Section D-6 Fire Performance of Exterior Wall Assemblies

D-6.1. Scope

D-6.1.1. Exterior Wall Assemblies

Table D-6.1.1. shows construction specifications for exterior wall assemblies that are deemed to satisfy the criteria of Clause 3.1.5.5.(1)(b) when tested in accordance with CAN/ULC-S134, "Fire Test of Exterior Wall Assemblies." These exterior wall assemblies are suitable for use in buildings permitted to be of encapsulated mass timber construction.

Table D-6.1.1.
Construction Specifications for Exterior Wall Assemblies that Are Deemed to Satisfy the Criteria of Clause 3.1.5.5.(1)(b) when Tested in Accordance with CAN/ULC-S134

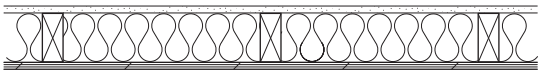
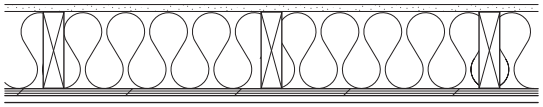
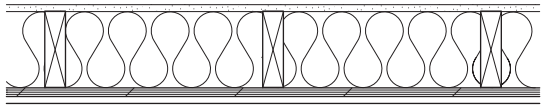
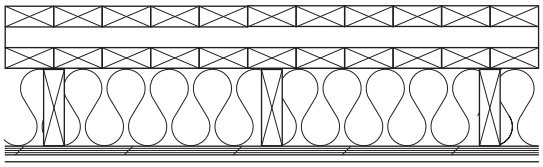
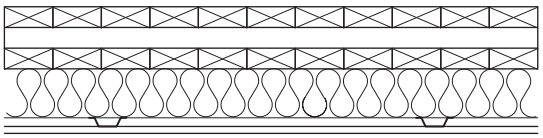
Wall Number	Structural Members	Absorptive Material	Sheathing	Cladding	*Design*
EXTW-1	38 mm × 89 mm wood studs spaced at 400 mm o.c.(1)(2)	89 mm thick rock or slag fibre in cavities formed by studs(3)(4)	--	12.7 mm thick fire-retardant-treated plywood siding(5)	 GG00531A
EXTW-2	38 mm × 140 mm wood studs spaced at 400 mm o.c.(1)(2)	140 mm thick rock or slag fibre in cavities formed by studs(3)(4)	Gypsum sheathing ≥ 12.7 mm thick	Noncombustible exterior cladding	 GG00530A
EXTW-3	38 mm × 140 mm wood studs spaced at 400 mm o.c.(1)(2)	140 mm thick rock or slag fibre in cavities formed by studs(3)(4)	15.9 mm thick fire-retardant-treated plywood(6)	Noncombustible exterior cladding	 GG00532A
EXTW-4	38 mm × 140 mm wood studs spaced at 600 mm o.c.(1)(7) attached to cross-laminated timber (CLT) wall panels ≥ 38 mm thick(8)	140 mm thick glass, rock or slag fibre in cavities formed by studs(3)	Gypsum sheathing ≥ 12.7 mm thick	Noncombustible exterior cladding	 GG00533A

Table D-6.1.1. *(continued)*

Construction Specifications for Exterior Wall Assemblies that Are Deemed to Satisfy the Criteria of Clause 3.1.5.5.(1)(b) when Tested in Accordance with CAN/ULC-S134

EXTW-5	89 mm horizontal Z-bars spaced at 600 mm o.c. attached to CLT wall panels ≥ 105 mm thick(8)	89 mm thick rock or slag fibre in cavities formed by Z-bars(3)(4)	--	Noncombustible exterior cladding attached to 19 mm vertical hat channels spaced at 600 mm o.c.	 GG00534A

Notes to Table D-6.1.1.:

(1) The stated stud dimensions are maximum values. Where wood studs with a smaller depth are used, the thickness of absorptive material in the cavities formed by the studs must be reduced accordingly.

(2) Horizontal blocking between the vertical studs or horizontal stud plates must be installed at vertical intervals of at most 2 324 mm, such that the maximum clear length between the horizontal blocking or stud plates is 2 286 mm.

(3) The absorptive material must conform to CAN/ULC-S702, "Mineral Fibre Thermal Insulation for Buildings."

(4) The absorptive material must have a density not less than 32 kg/m^3.

(5) The fire-retardant-treated plywood siding must conform to the requirements of Article 3.1.4.5. and must have been conditioned in conformance with ASTM D 2898, "Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing," before being tested in accordance with CAN/ULC-S102, "Test for Surface Burning Characteristics of Building Materials and Assemblies."

(6) The fire-retardant-treated plywood must conform to the requirements of Article 3.1.4.5.

(7) Horizontal blocking between the vertical studs or horizontal stud plates must be installed at vertical intervals of at most 2 438 mm, such that the maximum clear length between the horizontal blocking or stud plates is 2 400 mm.

(8) A water-resistant barrier may be attached to the face of the CLT wall panels.