

Section 5.9. Standards

5.9.1. Applicable Standards

5.9.1.1. Compliance with Applicable Standards

1) Except as provided in Sentence (2) and elsewhere in this Part, materials and components, and their installation, shall conform to the requirements of the applicable standards in Table 5.9.1.1. where those materials or components are

- a) incorporated into environmental separators or assemblies exposed to the exterior, and
- b) installed to fulfill the requirements of this Part.

(See Note A-5.9.1.1.(1).)

2) The requirements for *flame-spread ratings* contained in thermal insulation standards shall be applied only as required in Part 3.

Table 5.9.1.1.
Standards Applicable to Environmental Separators and Assemblies Exposed to the Exterior
Forming Part of Sentence 5.9.1.1.(1)

Issuing Agency	Document Number	Title of Document
ASME	B18.6.1	"Wood Screws (Inch Series)"
ASTM	A 123/A 123M	"Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products"
ASTM	A 153/A 153M	"Zinc Coating (Hot-Dip) on Iron and Steel Hardware"
ASTM	A 653/A 653M	"Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process"
ASTM	C 4	"Clay Drain Tile and Perforated Clay Drain Tile"
ASTM	C 73	"Calcium Silicate Brick (Sand-Lime Brick)"
ASTM	C 126	"Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units"
ASTM	C 212	"Structural Clay Facing Tile"
ASTM	C 412M	"Concrete Drain Tile (Metric)"
ASTM	C 444M	"Perforated Concrete Pipe (Metric),"
ASTM	C 553	"Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications"
ASTM	C 612	"Mineral Fiber Block and Board Thermal Insulation"
ASTM	C 700	"Standard Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated"
ASTM	C 726	"Mineral Wool Roof Insulation Board"
ASTM	C 834(1)	"Latex Sealants"
ASTM	C 840	"Application and Finishing of Gypsum Board"
ASTM	C 920(1)	"Elastomeric Joint Sealants"
ASTM	C 991	"Flexible Fibrous Glass Insulation for Metal Buildings"
ASTM	C 1002	"Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs"
ASTM	C 1177/C 1177M	"Glass Mat Gypsum Substrate for Use as Sheathing"
ASTM	C 1178/C 1178M	"Coated Glass Mat Water-Resistant Gypsum Backing Panel"
ASTM	C 1184 ⁽¹⁾	"Structural Silicone Sealants"
ASTM	C 1311 ⁽¹⁾	"Solvent Release Sealants"
ASTM	C 1330 ⁽¹⁾	"Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants"
ASTM	C 1396/C 1396M ⁽²⁾	"Gypsum Board"
ASTM	C 1658/C 1658M ⁽³⁾	"Glass Mat Gypsum Panels"

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Issuing Agency	Document Number	Title of Document
ASTM	D 1227	"Emulsified Asphalt Used as a Protective Coating for Roofing"
ASTM	D 2178/D 2178M	"Asphalt Glass Felt Used in Roofing and Waterproofing"
ASTM	D 3019 ⁽⁴⁾	"Lap Cement Used with Asphalt Roll Roofing, Non-Fibred, Asbestos-Fibred, and Non-Asbestos-Fibred"
ASTM	D 4479/D 4479M	"Asphalt Roof Coatings – Asbestos-Free"
ASTM	D 4637/D 4637M	"EPDM Sheet Used In Single-Ply Roof Membrane"
ASTM	D 4811/D 4811M	"Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing"
ASTM	D 6878/D 6878M	"Thermoplastic Polyolefin Based Sheet Roofing"
ASTM	E 2190	"Insulating Glass Unit Performance and Evaluation"
ASTM	E 2397/ E 2397M	"Standard Practice for Determination of Dead Loads and Live Loads Associated with Vegetative (Green) Roof Systems"
BNQ	BNQ 3624-115	"Polyethylene (PE) Pipe and Fittings – Flexible Pipes for Drainage – Characteristics and Test Methods"
CGSB	CAN/CGSB-11.3-M	"Hardboard"
CGSB	CAN/CGSB-11.5-M	"Hardboard, Precoated, Factory Finished, for Exterior Cladding"
CGSB	CAN/CGSB-12.1-M	"Tempered or Laminated Safety Glass"
CGSB	CAN/CGSB-12.2-M	"Flat, Clear Sheet Glass"
CGSB	CAN/CGSB-12.3-M	"Flat, Clear Float Glass"
CGSB	CAN/CGSB-12.4-M	"Heat Absorbing Glass"
CGSB	CAN/CGSB-12.8	"Insulating Glass Units"
CGSB	CAN/CGSB-12.10-M	"Glass, Light and Heat Reflecting"
CGSB	CAN/CGSB-12.11-M	"Wired Safety Glass"
CGSB	37-GP-9Ma	"Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing"
CGSB	CAN/CGSB-37.50-M	"Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing"
CGSB	CAN/CGSB-37.54	"Polyvinyl Chloride Roofing and Waterproofing Membrane"
CGSB	37-GP-56M	"Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing"
CGSB	CAN/CGSB-37.58-M	"Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing"
CGSB	CAN/CGSB-41.24	"Rigid Vinyl Siding, Soffits and Fascia"
CGSB	CAN/CGSB-51.32-M	"Sheathing, Membrane, Breather Type"
CGSB	CAN/CGSB-51.33-M	"Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction"
CGSB	CAN/CGSB-51.34-M	"Vapour Barrier, Polyethylene Sheet for Use in Building Construction"
CGSB	CAN/CGSB-93.1-M	"Sheet, Aluminum Alloy, Prefinished, Residential"

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Standards Applicable to Environmental Separators and Assemblies Exposed to the Exterior
 Forming Part of Sentence 5.9.1.1.(1)

Issuing Agency	Document Number	Title of Document
CGSB	CAN/CGSB-93.2-M	"Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use"
CGSB	CAN/CGSB-93.3-M	"Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use"
CGSB	CAN/CGSB-93.4	"Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential"
CSA	A23.1	"Concrete Materials and Methods of Concrete Construction"
CSA	CAN/CSA-A82	"Fired Masonry Brick Made from Clay or Shale"
CSA	CAN3-A93-M	"Natural Airflow Ventilators for Buildings"
CSA	A123.1/A123.5	"Asphalt Shingles Made From Organic Felt and Surfaced with Mineral Granules/Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules"
CSA	CAN/CSA-A123.2	"Asphalt-Coated Roofing Sheets"
CSA	A123.3	"Asphalt Saturated Organic Roofing Felt"
CSA	CAN/CSA-A123.4	"Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems"
CSA	A123.17	"Asphalt Glass Felt Used in Roofing and Waterproofing"
CSA	CAN/CSA-A123.21	"Standard test method for the dynamic wind uplift resistance of membrane-roofing systems"
CSA	CAN/CSA-A123.24	"Standard test method for wind resistance of vegetated roof assembly"
CSA	CAN3-A123.51-M	"Asphalt Shingle Application on Roof Slopes 1:3 and Steeper"
CSA	CAN3-A123.52-M	"Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3"
CSA	A165.1	"Concrete Block Masonry Units"
CSA	A165.2	"Concrete Brick Masonry Units"
CSA	A165.3	"Prefaced Concrete Masonry Units"
CSA	A179	"Mortar and Grout for Unit Masonry"
CSA	CAN/CSA-A220	"Concrete Roof Tiles"
CSA	A371	"Masonry Construction for Buildings"
CSA	A3001	"Cementitious Materials for Use in Concrete"
CSA	CAN/CSA-B182.1	"Plastic Drain and Sewer Pipe and Pipe Fittings"
CSA	G40.21	"Structural Quality Steel"
CSA	G401	"Corrugated Steel Pipe Products"
CSA	CAN/CSA-O80 Series	"Wood Preservation"
CSA	O118.1	"Western Red Cedar Shakes and Shingles"
CSA	O118.2	"Eastern White Cedar Shingles"
CSA	O121	"Douglas Fir Plywood"
CSA	O141	"Softwood Lumber"
CSA	O151	"Canadian Softwood Plywood"
CSA	O153	"Poplar Plywood"
CSA	O325	"Construction Sheathing"
CSA	O437.0	"OSB and Waferboard"
HPVA	ANSI/HPVA HP-1	"Hardwood and Decorative Plywood"
SPRI	ANSI/SPRI VR-1	"Procedure for Investigating Resistance to Root or Rhizome Penetration on Vegetative Roofs"
ULC	CAN/ULC-S701	"Thermal Insulation, Polystyrene, Boards and Pipe Covering"

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Standards Applicable to Environmental Separators and Assemblies Exposed to the Exterior
 Forming Part of Sentence 5.9.1.1.(1)

Issuing Agency	Document Number	Title of Document
ULC	CAN/ULC-S702	"Mineral Fibre Thermal Insulation for Buildings"
ULC	CAN/ULC-S703	"Cellulose Fibre Insulation for Buildings"
ULC	CAN/ULC-S704	"Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced"
ULC	CAN/ULC-S705.1	"Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification"
ULC	CAN/ULC-S705.2	"Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application"
ULC	CAN/ULC-S706	"Wood Fibre Insulating Boards for Buildings"
ULC	CAN/ULC-S710.1	"Thermal Insulation – Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification"
ULC	CAN/ULC-S711.1	"Thermal Insulation – Bead-Applied Two Component Polyurethane Air Sealant Foam, Part 1: Material Specification"

Notes to Table 5.9.1.1.:

- (1) See Note A-Table 5.9.1.1.
- (2) The *flame-spread rating* of gypsum board shall be determined in accordance with CAN/ULC-S102 in lieu of ASTM E 84 as indicated in ASTM C 1396/C 1396M.
- (3) The *flame-spread rating* of glass mat gypsum panels shall be determined in accordance with CAN/ULC-S102 in lieu of ASTM E 84 as indicated in ASTM C 1658/C 1658M.
- (4) For the purpose of compliance with Part 5, ASTM D 3019 shall only apply to the non-fibred and non-asbestos-fibred types of asphalt roll roofing.

5.9.2. Windows, Doors, Skylights, and Other Glazed Products

5.9.2.1. General

- 1)** This Subsection applies to windows, doors, skylights, and other glazed products and their components, that separate
 - a) interior space from exterior space, or
 - b) environmentally dissimilar interior spaces.
- 2)** For the purpose of this Subsection, the term "skylight" refers to unit skylights, roof windows and tubular daylighting devices.
- 3)** Windows, doors, skylights, other glazed products and their components that are required to have a *fire-protection rating* need not conform to this subsection. (See Note A-5.9.2.1.(3).)

5.9.2.2. Design and Construction

(See Note A-5.9.2.2.)

- 1)** Windows, doors, skylights, and their components shall be designed and constructed in accordance with
 - a) Subsection 5.1.4., Section 5.3., Section 5.4. and Section 5.6., or
 - b) the following standards
 - i) AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights," and
 - ii) except as permitted by Sentence (3), CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights."

(See Note A-5.9.2.2.(1).)

- 2)** Other glazed products and their components shall be designed and constructed in accordance with

Subsection 5.1.4., Section 5.3., Section 5.4. and Section 5.6. (See Note A-5.9.2.2.(2).)

3) For the purposes of conformance with Subclause (1)(b)(ii), loads and procedures from Section 5.2 may be used instead of the loads and procedures set out in the standard. (See Note 5.9.2.2.(3).)

5.9.2.3. Reserved

5.9.2.4. Heat Transfer

1) Windows, doors and skylights shall meet the heat transfer performance requirements stated in Section 5.3. (See Note A-5.3.1.2.)

2) Except as provided in Sentence (3), all metal-framed glazed assemblies separating interior *conditioned space* from interior unconditioned space or exterior space shall incorporate a thermal break to minimize condensation.

3) Metal-framed glazed assemblies need not comply with Sentence (2) where these assemblies are

a) storm windows or doors, or

b) windows or doors that are required to have a *fire-protection rating*.

(See Note A-5.9.2.4.(3).)

5.9.3. Reserved

5.9.4. Exterior Insulation Finish Systems

5.9.4.1. Structural Loads, Heat Transfer, Air Leakage, Vapour Diffusion and Water Penetration

1) Exterior insulation finish systems and their components shall comply with

a) Subsection 5.1.4. and Sections 5.3. to 5.6., and

b) CAN/ULC-S716.1, “Exterior Insulation and Finish Systems (EIFS) – Materials and Systems,” where covered in the scope of that standard.

(See Note A-5.9.4.1.(1).)