MONCTON | Building Inspection / Inspection des bâtiments

Above Grade Wall Assembly

Assembly # MW-02

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") extruded polystyrene 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") extruded polystyrene	0.445	2.523988
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
8	6 mil. Polyethylene	N/A	N/A
9	12.7mm (1/2") Gypsum Board	0.07747	0.439895
10	Inside Air Film	0.12	0.681392
	Total	3.25	18.5

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:

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

% 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} = 3.25 $(m^2 \cdot K)/W$	**R_{eff} = 18.5 $(h \cdot ft^2 \cdot {}^oF)/Btu$**

eff = effective thermal resistance