

Changes in R-Values Caused By Compressing Batt Insulation



Understanding Fire and Building Codes

Different types of wall constructions decrease the size of the cavity into which various Owens Corning insulation products must fit. The effect of this compression on the insulation is to decrease the R-values as indicated below. R-values 10 or above are rounded to the nearest whole number; R-values below 10 are rounded to the nearest tenth.

Normal Lumber Sizes	Actual * Depth of Wall Cavity	Insulation R-Values When Installed In a Confined Wall Cavity									
		R-38	R-30	R-22	R-19	R-13	R-11	R-8	R-5	R-3	
2" x 12"	11 3/4"	37	-	-	-	-	-	-	-	-	-
2" x 10"	9 1/4"	32	30	-	-	-	-	-	-	-	
2" x 8"	7 1/4"	27	26	-	-	-	-	-	-	-	
2" x 6"	5 1/2"	-	21	20	18	-	-	-	-	-	
2" x 4"	4"***	-	-	15	14	-	-	-	-	-	
2" x 4"	3 1/2"	-	-	14	13	13	-	-	-	-	
2" x 3"	2 1/2"	-	-	-	-	9.8	8.8	-	-	-	
2" X 2"	1 1/2"	-	-	-	-	6.3	6.0	5.7	-	-	
2" X 1"	1 1/2"	-	-	-	-	-	-	-	3.2	3.0	
R-Values		R-38	R-30	R-22	R-19	R-13	R-11	R-8	R-5	R-3	
Standard Thickness 12"		9 1/2"	6 3/4"	6 1/4"	3 5/8"	3 1/2"	2 1/2"	1 1/2"	1/2"		

* Minimum dressed thickness for dry lumber per U.S. Department of Commerce Publication PS 20 70.
 ** Listing given for older lumber size.