

Building Enclosure

Insulation Materials:



Mineral Wool

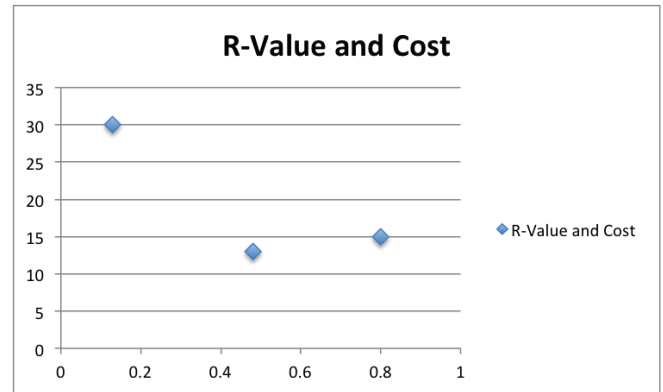


Fiberglass



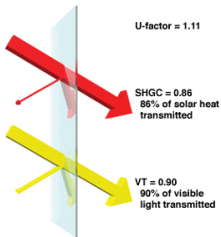
Straw Bale

	R-Value	Cost (per sq. ft.)
Mineral Wool	15	\$.80
Fiberglass	13	\$.48
Straw Bale	30	\$.13

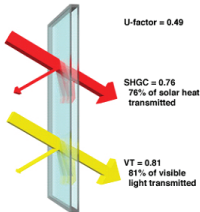


This scatterplot indicates that there is not necessarily a correlation between cost of insulation material and its r-value. However, there are several limitations to the information presented. First, fiberglass is manufactured with several r-values. It would be important to graph the various costs and r-values for fiberglass itself. Second, while straw bale is a good and low cost insulator, the cost does not take into account prepping the bales with fertilizer and the cost of labor.

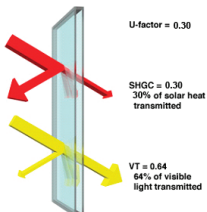
Window Assemblies:



Single Pane Clear

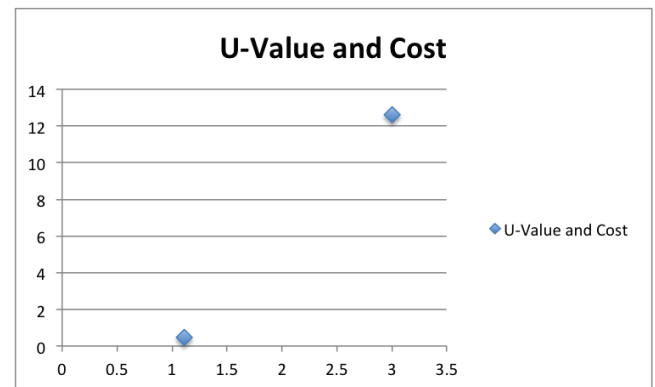


Double Pane Clear



Double Glass Low E Argon

	U-Value	Cost (per sq. ft.)
Single Pane Clear Glass	1.11	\$3.00
Double Pane Clear Glass	.49	\$12.63
Double Glass Low E Argon	.3	Unspecified



The Assembly U factor takes into account the entire window, its glazing, IGU, and frame. The u-value of these components are included in the equation times area. Center-of-glass, however, only takes into account the thermal affects on the glass.

Sources: <https://www.familyhandyman.com/walls/mineral-wool-insulation-is-making-a-comeback-heres-why/view-all/>
<https://www.homedepot.com/p/Owens-Corning-R-13-Kraft-Faced-Insulation-Roll-15-in-x-32-ft-RF10/202585857>
<http://buildingwithawareness.com/the-pros-and-cons-of-straw-bale-wall-construction-in-green-building/>
<http://www.sevensunwindows.com/windows/replacement/glass>
<http://www.commercialwindows.org/ufactor.php>