Ask Jon Eakes

CAN I USE DIFFERENT INSULATING MATERIALS TOGETHER?

Last Updated: Thursday, March 28th, 2013, Created: Thursday, October 14th, 1999

Yes. R values simply add together to give a total R for the wall or ceiling. Generally speaking, a denser insulation should not be put on the cold side of a less denser one; it's a question of letting the moisture escape as easily as possible and not creating double vapour barriers. Hence, loose fill or plastic foam is generally not put on top of fiberglass batts in the attic -- but the batts are often put on top of loose fill. Plastic foam sheets may be installed on the outside of the house with batts or loose fill inside the walls, providing the joints between sheets are not caulked, to permit the exfiltration of moisture and the inside of the house is well sealed, to minimize moisture reaching the foam sheets. (search keyword "moisture" for the title "WHAT DOES IT MEAN TO SAY A WALL MUST BREATH?")Some older types of blown fiberglass were so loose and fluffy that in a ventilated attic they allowed cold ventilation air currents to flow quite deeply into the insulation. This tended to cause frost formation deep inside the insulation. (Blown fiberglass density has since been changed to prevent this.) If you have this problem, the best solution is to add a layer of House Wrap like Tyvek over the fiberglass to stop the air without affecting anything else. (search keyword "air barriers" for the title "CAN AIR BARRIERS BE PUT ON THE OUTSIDE OF THE HOUSE?") House Wraps are air barriers but not vapour barriers. A cheaper and yet workable solution is to lay 3 or 4 inches of dense insulation (cellulose or mineral wool) over the fluffed fiberglass. This will compress the fiberglass somewhat, cutting down the R value of that part of the total insulation, but it will more importantly stop the ventilation air currents from dipping down into the overly fluffy fiberglass. Compressing the fiberglass and adding the denser insulation will probably ad up to little overall change in R value. Do not add plastic foam insulation sheets or polyethylene plastic sheets over the fiberglass as they will not allow moisture to escape rapidly enough out of the fiberglass to prevent ice formation on the plastic itself.

Keywords:
R-Value, Insulation, Techniques