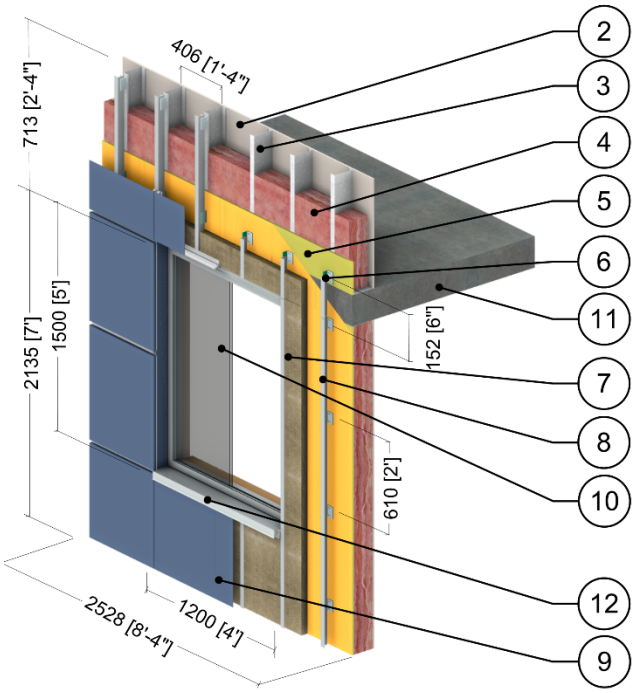
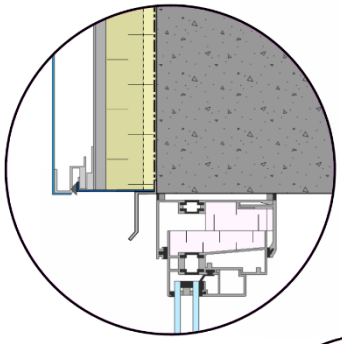
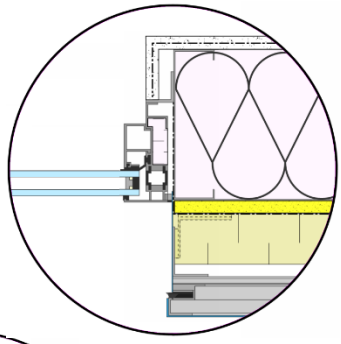
Detail 5.3.15

Exterior and Interior Insulated 6” x 1 5/8” Steel Stud (16” o.c.) Wall Assembly with Thermally Isolated Vertical Brackets and Rail System (24” o.c.) Supporting Metal Cladding and Owens Corning R-20 Batt in Stud Cavity – Double Glazed Aluminum Window and Intermediate Floor Intersection

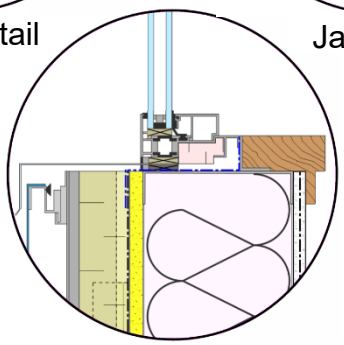




Head Detail



Jamb Detail



Sill Detail

ID	Component	Thickness Inches (mm)	Conductivity Btu·in / ft²·hr·°F (W/m K)	Nominal Resistance hr·ft²·°F/Btu (m²K/W)	Density lb/ft³ (kg/m³)	Specific Heat Btu/lb·°F (J/kg K)
1	Interior Film[1]	-	-	R-0.6 to R-1.1 (0.11 to 0.20 RSI)	-	-
2	Gypsum Board	1/2" (13)	1.1 (0.16)	R-0.5 (0.08 RSI)	50 (800)	0.26 (1090)
3	6” x 1 5/8” Steel Studs with Tracks	18 Gauge	430 (62)	-	489 (7830)	0.12 (500)
4	Ecotouch Pink Fiberglass Batt	6” (152)	0.30 (0.043)	R-20 (3.52 RSI)	0.55 (8.8)	0.17 (710)
5	Exterior Sheathing	5/8” (16)	1.1 (0.16)	R-0.6 (0.10 RSI)	50 (800)	0.26 (1090)
6	Thermally Isolated Aluminum Bracket	varies	-	-	-	
7	Thermafiber RainBarrier 45 Mineral Wool Semi Rigid Insulation	varies	0.24 (0.034)	R-8.4 to R-21.0 (1.48 to 3.70 RSI)	4.5 (72)	0.20 (850)
8	Vertical Aluminum L-girt	0.09” (2.2)	1110 (160)	-	171 (2739)	0.22 (900)
9	Metal Cladding with 1/2” vented airspace incorporated into exterior heat transfer coefficient					
10	5’ (1.5m) x 4’ (1.2m) Aluminum window: thermally broken, double glazed IGU[2] U_{IGU} = 0.32 BTU/hr.ft².°F (1.82 W/m²K)					
11	Concrete Slab	8” (203)	12.5 (1.8)	-	140 (2250)	0.20 (850)
12	Aluminum Flashing	18 gauge	1110 (160)	-	171 (2739)	0.22 (900)
13	Exterior Film[1]	-	-	R-0.2 to R-0.7 (0.03 to 0.12 RSI)	-	-

[1] Value selected from table 1, p. 26.1 of 2009 ASHRAE Handbook – Fundamentals depending on surface orientation
[2] The thermal conductivity of air spaces was found using ISO 100077-2