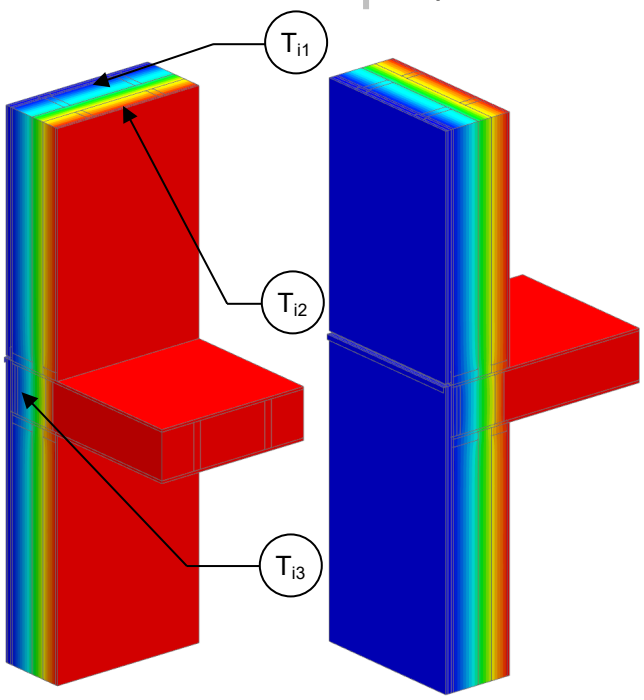
Detail 8.2.7

Interior Insulated Double Framed Wall 2x6 and 2x4 Wood Stud (16" o.c.) Wall Assembly with 3" Gap – Rim Joist and Floor Intersection



View from Interior View from Exterior

Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	R_{1D}	R-2.5 (0.44 RSI) + fill insulation
Transmittance / Resistance without Anomaly	U_o, R_o	"clear wall" U- and R-value, without floor
Transmittance / Resistance	U, R	U and R-values for the overall assembly
Surface Temperature Index[1]	T_i	0 = exterior temperature 1 = interior temperature
Linear Transmittance	ψ	Incremental increase in transmittance per linear length of wood framed floor

[1]Assumptions and limitations for surface temperatures identified in ASHRAE 1365-RP

Nominal (1D) vs. Assembly Performance Indicators

Fill Insulation 1D R-Value (RSI)	R_{1D} ft²·hr·°F / Btu (m² K / W)	R_o ft²·hr·°F / Btu (m² K / W)	U_o Btu/ft² ·hr ·°F (W/m² K)	R ft²·hr·°F / Btu (m² K / W)	U Btu/ft² ·hr ·°F (W/m² K)	ψ Btu/ft ·hr·°F (W/m K)
R-42.0 (7.40)	R-44.5 (7.84)	R-41.6 (7.32)	0.024 (0.14)	R-39.9 (7.02)	0.025 (0.14)	0.009 (0.016)
R-48.0 (8.45)	R-50.5 (8.90)	R-46.4 (8.18)	0.022 (0.12)	R-44.1 (7.76)	0.023 (0.13)	0.010 (0.017)
R-60.0 (10.57)	R-62.5 (11.01)	R-55.9 (9.84)	0.018 (0.10)	R-52.1 (9.17)	0.019 (0.11)	0.011 (0.020)
R-72.0 (12.68)	R-74.5 (13.13)	R-65.0 (11.45)	0.015 (0.09)	R-59.6 (10.49)	0.017 (0.10)	0.012 (0.021)

Temperature Indices

	R42.0	R48.0	R60.0	R72.0	
T_{i1}	0.03	0.02	0.02	0.02	Min T on sheathing, between studs at centre of stud cavity
T_{i2}	0.95	0.96	0.96	0.96	Min T on gypsum, between studs at centre of stud cavity
T_{i3}	0.08	0.08	0.07	0.06	Min T on rim joist, between floor joists