




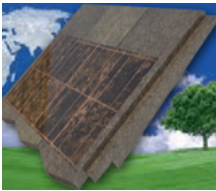


Insulation Material	R-value per inch	Appearance	Advantages	Disadvantages	Product Highlights
Batt Type					
Fiberglass	3-3.7		Readily available	Must be installed correctly to achieve full R-value	Widely available
Mineral Wool	2.8-3.7		Somewhat better fire resistance and soundproofing than fiberglass; Good for water drainage.	Same as fiberglass	ROXUL
Cotton	3-3.7		Environmentally friendly	Not readily available; Installation	Ultra Touch
Loose Fill					
Fiberglass	3-3.7		Easier to install correctly	Must be kept in place (insulation dams)	JM; Owens Corning
Boxed Netting Fiberglass	3-3.7		Below roof deck insulation; Less expensive than spray insulation	More labor intensive than spray on insulation	Owens Corning Pro Pink High Performance Attic System
Mineral Fiber	2.8-3.7		Easier to install correctly	Must be kept in place (insulation dams)	Ecofill by Knauf Insulation
Cellulose Fiber	3-3.7		Provides more resistance to air movement than other loose fill	Must be kept in place (insulation dams)	Greenfiber; Green Seal from FiberAmerica

Insulation Material	R-value per inch	Appearance	Advantages	Disadvantages	Product Highlights
Board Stock					
Type I & II Expanded Polystyrene or EPS	3.6-4.4		Inexpensive	HC's usually used in production. Must be covered.	Cellofoam Polysheild
Type III & IV extruded polystyrene or XPS	4.5-5		Works well in wet conditions	HFC usually used in production. Must be covered.	Owens Corning FOAMULAR
Rigid Fiberglass	4.2-4.5		Drains away water	Not easily available	Owens Corning FIBERGLASS
Rigid Mineral Fiber	4.2-4.5		Drains away water	More expensive than polystyrene	Thermafiber; ROXUL
Polyisocyanurate or ISO	5.6-6.7		Closed cell, high R-Values compared to polystyrene	HFC usually used in production	RMAX
Expanded Polystyrene Tile Roof Installation Product	R-6 for product		Also helps support roof tile	Limited to tile roof construction	Wedge-it
Insulated Roof Tiles	R-7-14 for product		Insulation and Roofing in One	Replacement	EternaTile; Green Hybrid Roofing;






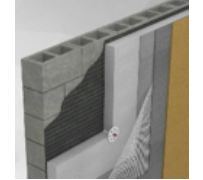
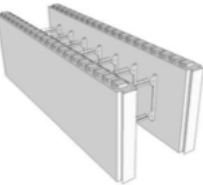
Insulation Material	R-value per inch	Appearance	Advantages	Disadvantages	Product Highlights
Spray Applied					
Wet Spray Cellulose	3-3.7		Low labor costs, environmental benefits, fewer gaps	Adhesive mixed with insulation; must dry before any other sub can enter space	any loose cellulose product fixed with water or adhesive
Spray -applied fiberglass insulation	4.2-4.3		Higher R-value than spray cellulose	Lower recycled content than typical spray cellulose	JM Spider
Open-cell Light Density Polyurethane	3.6		Low labor costs	Must be covered; more expensive than batt	Icynene; Demilec
Closed Cell Medium Density Polyurethane	5.5-6		Can act as the air barrier and vapor retarder	HFC usually used in production. Must be covered.	Icynene; Demilec
Other					
Structural Insulated Panel Systems (SIPs)	depends on insulation used		Quick installation, good thermal performance and structural integrity	More expensive than alternatives; unfamiliar to builders; building must be designed with product in mind	Thermocore; Structural Insulated Panel Association
Exterior Insulation and Finish Systems (Synthetic Stucco/EIFS)	depends on rigid insulation used		Finish and continuous insulation in one product	Special attention must be paid to drainage detailing	EIFS Industry Members Association (EIMA)
Insulating Concrete Form (ICFs)	depends on the details of the ICF blocks		Fire resistant, durable and energy efficient	More expensive than alternatives; unfamiliar to builders; building must be designed with product in mind	Concrete.org: http://bit.ly/2FkqdDP

Image Credit:

Mineral wool photo from Knauf Insulation

Pink fiberglass winter wonderland (CC BY 2.0) by mikemol

Tile Roof Insulation - Courtesy of CHP - Master Builder Advanced Home Design and Building Practices 2016 Code Readiness Program

Insulating Concrete Form –FEMA News Photo Photo by Kent Baxter - Nov 22, 2001



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