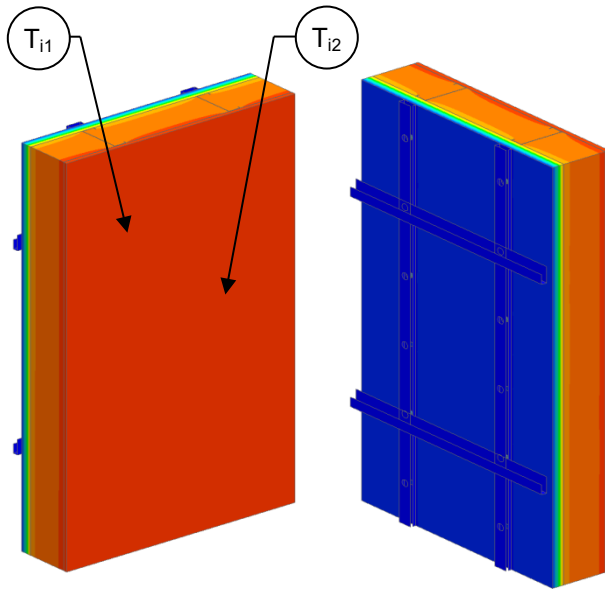


# Detail 5.1.38

## Exterior Insulated 6" x 1 5/8" Steel Stud (16" o.c.) Wall Assembly with Knight CI-System (8" o.c.) – Clear Wall



### Thermal Performance Indicators

Assembly 1D (Nominal) R-Value	$R_{1D}$	R-2.8 (0.49 RSI) + exterior insulation
Transmittance / Resistance without Anomaly	$U_o, R_o$	"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

View from Interior

View from Exterior

### 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-10.1 (1.78)	R-12.9 (2.27)	R-12.5 (2.20)	0.080 (0.45)
R-19.0 (3.35)	R-21.8 (3.84)	R-20.7 (3.65)	0.048 (0.27)

### Temperature Indices

	R10	R19	
$T_{i1}$	0.61	0.68	Min T on exterior insulation, around fasteners
$T_{i2}$	0.85	0.91	Max T on exterior insulation, along studs