MONCTON | Building Inspection / Inspection des bâtiments

Cathedral Ceiling Assembly

Assembly # MC-01

Description: Cathedral ceiling with 38x89 (2x4) trusses with raised heel spaced at 610mm (24") o/c with 190.5mm (7.5") blown cellulose. Ceiling to be finished with 12.7mm (1/2") gypsum board over strapping.

Layer	Assembly Components (layer listed from exterior to interior)	RSI Value	R Value
1	Outside air film	0.03	0.17035
2	38mmx89mm (2x4) trusses @ 600mm (24") o/c with 190.5mm (7.5") blown cellulose*	4.496629	25.53304
3	6 mil. Polyethylene	N/A	N/A
4	Strapping 19mm (3/4")	0.15	0.851739
5	12.7mm (1/2") gypsum board	0.07747	0.439895
6	Inside air film	0.11	0.624609
	Total	4.86	27.6

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	7%	Value of the area of framing member obtained from Table A-9.36.2.4.(1)A
% Area of Cavity	93%	Values of the area of cavity obtained from Table A-9.36.2.4.(1)A
RSI Framing	0.7565	
RSI Cavity	2.225	
RSI Parrallel *	4.496629	

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} = 4.86 $(m^2 \cdot K)/W$	**R_{eff} = 27.6 $(h \cdot f^2 \cdot {}^oF)/Btu$**

eff = effective thermal resistance