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"INSULATION THAT WORKS!"
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HOW-TO INSTALL CELLULOSE INSULATION OVER FIBERGLASS

OR OTHER EXISTING INSULATION TYPES IN AN ATTIC

Climate Chamber Tests performed at Oak Ridge National Laboratory on R-30 loose-fill *fiberglass* proved that when *fiberglass* is subjected to frigid temperatures down to –18 degrees F the rated R-value is reduced up to 50% (=R-15). A 2" blanket of cellulose was blown on top of the same *fiberglass* which, combined with the cellulose, gave it a total of R-38. When this combination was again subjected to a –18 degrees F the combined R-value held at an R-38, the result of cellulose's improvement at greatly reducing the flow of tempered air filtering through the fiberglass.

****USING COVERAGE CHARTS TO DETERMINE AMOUNT NEEDED****

2" of additional cellulose is not enough to re-insulate an attic to an energy efficient total R-value. A *standard method* is to *estimate* what R-value you currently have, and using the coverage charts on the bag, select the additional R-value needed. The Dept. of Energy (DOE) recommends a total R-value of up to an R-60 in most of the US, including existing insulation. The bag's coverage/fact chart will indicate how many "settled inches" and how many bags needed for a selected R-value. NOTE: *add 20% more* to "settled thickness height" to establish initial blown-in "installed height".

****CALCULATING # OF INCHES TO BLOW****

A *more precise method* (see below) is to calculate the R-value per inch of your existing insulation type using that insulation's current advertised R-value/inch, but devalue it up to 25 %. Take that value per inch times the # of inches you currently have and subtract from the total R-value desired. Divide the difference by 3.8 (cellulose's rated R-value per inch). That determines the number of *settled inches* you need additionally to achieve total desired R-value. Add 20 % to your settled inches amount to determine the number of *blown-in inches* of new insulation you should install. The existing insulation in inches plus your added insulation in inches adds up to your installed height.

****CALCULATING # OF BAGS NEEDED TO BLOW****

Determine total sq.ft. of area you are blowing (length x width). Using the bag's Coverage/Fact sheet select an additional R-value desired. Example (using Regal's Green 40 20 lb. bag): selecting additional R-19 will require .53 lbs. of insulation per sq.ft. or R-38 which will require 1.2 lbs. of insulation per sq.ft.. Take the lbs. per sq.ft. times total sq.ft. area to determine additional lbs. of insulation needed. Divide this total amount by the advertised weight of each bag to get the total number of bags needed. You may want to purchase 5-10% in additional bags for overblow.

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EXAMPLE

PRE-DETERMINED VALUES

*** Total R-value desired = R-60 * R-value/inch = 3.8 * Attic sq.ft. = 1500**
*** 5" existing insulation R-value (R-15 - 25%) = R-11 * Bag wt. = 20 lbs. (Regal Green 40)**
*** Cellulose per lb. required @ R-49 = 1.61 lbs., as per bag chart (without framing)**

EXAMPLE CALCULATIONS - USING ABOVE VALUES

*** Subtract R-60 – R-11 = 49 ……. (additional R-value needed to satisfy R-49 total)**
*** Divide 49 by 3.8 = 12.9 settled inches needed…. (*x 1.20 % = 15.5" new insulation installed height*)**
*** Multiply 1500 by 1.61 lbs = 2415 lbs…… (additional cellulose needed)**
*** Divide 2415 by 20 lbs. = 121 bags needed…. (consider 5-10 % additional for overblow)**
*** Total calculated height of existing plus additional new insulation: 5" + 15.5" = 20.5"**

NOTE: THERE ARE *NO KNOWN HAZARDS* INSTALLING CELLULOSE OVER FIBERGLASS. SL-10-10