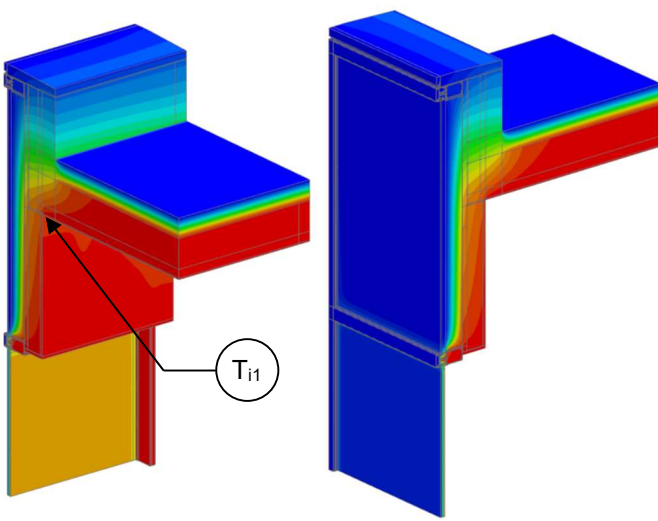


Detail 2.2.2

Conventional Curtain Wall System – Insulated Spandrel & Roof Intersection

Thermal Performance Indicators



View from Interior²

View from Exterior²

Spandrel Wall 1D (Nominal) R-Value	R _{1D}	R-3.7 (0.65 RSI) + backpan insulation
Transmittance / Resistance without Anomaly	U _r , R _r , U _s , R _s , U _g	“clear wall” U- and R-value r = roof s = spandrel wall g = glazing
Transmittance / Resistance	U, R	U and R-values for the assembly
Surface Temperature Index ¹	T _i	0 = exterior temperature 1 = interior temperature
Linear Transmittance	ψ	Incremental increase in transmittance per linear length of parapet

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

²Thermal image shown is for the Aerogel detail

Nominal (1D) vs. Assembly Performance Indicators

Base Assembly – Roof

Roof Insulation 1D R-Value (RSI)	R _r ft ² ·hr·°F / Btu (m ² K / W)	U _r Btu/ft ² ·hr ·°F (W/m ² K)
R-20 (3.52)	R-21.9 (3.86)	0.046 (0.26)

Base Assembly – Glazing

U _{centre of glass} Btu/ft ² ·hr ·°F (W/m ² K)	U _g Btu/ft ² ·hr ·°F (W/m ² K)
0.321 (1.82)	0.429 (2.44)

Base Assembly – Spandrel Section

Backpan Insulation 1D R-Value (RSI)	R _{1D} ft ² ·hr·°F / Btu (m ² K / W)	R _s ft ² ·hr·°F / Btu (m ² K / W)	U _s Btu/ft ² ·hr ·°F (W/m ² K)
R-16.8 (2.96)	R-20.5 (3.61)	R-8.9 (1.56)	0.112 (0.64)

Parapet Linear Transmittance

Parapet Insulation	R ft ² ·hr·°F / Btu (m ² K / W)	U Btu/ft ² ·hr ·°F (W/m ² K)	ψ Btu/ft hr °F (W/m K)
Conventional	R-2.5 (0.44)	0.397 (2.25)	0.614 (1.06)
Aerogel	R-2.8 (0.49)	0.363 (2.06)	0.513 (0.89)

Temperature Indices

	Conventional	Aerogel	
T _{i1}	0.94	0.94	Min T on interior concrete, at roof intersection