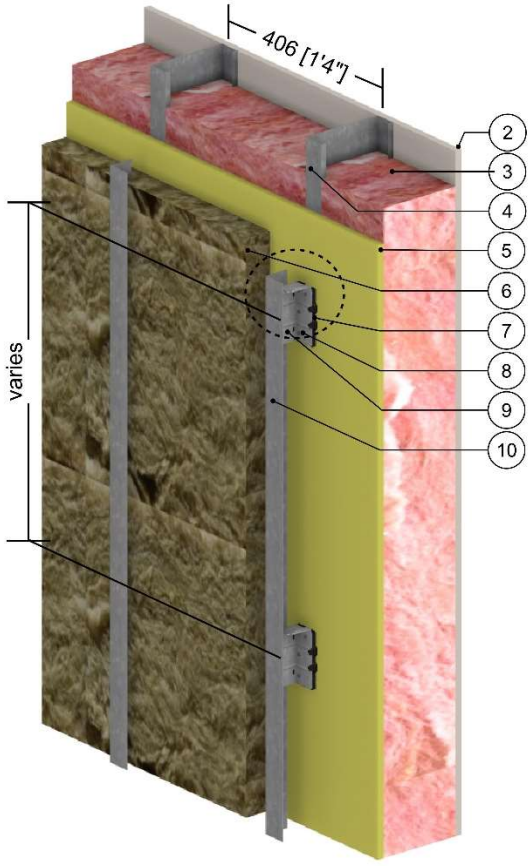
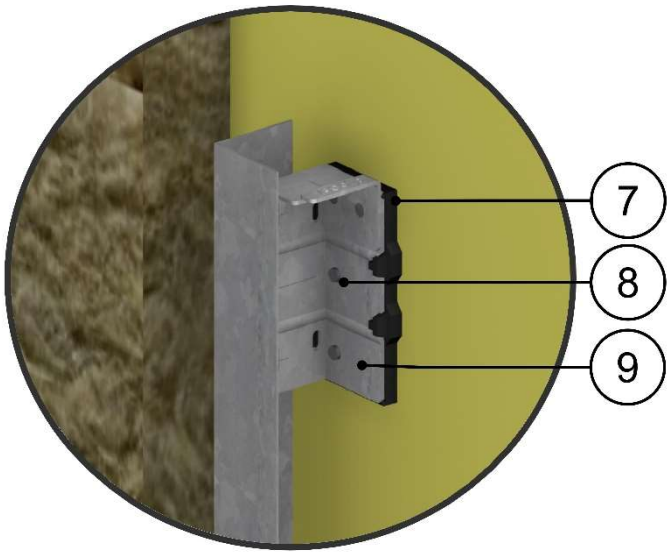
Detail 5.1.139

Exterior and Interior Insulated 6” x 1 5/8” Steel Stud (16” o.c.) Wall Assembly with Thermally Broken 2” ISO Clip System Supporting Vertical Sub-girts and R-19 Batt Insulation in Stud Cavity – Clear Wall





ISO Clip 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-0.7 (0.12 RSI)	-	-
2	Gypsum Board	1/2” (13)	1.1 (0.16)	R-0.5 (0.08 RSI)	50 (800)	0.26 (1090)
3	Fiberglass Batt Insulation	6” (152)	0.32 (0.046)	R-19 (3.35 RSI)	0.9 (14)	0.17 (710)
4	6” x 1 5/8” Steel Studs	18 Gauge	430 (62)	-	489 (7830)	0.12 (500)
5	Exterior Gypsum Sheathing	1/2” (13)	1.1 (0.16)	R-0.5 (0.08 RSI)	50 (800)	0.26 (1090)
6	Exterior Mineral Wool Insulation	2” to 3.5” (51 to 89)	0.23 (0.034)	R-8.6 to R-15.1 (1.51 RSI to 2.65 RSI)	4 (64)	0.20 (850)
7	ISO Clip – Thermal Break	1/2" (12.7)	1.2 (0.18)	-	-	-
8	#14 Steel Fasteners	1/4" (6) Ø	430 (62)	-	489 (7830)	0.12 (500)
9	2” ISO Clip – Galvanized Steel	14 Gauge	430 (62)	-	489 (7830)	0.12 (500)
10	Vertical Sub-girt	16 Gauge	430 (62)	-	489 (7830)	0.12 (500)
11	Cladding with 1/2” (13 mm) vented air space is incorporated into exterior heat transfer coefficient					
12	Exterior Film[1]	-	-	R-0.7 (0.12 RSI)	-	-

[1] Value selected from table 1, p. 26.1 of 2009 ASHRAE Handbook – Fundamentals depending on surface orientation