

BUILDING MATERIAL R VALUES

If this lesson helped you with your studies please email me at dlynchindy@gmail.com

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. The _____ R-value of a structural panel is the average R-value for the entire assembly. The average accounts for the different layers of material in the structure sandwich, air film resistance and the effect of parallel conduction paths associated with framing materials. Overall R- values are expressed as $(\text{SqFT} \times \text{DEG F}) / (\text{Btuh})$
- a. subtracted
b. added
c. average
d. overall
- _____ 2. The R value of a material is the thermal resistance associated with a specific _____?
- a. layer
b. density
c. conductance
d. thickness
- _____ 3. Air film resistances are _____ to the other R values associated with a structural panel?
- a. added
b. subtracted
c. multiplied
d. none of these
- _____ 4. A wall sandwich having a overall R value of 18.1 would have a transmission coefficient (U) value of what?
- a. 0.055
b. 0.155
c. 0.255
d. 18.1
- _____ 5. A window glass per inch offers a R- Per Inch of what value listed below? Use web to find R Value of Glass
- a. 0.91
b. 170
c. 0.185
d. 0.023
- _____ 6. If a wall is made up of common brick which is 4 inches thick what is the R- Value of this brick? 4" Common Brick is equal to 0.80
- a. 1
b. 10
c. 0.80
d. 30
- _____ 7. Using the greatest value per inch listed, what would the total R value be for sprayed on polyurethane foam which is applied at 26 inches? 1" = 6.25R
- a. 159
b. 162.5
c. 123
d. 101
- _____ 8. A wall has a combined sandwich R- value of all the materials equal to 14.5 R. What is the U value of the sandwich?
- a. 0.0689
b. 1
c. 2
d. 0.89998
- _____ 9. A dead air space a minimum R value for 1/2" up to 4" is equal to 1.00R. What would it be for 8"?
- a. 2.00
b. 0.77
c. 0.91
d. 0.80
- _____ 10. Fiber Board Sheathing has an R value of 1.33R per 1/2". What would the R value be for 2" of this material?
- a. 2
b. 0.08
c. 0.16
d. 5.32

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Answer Section

MULTIPLE CHOICE

1. ANS: D
D
2. ANS: D
D
3. ANS: A
ADDED
4. ANS: A
 $U = 1/R$
 $1/18.1 = 0.055$
5. ANS: A
1/4" single pane 0.91
6. ANS: C
4" = 0.80 R
7. ANS: B
 $6.25 \times 26 = 162.5$
8. ANS: A
 $U = 1/R$
 $1/14.5 = 0.0689$
9. ANS: A
2 inches
10. ANS: D
1.33 per x 4 = 5.32