight. (The recycled content "value" of a product as assessed under LEED is determined by multiplying the recycled content percentage and the cost of the product.)

Verify with manufacturer for product availability and recycled content.

1. Recycled Content: Minimum **[5] [10] [xxxx]** percent post-consumer recycled content, or minimum **[20] [40] [xxxx]** percent pre-consumer recycled content at contractor's option.

- C. Attachments:

1. Screws, and Bolts: Stainless steel; tamper proof type.
2. Wall Mounting Brackets: Continuous, full height, **[aluminum] [stainless steel] [heavy duty plastic] [xxxx]**. in accordance with toilet compartment manufacturer's instructions.

- D. Hardware: Chrome plated non-ferrous cast pivot hinges, gravity type, adjustable for door close positioning; nylon bearings; black anodized aluminum door latch; door strike and keeper with rubber bumper; cast alloy chrome plated coat hook and bumper, **[xxxx]**.

2.3 FABRICATION

- A. Solid Plastic: 1/4 inch radius beveled edges.

- B. Hardware and Attachments: Pre-drilled by manufacturer; provide for protection of dissimilar metals.

1. Floor Mounted Anchorage: Corrosion-resistant anchoring assemblies with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

2.4 FINISHES

- A. Compartments and Screens: Color as selected by **[Architect] [Owner]** from manufacturer's standard colors.
- B. Pilaster Shoes: Color to match core of solid plastic compartments and screens.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify correct spacing of plumbing fixtures.
 - 2. Verify correct location or built-in framing, anchorage, and bracing.
- B. Report in writing to **[Architect] [Owner]** prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install partitions secure, rigid, plumb, level, and square in accordance with manufacturer's printed instructions.
 - 1. Provide for adjustment due to minor floor variations.
 - 2. Install adjacent components for consistency of line and plane.
- B. Maintain 1/2 inch space between wall and panels, and between wall and pilasters. Attach panel brackets securely to walls using anchor devices.
- C. Attach panels and pilasters to bracket with through sleeve tamperproof bolts and nuts. Locate head rail joints at pilaster center lines.
- D. Anchor urinal screen panels to walls and anchored to floor in accordance with manufacturer's printed instructions to suit supporting wall construction.
- E. Conceal floor fastenings with pilaster shoes.
- F. Equip each door with hinges, one door latch, and one coat hook and bumper. Align hardware to uniform clearance at vertical edges of doors, not exceeding 1/4 inch.
 - 1. Provide hardware at handicapped toilet with operating hardware complying with ANSI A117.1.

3.3 CONSTRUCTION

- A. Interface with Other Work:
 - 1. Coordinate placement of support framing and anchors in walls.
- B. Site Tolerances:
 - 1. Maximum Variation From True Position: 1/4 inch.
 - 2. Maximum Variation From Plumb: 1/8 inch.

3.4 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- B. In Swinging Doors: Adjust hinges to locate doors in partial open position when unlatched.

- C. Out Swinging Doors: Adjust hinges to gently return doors to closed position.
- D. Adjust adjacent components for consistency of line or plane.

END OF SECTION