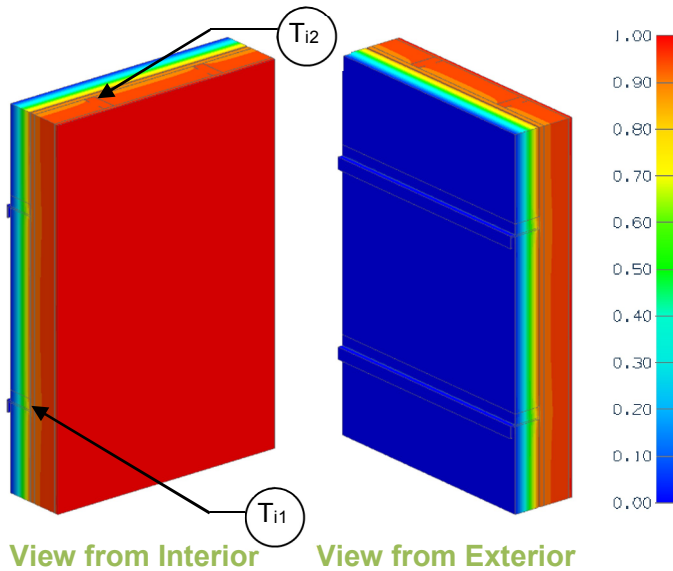


Detail 1

Exterior Insulated 3 5/8" x 1 5/8" Steel Stud (16" O.C.) Wall Assembly with Armado FRR Horizontal Z-Girts Supporting Cladding – Clear Wall



Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	R_{1D}	R-3.3 (0.58 RSI) + exterior insulation
Transmittance / Resistance	U_o, R_o	“clear wall” U- and R-value
Surface Temperature Index ¹	T_i	0 = exterior temperature 1 = interior temperature

¹Surface temperatures are a result of steady-state conductive heat flow with constant heat transfer coefficients. Limitations are identified in final report.

Nominal (1D) vs. Assembly Performance Indicators

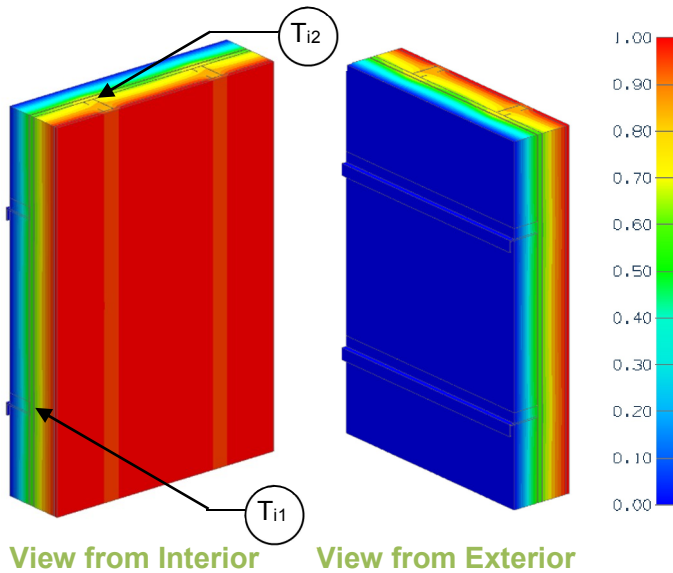
Vertical Girt Spacing in (mm)	Exterior Insulation 1D R-Value (RSI)	R_{1D} ft ² ·hr·°F / Btu (m ² K / W)	R_o ft ² ·hr·°F / Btu (m ² K / W)	U_o Btu/ft ² ·hr·°F (W/m ² K)
24 (609.6)	R-5.0 (0.88)	R-8.3 (1.46)	R-8.3 (1.46)	0.121 (0.69)
	R-10.0 (1.76)	R-13.3 (2.34)	R-12.9 (2.28)	0.077 (0.44)
	R-15.0 (2.64)	R-18.3 (3.22)	R-17.6 (3.10)	0.057 (0.32)
	R-20.0 (3.52)	R-23.3 (4.10)	R-22.3 (3.93)	0.045 (0.25)
	R-25.0 (4.40)	R-28.3 (4.98)	R-27.0 (4.75)	0.037 (0.21)
	R-30.0 (5.28)	R-33.3 (5.86)	R-31.6 (5.57)	0.032 (0.18)
	R-35.0 (6.16)	R-38.3 (6.74)	R-36.3 (6.39)	0.028 (0.16)
36 (914.4)	R-5.0 (0.88)	R-8.3 (1.46)	R-8.2 (1.44)	0.122 (0.69)
	R-10.0 (1.76)	R-13.3 (2.34)	R-13.0 (2.29)	0.077 (0.44)
	R-15.0 (2.64)	R-18.3 (3.22)	R-17.9 (3.15)	0.056 (0.32)
	R-20.0 (3.52)	R-23.3 (4.10)	R-22.7 (4.00)	0.044 (0.25)
	R-25.0 (4.40)	R-28.3 (4.98)	R-27.5 (4.85)	0.036 (0.21)
	R-30.0 (5.28)	R-33.3 (5.86)	R-32.4 (5.70)	0.031 (0.18)
	R-35.0 (6.16)	R-38.3 (6.74)	R-37.2 (6.56)	0.027 (0.15)
48 (1219.2)	R-5.0 (0.88)	R-8.3 (1.46)	R-8.2 (1.45)	0.122 (0.69)
	R-10.0 (1.76)	R-13.3 (2.34)	R-13.1 (2.31)	0.076 (0.43)
	R-15.0 (2.64)	R-18.3 (3.22)	R-18.0 (3.16)	0.056 (0.32)
	R-20.0 (3.52)	R-23.3 (4.10)	R-22.8 (4.02)	0.044 (0.25)
	R-25.0 (4.40)	R-28.3 (4.98)	R-27.7 (4.88)	0.036 (0.20)
	R-30.0 (5.28)	R-33.3 (5.86)	R-32.6 (5.74)	0.031 (0.17)
	R-35.0 (6.16)	R-38.3 (6.74)	R-37.5 (6.60)	0.027 (0.15)

Temperature Indices

	R5	R10	R15	R20	R25	R30	R35	
T_{i1}	0.75	0.84	0.88	0.90	0.92	0.93	0.94	Min T on sheathing, along girts between studs
T_{i2}	0.78	0.86	0.90	0.92	0.93	0.94	0.95	Max T on sheathing, along studs between girts

Detail 2

Exterior and Interior Insulated 3 5/8" x 1 5/8" Steel Stud (16" O.C.) Wall Assembly with Armadillo FRR Horizontal Z-Girts Supporting Cladding – Clear Wall



Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	R_{1D}	R-15.4 (2.71 RSI) + exterior insulation
Transmittance / Resistance	U_o, R_o	"clear wall" U- and R-value
Surface Temperature Index ¹	T_i	0 = exterior temperature 1 = interior temperature

¹Surface temperatures are a result of steady-state conductive heat flow with constant heat transfer coefficients. Limitations are identified in final report.

Nominal (1D) vs. Assembly Performance Indicators

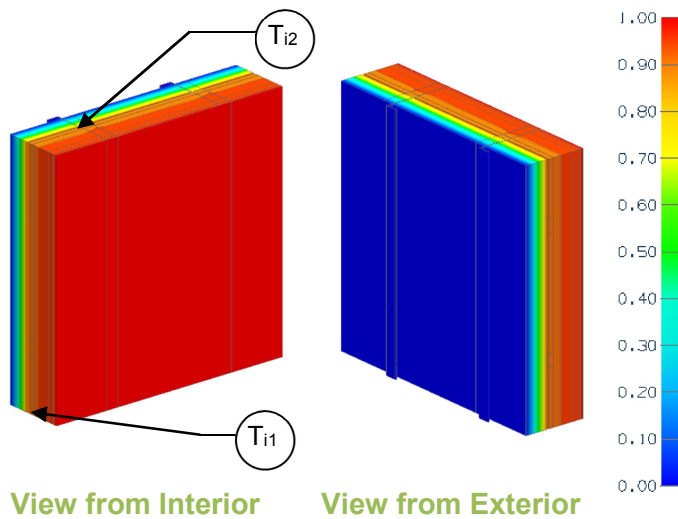
Vertical Girt Spacing in (mm)	Exterior Insulation 1D R-Value (RSI)	R_{1D} ft ² ·hr·°F / Btu (m ² K / W)	R_o ft ² ·hr·°F / Btu (m ² K / W)	U_o Btu/ft ² ·hr·°F (W/m ² K)
24 (609.6)	R-5.0 (0.88)	R-20.4 (3.59)	R-14.9 (2.63)	0.067 (0.38)
	R-10.0 (1.76)	R-25.4 (4.47)	R-19.7 (3.47)	0.051 (0.29)
	R-15.0 (2.64)	R-30.4 (5.35)	R-24.5 (4.31)	0.041 (0.23)
	R-20.0 (3.52)	R-35.4 (6.23)	R-29.3 (5.15)	0.034 (0.19)
	R-25.0 (4.40)	R-40.4 (7.11)	R-34.0 (5.99)	0.029 (0.17)
	R-30.0 (5.28)	R-45.4 (7.99)	R-38.8 (6.84)	0.026 (0.15)
	R-35.0 (6.16)	R-50.4 (8.87)	R-43.6 (7.68)	0.023 (0.13)
36 (914.4)	R-5.0 (0.88)	R-20.4 (3.59)	R-15.0 (2.64)	0.067 (0.38)
	R-10.0 (1.76)	R-25.4 (4.47)	R-19.8 (3.49)	0.050 (0.29)
	R-15.0 (2.64)	R-30.4 (5.35)	R-24.7 (4.35)	0.041 (0.23)
	R-20.0 (3.52)	R-35.4 (6.23)	R-29.5 (5.20)	0.034 (0.19)
	R-25.0 (4.40)	R-40.4 (7.11)	R-34.4 (6.06)	0.029 (0.17)
	R-30.0 (5.28)	R-45.4 (7.99)	R-39.2 (6.91)	0.025 (0.14)
	R-35.0 (6.16)	R-50.4 (8.87)	R-44.1 (7.76)	0.023 (0.13)
48 (1219.2)	R-5.0 (0.88)	R-20.4 (3.59)	R-15.0 (2.65)	0.067 (0.38)
	R-10.0 (1.76)	R-25.4 (4.47)	R-19.9 (3.51)	0.050 (0.29)
	R-15.0 (2.64)	R-30.4 (5.35)	R-24.8 (4.37)	0.040 (0.23)
	R-20.0 (3.52)	R-35.4 (6.23)	R-29.7 (5.23)	0.034 (0.19)
	R-25.0 (4.40)	R-40.4 (7.11)	R-34.6 (6.09)	0.029 (0.16)
	R-30.0 (5.28)	R-45.4 (7.99)	R-39.5 (6.95)	0.025 (0.14)
	R-35.0 (6.16)	R-50.4 (8.87)	R-44.4 (7.81)	0.023 (0.13)

Temperature Indices

	R5	R10	R15	R20	R25	R30	R35	
T_{i1}	0.32	0.48	0.58	0.65	0.70	0.73	0.76	Min T on sheathing, along girts between studs
T_{i2}	0.57	0.67	0.74	0.78	0.81	0.84	0.85	Max T on sheathing, along studs between girts

Detail 3

Exterior Insulated 3 5/8" x 1 5/8" Steel Stud (16" O.C.) Wall Assembly with Armado FRR Vertical Z-Girts Supporting Cladding – Clear Wall



Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	R_{1D}	R-3.3 (0.58 RSI) + exterior insulation
Transmittance / Resistance	U_o, R_o	“clear wall” U- and R-value
Surface Temperature Index ¹	T_i	0 = exterior temperature 1 = interior temperature

¹Surface temperatures are a result of steady-state conductive heat flow with constant heat transfer coefficients. Limitations are identified in final report.

Nominal (1D) vs. Assembly Performance Indicators

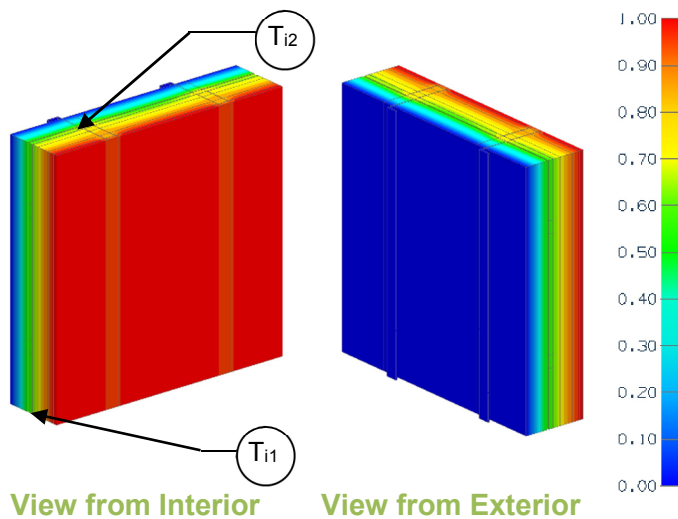
Horizontal Girt Spacing in (mm)	Exterior Insulation 1D R-Value (RSI)	R_{1D} ft ² ·hr·°F / Btu (m ² K / W)	R_o ft ² ·hr·°F / Btu (m ² K / W)	U_o Btu/ft ² ·hr ·°F (W/m ² K)
16 (406.4)	R-5.0 (0.88)	R-8.3 (1.46)	R-8.0 (1.41)	0.125 (0.71)
	R-10.0 (1.76)	R-13.3 (2.34)	R-12.6 (2.22)	0.079 (0.45)
	R-15.0 (2.64)	R-18.3 (3.22)	R-17.2 (3.03)	0.058 (0.33)
	R-20.0 (3.52)	R-23.3 (4.1)	R-21.8 (3.84)	0.046 (0.26)
	R-25.0 (4.40)	R-28.3 (4.98)	R-26.4 (4.64)	0.038 (0.22)
	R-30.0 (5.28)	R-33.3 (5.86)	R-31.0 (5.46)	0.032 (0.18)
	R-35.0 (6.16)	R-38.3 (6.74)	R-35.6 (6.26)	0.028 (0.16)

Temperature Indices

	R5	R10	R15	R20	R25	R30	R35	
T_{i1}	0.75	0.84	0.88	0.91	0.92	0.93	0.93	Min T on sheathing, along girts between studs
T_{i2}	0.76	0.85	0.89	0.91	0.93	0.94	0.94	Max T on sheathing, along studs between girts

Detail 4

Exterior and Interior Insulated 3 5/8" x 1 5/8" Steel Stud (16" O.C.) Wall Assembly with Armaddillo FRR Vertical Z-Girts Supporting Cladding – Clear Wall



Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	R_{1D}	R-15.4 (2.71 RSI) + exterior insulation
Transmittance / Resistance	U_o, R_o	“clear wall” U- and R-value
Surface Temperature Index ¹	T_i	0 = exterior temperature 1 = interior temperature

¹Surface temperatures are a result of steady-state conductive heat flow with constant heat transfer coefficients. Limitations are identified in final report.

Nominal (1D) vs. Assembly Performance Indicators

Horizontal Girt Spacing in (mm)	Exterior Insulation 1D R-Value (RSI)	R_{1D} ft ² ·hr·°F / Btu (m ² K / W)	R_o ft ² ·hr·°F / Btu (m ² K / W)	U_o Btu/ft ² ·hr·°F (W/m ² K)
16 (406.4)	R-5.0 (0.88)	R-20.4 (3.59)	R-14.6 (2.56)	0.069 (0.39)
	R-10.0 (1.76)	R-25.4 (4.47)	R-19.1 (3.37)	0.052 (0.30)
	R-15.0 (2.64)	R-30.4 (5.35)	R-23.7 (4.18)	0.042 (0.24)
	R-20.0 (3.52)	R-35.4 (6.23)	R-28.3 (4.99)	0.035 (0.20)
	R-25.0 (4.40)	R-40.4 (7.11)	R-32.9 (5.79)	0.030 (0.17)
	R-30.0 (5.28)	R-45.4 (7.99)	R-37.5 (6.60)	0.027 (0.15)
	R-35.0 (6.16)	R-50.4 (8.87)	R-42.1 (7.41)	0.024 (0.13)

Temperature Indices

	R5	R10	R15	R20	R25	R30	R35	
T_{i1}	0.36	0.51	0.60	0.67	0.71	0.75	0.78	Min T on sheathing, along girts between studs
T_{i2}	0.56	0.67	0.73	0.78	0.81	0.83	0.85	Max T on sheathing, along studs between girts