



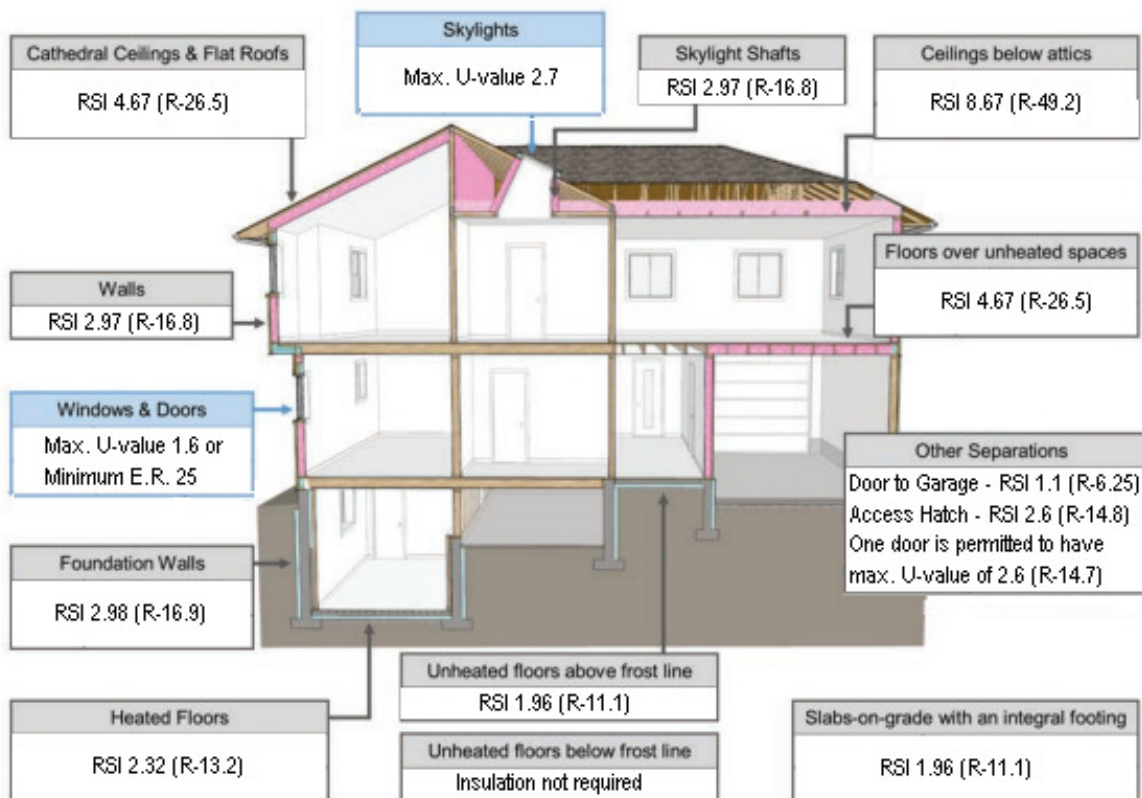
TECHNICAL BULLETIN 2015-02

Effective January 1, 2015, The Province of New Brunswick has adopted the 2010 edition of the National Building Code of Canada. Therefore, The Village of New Maryland will be implementing/enforcing the new requirements of the 2010 NBCC.

New requirements under section 9.36, "Energy Efficiency for Part 9 Buildings" deal with minimum requirements for the effective thermal resistance for insulated building assemblies and heating, ventilation and air conditioning system efficiency. Please note that the minimum effective thermal resistance is for the entire insulated assembly and not simply the insulation values of the materials used.

Below is a diagram which shows the minimum required RSI/R-Value of various insulated building assemblies for Part 9 Buildings. Please be aware that New Maryland is located in Climate Zone 6 (Fredericton Area).

Minimum Effective Thermal Resistance Requirements – Climate Zone 6



E.R. = Energy Rating as per CSA A440.2/A440.3 Test Standards

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584 New Maryland Highway

New Maryland, NB

E3C 1K1



Village of New Maryland

When submitting construction drawings with your building permit application, it is essential that floor, wall, and ceiling construction details are attached showing the different components within the assembly. Furthermore, energy efficiency performance specifications must be provided for all proposed windows/doors and HVAC system. Building permit applications will only be reviewed upon receipt of complete and accurate construction drawings.

See the attached appendices for examples of effective thermal resistance assembly calculations for various wall assemblies. For more pre-calculated insulated wall assembly options, please visit the Canadian Wood Council's Wall Thermal Design Calculator at www.cwc.ca/wtd. The information provided in this technical bulletin is for illustration purposes only. The requirements of the 2010 National Building Code will govern in all situations.

If there are further questions, do not hesitate to contact the building inspection department for the Village of New Maryland at (506) 451-8508.

VILLAGE OF NEW MARYLAND

Kyle Arsenault

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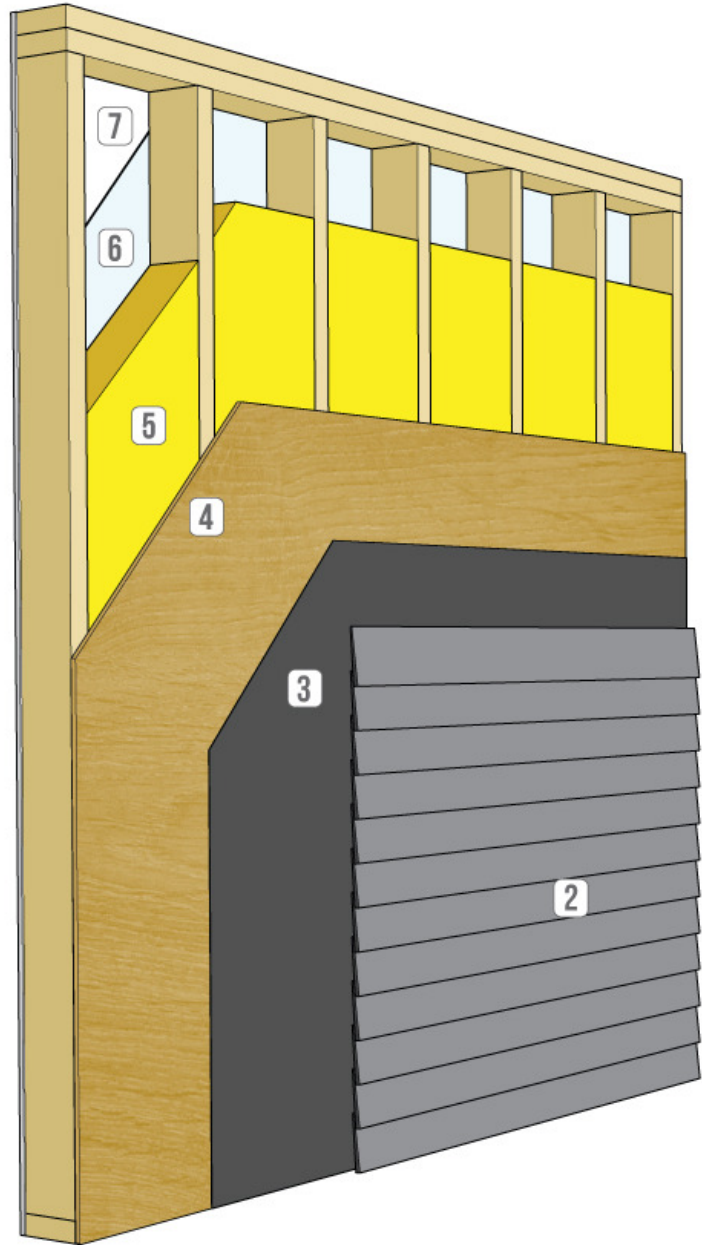
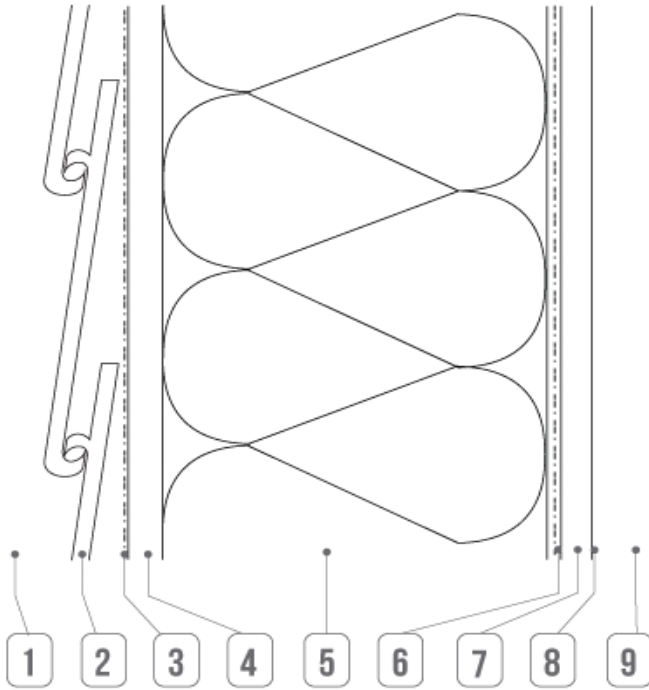
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APPENDIX A – EFFECTIVE THERMAL RESISTANCE OF WALL ASSEMBLIES

Sample Calculation # 1 – Conventionally Framed Wall With 2x6 Framing @ 16” and R22 Batt Insulation:



WALL ASSEMBLY COMPONENTS		RSI	R-Value
1	Exterior air film	0.03	0.17
2	Vinyl siding	0.11	0.62
3	Asphalt impregnated paper	0.00	0.00
4	7/16" (11.1 mm) OSB sheathing	0.11	0.62
5	2x6 framing filled with R22 batt @ 16" O.C.	2.55	14.48
6	Polyethylene	0.00	0.00
7	1/2" (12.7 mm) gypsum board	0.08	0.45
8	Finished: 1 coat latex primer and latex paint	0.00	0.00
9	Interior air film	0.12	0.68
Effective RSI/ R-Value of Entire Assembly		3.00	17.03
Installed Insulation RSI / R-Value		3.87	22.00

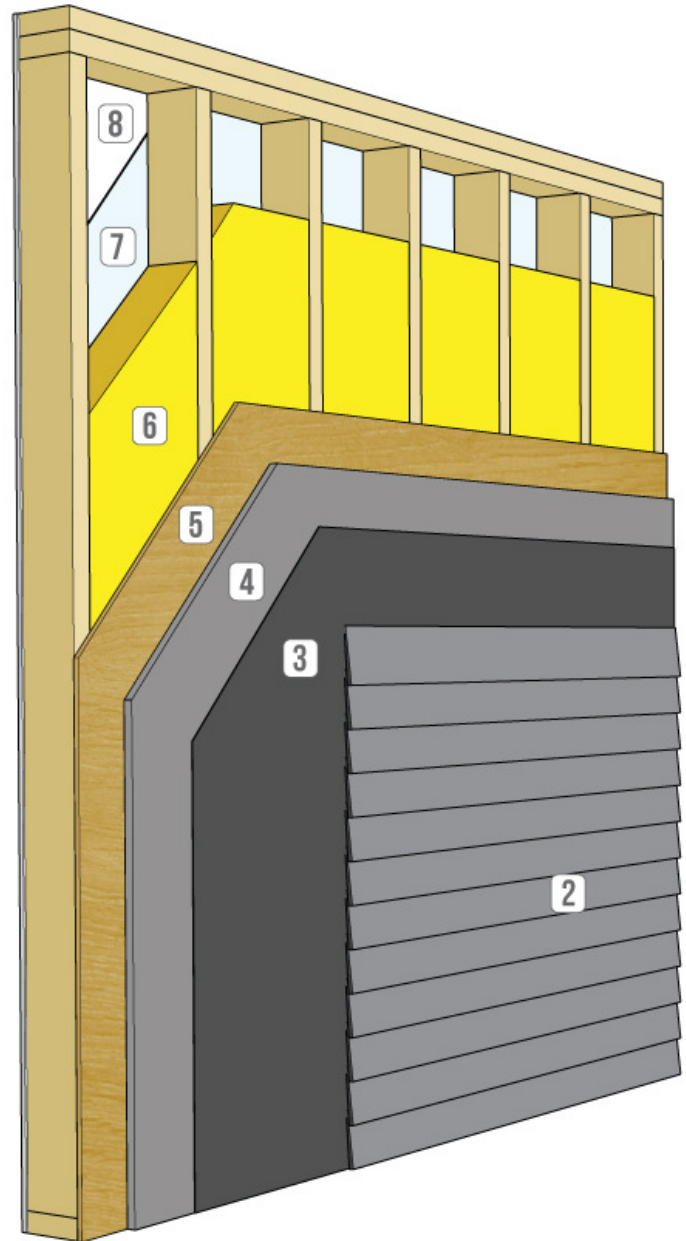
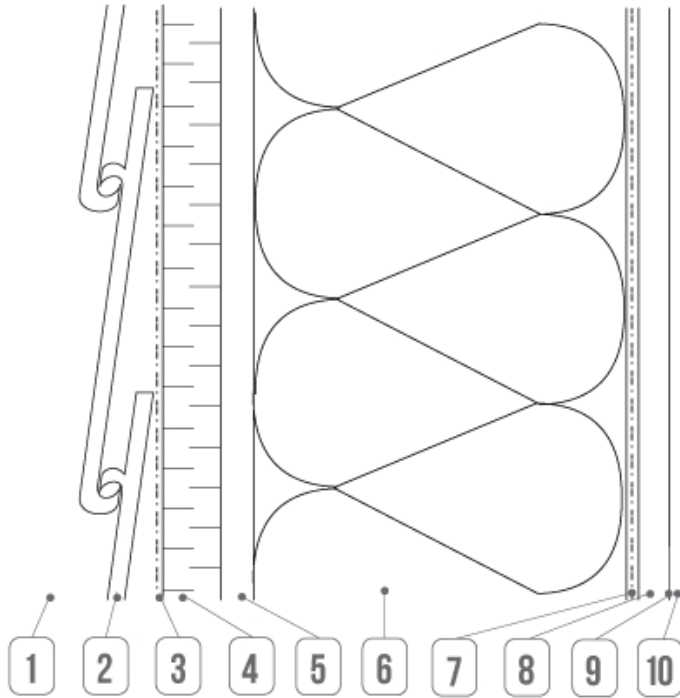
Therefore, the proposed wall assembly theoretically meets and exceeds the minimum requirements of RSI 2.97/R16.8.

1 RSI = R 5.6782

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APPENDIX B – EFFECTIVE THERMAL RESISTANCE OF WALL ASSEMBLIES

Sample Calculation # 2 - 2x6 Framing @ 16", R20 Batt Insulation and 1" Exterior Extruded Polystyrene:



WALL ASSEMBLY COMPONENTS		RSI	R-Value
1	Exterior air film	0.03	0.17
2	Vinyl siding	0.11	0.62
3	Asphalt impregnated paper	0.00	0.00
4	1" (25.4 mm) Extruded polystyrene	0.88	5.00
5	7/16" (11.1 mm) OSB sheathing	0.11	0.62
6	2x6 framing filled with R20 batt @ 16" O.C.	2.43	13.80
7	Polyethylene	0.00	0.00
8	½" (12.7 mm) gypsum board	0.08	0.45
9	Finished: 1 coat latex primer and latex paint	0.00	0.00
10	Interior air film	0.12	0.68
Effective RSI/ R-Value of Entire Assembly		3.76	21.34
Installed Insulation RSI / R-Value		4.40	25.00

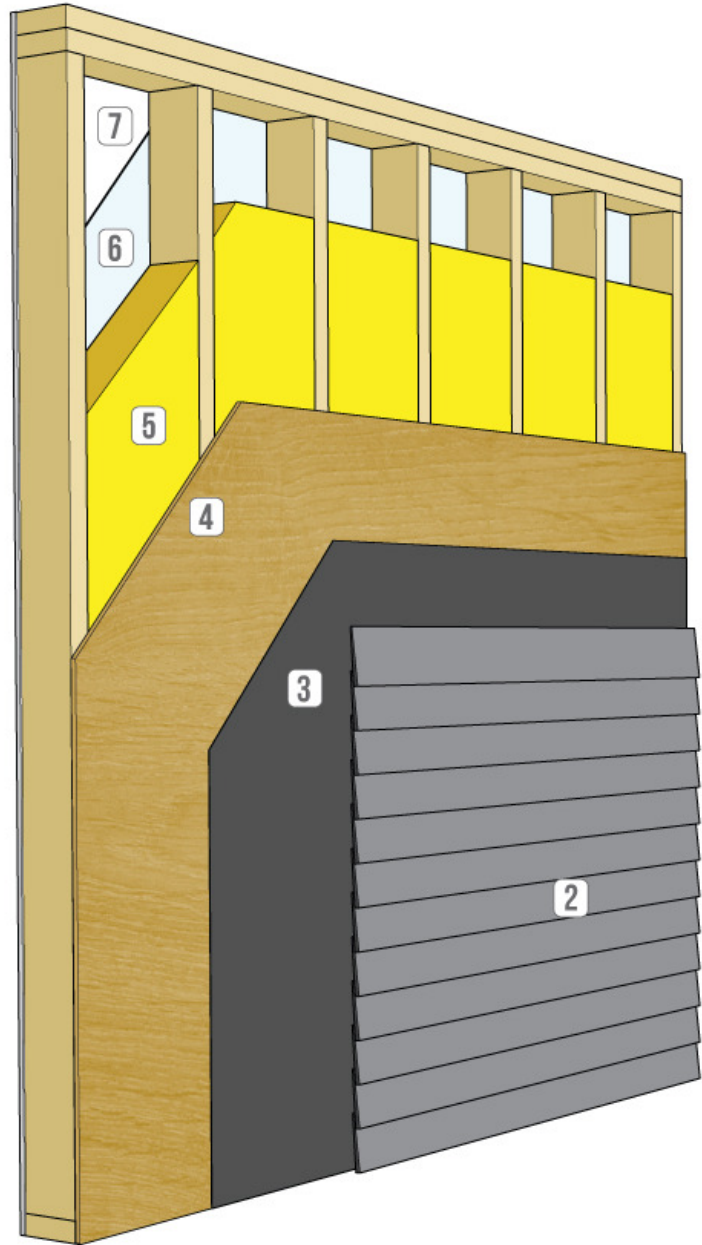
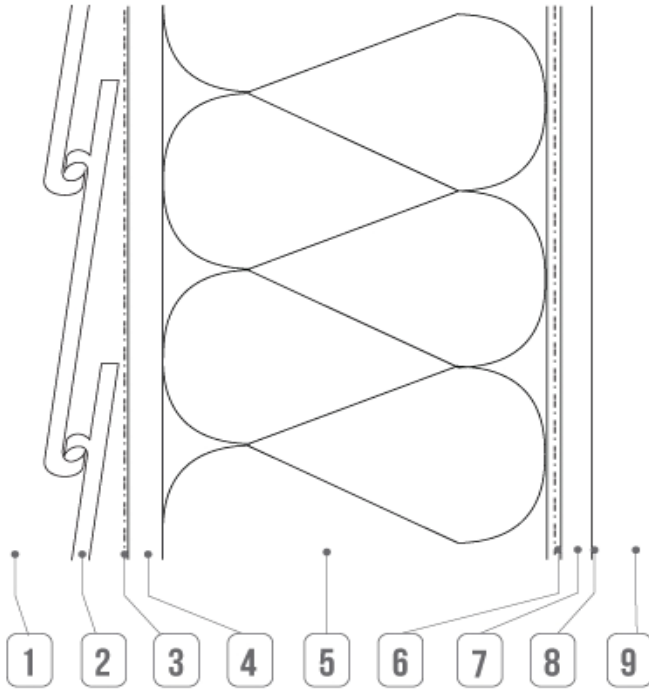
Therefore, the proposed wall assembly theoretically meets and exceeds the minimum requirements of RSI 2.97/R16.8.1

RSI = R 5.67826

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APPENDIX C – EFFECTIVE THERMAL RESISTANCE OF WALL ASSEMBLIES

Sample Calculation # 3 - Conventionally Framed Wall With 2x6 Framing @ 24" and R22 Batt Insulation:



WALL ASSEMBLY COMPONENTS		RSI	R-Value
1	Exterior air film	0.03	0.17
2	Vinyl siding	0.11	0.62
3	Asphalt impregnated paper	0.00	0.00
4	7/16" (11.1 mm) OSB sheathing	0.11	0.62
5	2x6 framing filled with R22 batt @ 24" O.C.	2.67	15.16
6	Polyethylene	0.00	0.00
7	½" (12.7 mm) gypsum board	0.08	0.45
8	Finished: 1 coat latex primer and latex paint	0.00	0.00
9	Interior air film	0.12	0.68
Effective RSI/ R-Value of Entire Assembly		3.12	17.70
Installed Insulation RSI / R-Value		3.87	22.00

Therefore, the proposed wall assembly theoretically meets and exceeds the minimum requirements of RSI 2.97/R16.8.

1 RSI = R 5.67826