

Thermal Transmission

Mold Growth

Component	Thermal Transmission (max) U W/m ² K	Thermal Resistance (min) R and R _{HT} h ² ft ² /BTU(h)
Standard Insulated Window	1.80	3.2
Structural Ventilation Window	0.85	6.7
Standard Residential Exterior Wall	0.30	18.9
Structural Ventilation Exterior Wall	0.05	113.6
Standard Residential Cathedral Ceiling	0.20	28.4
Structural Ventilation Cathedral Ceiling	0.05	113.6
Standard Residential Attic	0.15	37.9
Structural Ventilation Attic	0.0025	500+

Index	Growth	Rate Description
0	No growth	Spores not activated
1	Small amounts of mold on surface (microscope)	Initial stages of growth
2	<10% coverage of mold on surface (microscope)	Initial stages of growth
3	10%-30% coverage of mold on surface (visual)	New spores produced
4	30%-70% coverage of mold on surface (visual)	Moderate growth
5	>70% coverage of mold on surface (visual)	Plenty of growth
6	Very heavy and tight growth	Coverage around 100%

EXTERIOR WALLS	WINDOWS		STUCCO		SIDING		LIMESTONE VENEER		BRICK VENEER		EIFS		CATHEDRAL CEILING		ATTICS		CHASE FROM ATTIC	
	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)	Description	Thermal Transmission (W/m ² K)
EXTERIOR WALLS	Conventional R-2.0 window	1.80	R-2.0	1.80	Structural Ventilation window with R-2.0 window	0.85	R-2.0 Plus Airflow Plus 3/32" Acrylic - 60 ACH	0.85										
	Stucco North normal	0.30	Stucco installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.30	Stucco + XPS North 60 closed 4 normal	0.05	Stucco installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.05										
Cementitious Siding normal	0.30	Cementitious siding installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.30	Cementitious Siding + XPS North 60 closed 4 normal	0.05	Cementitious siding installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.05											
Limestone North Normal	0.30	Limestone installed adjacent to air cavity adjacent to air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.30	Limestone + XPS North 60 closed 4 normal	0.05	Limestone installed outside air cavity adjacent to the Structural Ventilation core. Structural Veneer sheathing over 2x6 wood studs with spray foam insulation and gypsum board finish.	0.05											
Brick North normal	0.30	Brick veneer installed adjacent to air cavity adjacent to air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.30	Brick + XPS North 60 closed 4 normal	0.05	Brick veneer installed outside air cavity adjacent to the Structural Ventilation core. Structural Veneer sheathing over 2x6 wood studs with spray foam insulation and gypsum board finish.	0.05											
EIFS North normal	0.27	EIFS installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.27	EIFS + XPS North 60 closed 4 normal	0.05	EIFS installed over air/water barrier over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.05											
Conventional Attic - 6"	0.15	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.15	Structural Ventilation Attic - 10 ACH	0.0025	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.0025											
Conventional Attic - 60" - 12 ACH	0.15	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.15	Structural Ventilation Attic - 60" - 1 ACH	0.0025	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.0025											
Conventional Attic - 60" - 12 ACH	0.15	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.15	Conventional Attic - 60" - 12 ACH	0.15	Composition shingles installed over OSB sheathing over 2x6 wood studs with fiberglass insulation and gypsum board finish.	0.15											

SUMMARIES

Structural Ventilation provides 6x the thermal resistance of a conventional window, 10x the thermal resistance of a conventional stucco installation, 10x the thermal resistance of a conventional siding installation, 10x the thermal resistance of a conventional limestone veneer installation, 10x the thermal resistance of a conventional brick veneer installation, 10x the thermal resistance of a conventional EIFS installation, 10x the thermal resistance of a conventional cathedral ceiling, 10x the thermal resistance of a conventional attic, and 10x the thermal resistance of a conventional chase from attic.

Standard construction has "Initial Stages of Growth" at an approximate 45% interior relative humidity and "Plenty of Growth" at the interior face of the OSB sheathing at an approximate 65% interior relative humidity.