

Above Grade Wall Assembly

Assembly # MW-01

Description: 38x140 (2x6) Studs at 406mm (16") o/c with RSI 3.34 (R 20) fibreglass cavity insulation. 11.1mm (7/16") OSB Sheathing and 12.7mm (1/2") expanded polystyrene (Type 1) continuous insulation. Exterior finish with vinyl siding, interior finish with 12.7mm (1/2") gypsum board.

Layer	Assembly Components (layer listed from exterior to interior)	RSI Value	R Value
1	Outside Air Film	0.03	0.170348
2	Non-Insulated Vinyl siding	0.11	0.624609
3	Weather Barrier House wrap	N/A	N/A
4	12.7mm (1/2") expanded polystyrene (Type 1)	0.3302	1.874962
5	11.1mm (7/16") OSB Sheathing	0.108903	0.618377
6	38x140 (2X6) @ 406mm (16") o/c with RSI 3.34 (R 20) Fiberglass batt *	2.35951	13.39792
7	6 mil. Polyethylene	N/A	N/A
8	12.7mm (1/2") Gypsum Board	0.07747	0.439895
9	Inside Air Film	0.12	0.681392
Total		3.14	17.8

Note:
The thermal resistance values of each continuous layer incorporated in the assembly are from A-9.36.2.4.(1)D.

Parallel Heat Flow Calculation:

$$RSI_{\text{parallel}} = \frac{100}{\frac{\% \text{ area of framing}}{RSI_f} + \frac{\% \text{ area of cavity}}{RSI_c}}$$

% Area of Framing	23%	Value of the area of framing member obtained from Table A-9.36.2.4.(1)A
% Area of Cavity	77%	Values of the area of cavity obtained from Table A-9.36.2.4.(1)A
RSI Framing	1.19	
RSI Cavity	3.34	
RSI Parrallel *	2.35951	

Note: The above values and references are from the 2010 National Building Code of Canada. This document is intended to be used for reference purposes. The assembly components shall be detailed in a cross section on the submitted plans.

RSI_{eff} = 3.14 (m²·K)/W	R_{eff} = 17.8 (h·ft²·°F)/Btu
eff = effective thermal resistance	