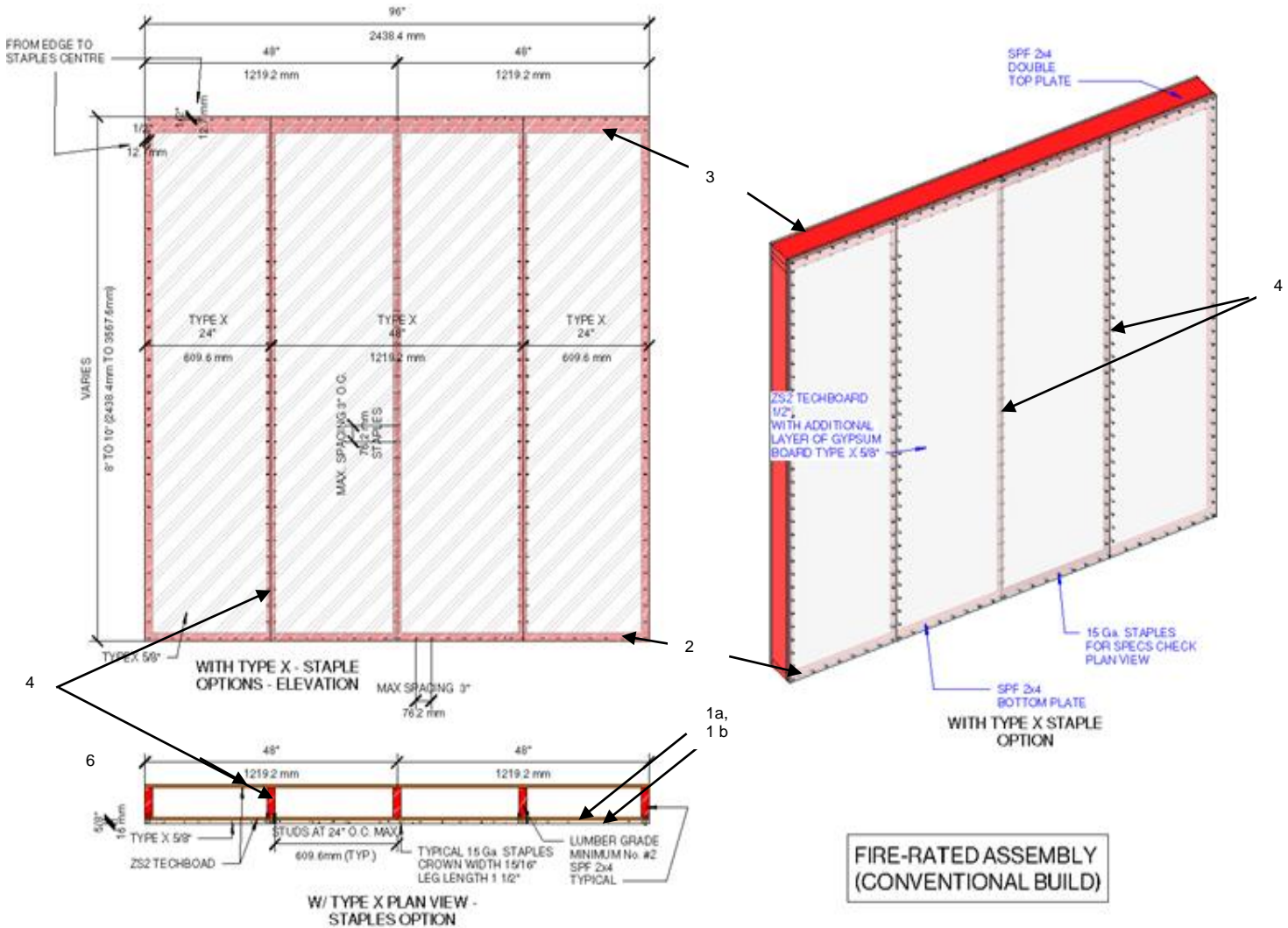


QAI Design B1141-1b – ZS2 Technologies Ltd. –CAN/ULC S101 / ASTM E119
TechBoard™ Magnesium Oxide (MgO) Sheathing
1 Hour Fire-Resistance Rated Restricted Load-Bearing Wall Assembly¹



TechBoard™ Restricted Load-Bearing¹ 1-hour Fire-Resistance Rated Wood Stud and #8 Coarse Thread Wood Screw Assembly (Interior Facing Fire Only)

Item	COMPONENT	DESCRIPTION	
1a	Interior Finish	Type:	Single layer Type X gypsum wall board complying with ASTM C1396.
		Thickness:	Minimum 5/8 inches (16 mm).
		Installation:	The gypsum is to be anchored through the interior sheathing into the underlying framing at 8 inches (203 mm) on center around the gypsum perimeter and 12 inches (305 mm) on center spacing in the field, with minimum 2.25 inch (57 mm) length Type S drywall screws. Gypsum board joints are to be offset from Techboard™ interior sheathing joints at 24 inches (610 mm). Joints and screw heads are to be taped and mudded per industry standard.
1b	Interior Sheathing	Manufacturer:	ZS2 Inc.
		Approved Types:	Techboard™ ½" (13 mm) thickness.
		Installation:	Techboard™ is to be installed with minimum #8 2.5-inch (64 mm) length coarse thread wood screws. Screws are to be installed at maximum 8 inches (204 mm) spacing around the perimeter and in the field, maintaining minimum edge distances of ½ inch (13 mm).
2	Sill (Bottom) Plate	Type:	Single minimum nominal 2 inch x 6 inch (38 mm x 140 mm) lumber Spruce-Pine-Fir Grade #2.
		Installation:	Sill plate is to be attached to framing members with minimum two (2) 3-1/2 inch (89 mm) length 12D common nails at each framing member location.
3	Top Plate	Type:	Double minimum nominal 2 inch x 6 inch (38 mm x 140 mm) lumber Spruce-Pine-Fir Grade #2.
		Installation:	Lower top plate is to be attached to framing members with minimum two (2) 3-1/4 inch (83 mm) length 12D common nails at each framing member location. Upper top plate is to be attached to the lower plate with minimum 2.5 inch (64 mm) length common nails at 12 inch on center spacing staggered along length of the upper plate.
4	Framing	Type:	Minimum nominal 2 inch x 6 inch (38 mm x 140 mm) lumber Spruce-Pine-Fir Grade #2.
		Installation:	Framing members are to be installed to sill and top plate as described above, at maximum 24 inch (610 mm) on center spacing. Lumber is to bear the logo of an approved grading agency.
5	Optional Insulation (Not Shown)	Type:	Fiberglass batt, mineral wool, expanded polystyrene Type I per ASTM C578.
		Specifications:	Fiberglass batt and mineral wool are to comply with the applicable code. EPS is to comply with Type I specifications of ASTM C578 of maximum 1.0 lbs/ft ³ (16.0 kg/m ³) density, with a maximum flame spread index of 25 and maximum smoke development of 450 determined in accordance with ASTM E84 or UL 723. EPS is to bear the mark of an approved agency.
		Installation:	Insulation installation is to be in accordance with the insulation manufacturer's recommendations, and good insulation practice friction fit into the stud cavity.
6	Exterior Sheathing	Manufacturer:	ZS2 Inc.
		Approved Types:	Techboard™ ½" (13 mm) thickness.
		Installation:	Techboard™ is to be installed with minimum #8 2.5 inch (64 mm) length coarse thread wood screws. Screws are to be installed at maximum 8 inches (204 mm) spacing around the perimeter and in the field, maintaining minimum edge distances of ½ inch (13 mm).
7	Cladding (Not Shown)	Type:	Cladding is to comply with the applicable code for intended use.
		Installation:	Installation shall be in accordance with the applicable code, and the cladding manufacturer's installation instructions. Cladding anchoring is to penetrate the exterior sheathing into the underlying framing members and not rely on the exterior sheathing for resistance.

Note 1: Note 1: Where used in load-bearing fire-resistance rated applications, maximum applied load is restricted to 82% Load and Resistance Factor Design (LRFD) design load determined in accordance with the NDS. Where loads are calculated in accordance with alternate methodology, the appropriate load adjustments are required.