

Table 3-1 System 3 thermal modeling results

Wood-Framed Wall with Anchored Masonry Veneer, 23% Framing Factor 2x6 Framing, R-21 Batt Insulation, R-4.2/in - R-6/in Exterior Insulation							
3D Thermal Modeling Effective R-Value of System (ft ² °F-hr/Btu)							
Tie Type	Tie Penetration Area	Exterior Insulation Thickness	System Nominal Insulation R-value (Cavity + Exterior Insulation)	Without Penetrations (Through Exterior Insulation)		With Masonry Tie Penetrations Considered @ 16" x 16" O.C.	
				Ties Only	Ties + Standoff Shelf Angle	Ties + Continuous Shelf Angle	
Thermally Optimized Screw Tie - Stainless-Steel Hook	0.05%	0"	21 + 0	18.3	-	18.1	
		1"	21 + 4.2-6	22.6-24.4	22.0-23.8	22.0-23.6	21.6-23.0
		2"	21 + 8.4-12	26.9-30.6	26.0-29.1	25.7-28.7	24.6-27.0
Thermally Optimized Screw Tie - Galvanized-Steel Hook	0.05%	3"	21 + 12.6-18	31.1-36.5	29.6-34.0	29.1-33.2	27.3-30.4
		0"	21 + 0	18.3	-	-	18.1
		1"	21 + 4.2-6	22.6-24.4	22.1-23.7	22.0-23.5	21.6-23.0
Plate Tie (14 ga) - Stainless Steel	0.05%	2"	21 + 8.4-12	26.9-30.6	26.0-29.1	25.7-28.6	24.6-26.9
		3"	21 + 12.6-18	31.1-36.5	29.5-33.9	29.1-33.2	27.3-30.4
		0"	21 + 0	18.3	18.2	-	18.1
Plate Tie (14 ga) - Galvanized Steel	0.05%	1"	21 + 4.2-6	22.6-24.4	22.2-23.8	22.0-23.6	21.6-23.0
		2"	21 + 8.4-12	26.9-30.6	26.0-29.1	25.7-28.7	24.7-27.0
		3"	21 + 12.6-18	31.1-36.5	29.6-34.0	29.2-33.3	27.4-30.4
2x8 Framing, R-30 Batts, No Exterior Insulation							
Plate Tie (14 ga) - Galvanized Steel	-	0"	30	22.8	-	22.6	22.5

Table 3-2 System 3 prescriptive energy code compliance values excerpted from Table I-1 of the introductory chapter

Energy Code	OPAQUE ABOVE-GRADE WALL - THERMAL ENVELOPE REQUIREMENTS					
	2012 SEC Climate Zone 5 and Marine 4	2012 WSEC 5, 6 and Marine 4	2014 OEESC 5 and Marine 4	2015 IECC 5 and Marine 4	2018 IECC 6	2021 IECC 6
Guide Assembly #	All Other	Group R	All Other	Group R	All Other	Group R
3 Wood-Framed Wall with Anchored Masonry Veneer	R-13 + R-7.5ci	R-21 int	R-13 + R-3.8ci OR R-21	R-13 + R-3.8ci OR R-21	R-13 + R-7.5ci OR R-20 + R-3.8ci	R-13 + R-7.5ci OR R-20 + R-3.8ci
	U-0.051 (R-19.6)	U-0.054 (R-18.5)	U-0.064 (R-15.6)	U-0.064 (R-15.6)	U-0.064 (R-15.6)	U-0.051 (R-19.6)

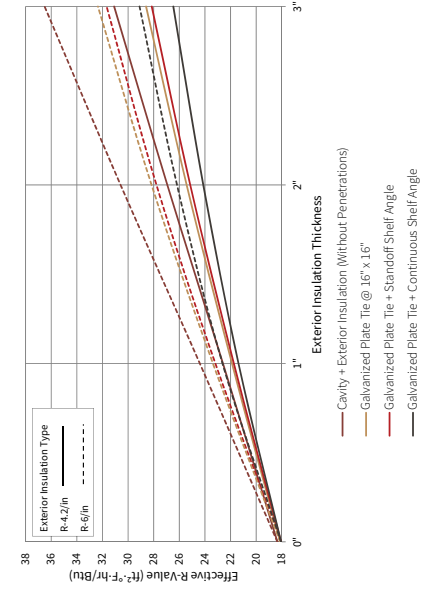


Fig. 3-13 System 3 effective R-value comparison of a galvanized steel plate tie and shelf angle options

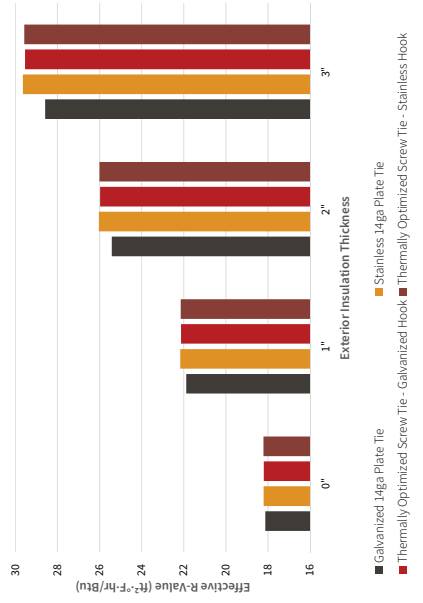


Fig. 3-12 System 3 effective R-value modeling results for various tie types and R-4.2/inch insulation