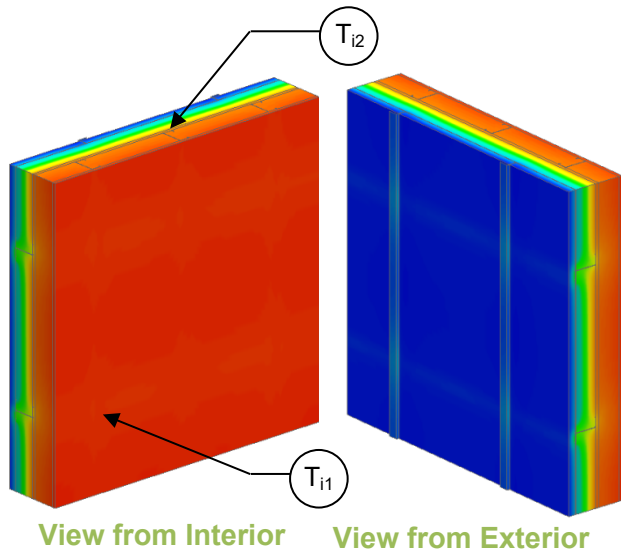


# Detail 5.1.16

## Exterior Insulated 3 5/8" x 1 5/8" Steel Stud (16" O.C.) Wall Assembly with Vertical Z-Girts (24" O.C.) & Horizontal Z-Girts (24" O.C.) Supporting Metal Cladding – Clear Wall



### Thermal Performance Indicators

Assembly 1D (Nominal) R Value	$R_{1D}$	R-3.2 (0.56 RSI) + horizontal exterior insulation + vertical exterior insulation R-5 (0.88 RSI)
Transmittance / Resistance	$U_o, R_o$	“clear wall” U- and R-value
Surface Temperature Index <sup>1</sup>	$T_i$	0 = exterior temperature 1 = interior temperature

<sup>1</sup>Assumptions and limitations for surface temperatures identified in ASHRAE 1365-RP

### Nominal (1D) vs. Assembly Performance Indicators

Exterior Insulation 1D R-Value (RSI)	$R_{1D}$ ft <sup>2</sup> ·hr·°F / Btu (m <sup>2</sup> K / W)	$R_o$ ft <sup>2</sup> ·hr·°F / Btu (m <sup>2</sup> K / W)	$U_o$ Btu/ft <sup>2</sup> ·hr ·°F (W/m <sup>2</sup> K)
R-10 (0.88)	R-13.2 (2.32)	R-10.4 (1.82)	0.097 (0.55)
R-15 (1.76)	R-18.2 (3.20)	R-13.1 (2.31)	0.076 (0.43)
R-20 (2.64)	R-23.2 (4.08)	R-15.3 (2.70)	0.065 (0.37)
R-25 (3.52)	R-28.2 (4.96)	R-17.2 (3.03)	0.058 (0.33)
R-30 (4.40)	R-33.2 (5.84)	R-18.9 (3.33)	0.053 (0.30)

### Temperature Indices

	R10	R15	R20	R25	R30	
$T_{i1}$	0.74	0.77	0.80	0.81	0.82	Min T on sheathing, at vertical and horizontal girt intersection, not at a stud intersection
$T_{i2}$	0.85	0.89	0.90	0.91	0.93	Max T on sheathing, along studs between girts