

INSTRUCTIONS

Description of Proposed Project. Line 6, Net Total Installed Cost, will also be used on Form 2, Line 16 if adding a minimum R-20 to the existing attic or ceiling insulation. This cost figure will go on Form 2, Line 17 if attic or ceiling insulation is being replaced with a minimum of R-49 of new insulation.

Bid or Contract Documents. The bid, or contract documents must list the manufacturer and brand of insulation being used. When using foam plastic insulation, provide information as to the existing thermal or fire barriers such as “ceiling is covered by 1/2” drywall” or “the insulation will be separated from the interior of the building by 15/32” tongue and groove wood with exterior glue.”

Data Sheets. When using foam plastic insulation, provide a copy of the insulation manufacturer’s data sheets which show the ASTM E 84 flame spread (<75) and smoke developed (<450) index.

Examples of Added R-Value Requirements. If there is no existing insulation or as in the example below, there is an existing R-5, simply add additional R-Value for a total of R-49. The minimum requirement is the addition of R-20. Even if the existing insulation is an R-40, then the final would be R-60. *Check ceiling drywall weight limits before adding insulation*

	EXISTING	ADDED	FINAL
INSULATION*	Rock Wool	Blown In Cellulose	
Material			
Thickness (inches)	2"	8-1/2"	10-1/2"
R-Value	R-5	R-44	R-49
ROOF	Three Layers Wood Shingles		Plywood Sheathing and Fiberglass Shingles
Material			
Sloped or Flat?	Sloped		Sloped

***Beware of Drywall Weight Limits.**

If the existing insulation has in some way become damaged and needs to be replaced, once the existing insulation has been removed, a minimum R-49 must be installed in its place as in the example below.

	EXISTING	ADDED	FINAL
INSULATION*	Rock Wool Wet and Damaged	Blown In Fiberglass	
Material			
Thickness (inches)	3"	14"	14"
R-Value	∅	R-49	R-49
ROOF	One Layer Wood Shingles		Two Layers Wood and Solar Shingles
Material			
Sloped or Flat?	Sloped		Sloped

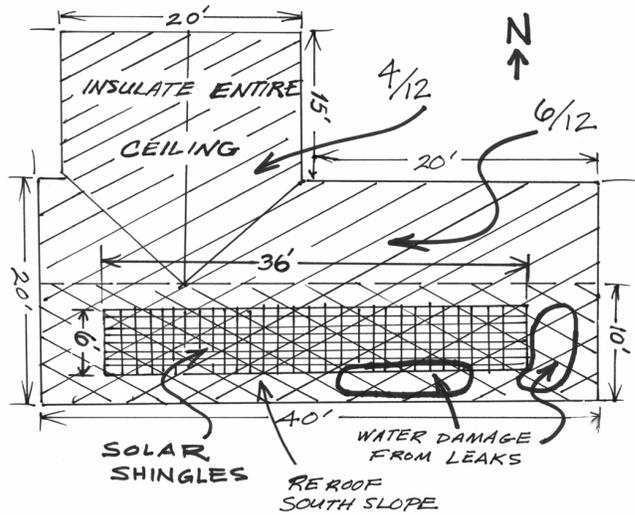
***Beware of Drywall Weight Limits.**

R-values. R-values must be for the insulation material only, determined by proper ASTM testing as outlined in the FTC’s “R-value Rule.” R-value may not be included for reflective surfaces, air films, infiltration reduction or any other characteristics of the insulation other than the R-value of the material itself.

Solar Shingles. Roof repair or replacement can be part of a solar shingle project. The solar shingle area must cover at least 50 percent of the roof area being repaired or replaced. **Solar shingles are not allowed on North, NNE, or NNW facing roofs, and discouraged for NW or NE, especially with steep sloped roofs.** The entire roof

Example Roof Plan.

1. Sketch a bird’s-eye view (plan) of the roof in the space below.
2. Show all dimensions and roof slope or pitch.
3. Mark area to be insulated with "/>
4. Mark area to be reroofed with
5. Circle areas of leaks or water damage with a heavy line.
6. Mark area of solar shingles with a grid.
7. Show direction North



does not need to be replaced to qualify. If only 25 percent of the entire roof area is being repaired, and 50 percent of that repaired area will be covered with solar shingles, the project would qualify, within program requirements. Solar shingle area is the exposed installed area of the solar shingles.

Adding insulation is not a requirement for a solar shingle project. Adding insulation may be used to reduce the required 50 percent of solar shingle area. If using insulation to justify less than a 50 percent solar shingle area, regardless of the area being repaired, replaced, or covered by solar shingles, the entire attic must be brought up to a minimum R-49, with an exclusion for 20 percent of the ceiling area being allowed in the event there is a vaulted ceiling. A vaulted ceiling must be filled or brought to R-49 if room is available for insulation in that area. When adding insulation to reduce the solar shingle area requirement, a minimum of R-5 must be added for each 5 percent reduction in the solar shingle area.

Example:

Let "A" equal the solar shingle area of the proposed roof	A =
Let "B" equal the total area of roof being repaired or replaced	B =
Let "C" equal the R-value of your existing attic insulation	C =
Let "A" divided by "B" times 100%, rounded down to the nearest 5%, equal	D =
Let 50% minus "D" equal "E" but without the percent sign	E =
Let 49 minus "C" equal	F =
If "E" is equal to or less than zero, no insulation is needed.	∅
If "E" is greater than zero, add to the attic R-value the larger of	E or F =

Caution. Adding insulation to a ceiling adds weight. *Check drywall ceiling weight limits before adding insulation.* Adding insulation reduces the load on your heating and cooling system. Your heating and cooling system should be sized to match the load of your home.