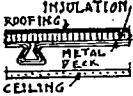
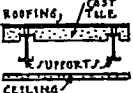
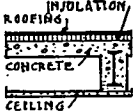
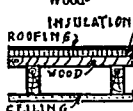


TABLE 14. COEFFICIENTS OF TRANSMISSION ( $U$ ) OF FLAT ROOFS COVERED WITH BUILT-UP ROOFING. WITH LATH AND PLASTER CEILINGS<sup>a</sup>

(See Table 13 for Flat Roofs with No Ceilings)

These coefficients are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between the air on the two sides, and are based on an outside wind velocity of 15 mph.

| TYPE OF ROOF DECK                                                                                                                                 | THICKNESS OF ROOF DECK (INCHES)      | No INSULATION                | INSULATION ON TOP OF DECK<br>(COVERED WITH BUILT-UP ROOFING) |                              |                              |                                |                                |                               |                                 |                      | NUMBER |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------|--------------------------------------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------------|----------------------|--------|
|                                                                                                                                                   |                                      |                              | INSULATING BOARD<br>(Thickness Below)                        |                              |                              |                                | CORKBOARD<br>(Thickness Below) |                               |                                 |                      |        |
|                                                                                                                                                   |                                      |                              | 1/2 In.                                                      | 1 In.                        | 1 1/2 In.                    | 2 In.                          | 1 In.                          | 1 1/2 In.                     | 2 In.                           |                      |        |
|                                                                                                                                                   |                                      |                              | A                                                            | B                            | C                            | D                              | E                              | F                             | G                               | H                    |        |
| Flat Metal Roof Deck<br>                                         |                                      | 0.46                         | 0.27                                                         | 0.19                         | 0.15                         | 0.12                           | 0.18                           | 0.14                          | 0.11                            | 12                   |        |
| Precast Cement Tile<br>                                          | 1 5/8 in.                            | 0.43                         | 0.26                                                         | 0.19                         | 0.15                         | 0.12                           | 0.18                           | 0.14                          | 0.11                            | 13                   |        |
| Concrete<br>                                                    | 2 in.<br>4 in.<br>6 in.              | 0.42<br>0.40<br>0.37         | 0.26<br>0.25<br>0.24                                         | 0.19<br>0.18<br>0.18         | 0.15<br>0.14<br>0.14         | 0.12<br>0.12<br>0.11           | 0.18<br>0.17<br>0.17           | 0.14<br>0.13<br>0.13          | 0.11<br>0.11<br>0.11            | 14<br>15<br>16       |        |
| Gypsum and Wood Fiber <sup>a</sup> on 1/2 in. Gypsum Board<br> | 2 3/4 in.<br>3 3/4 in.               | 0.27<br>0.23                 | 0.19<br>0.17                                                 | 0.15<br>0.14                 | 0.12<br>0.11                 | 0.10<br>0.097                  | 0.14<br>0.13                   | 0.12<br>0.11                  | 0.097<br>0.091                  | 17<br>18             |        |
| Wood <sup>c</sup><br>                                          | 1 in.<br>1 1/2 in.<br>2 in.<br>3 in. | 0.32<br>0.26<br>0.24<br>0.18 | 0.21<br>0.19<br>0.17<br>0.14                                 | 0.16<br>0.15<br>0.14<br>0.12 | 0.13<br>0.12<br>0.11<br>0.10 | 0.11<br>0.10<br>0.097<br>0.087 | 0.15<br>0.14<br>0.13<br>0.11   | 0.12<br>0.11<br>0.11<br>0.096 | 0.10<br>0.095<br>0.092<br>0.082 | 19<br>20<br>21<br>22 |        |

<sup>a</sup>Calculations based on metal lath and plaster ceilings, but coefficients may be used with sufficient accuracy for gypsum lath or wood lath and plaster ceilings. It is assumed that there is an air space between the under side of the roof deck and the upper side of the ceiling.<sup>b</sup>87 1/2 per cent gypsum, 12 1/2 per cent wood fiber. Thickness indicated includes 1/2 in. gypsum board.<sup>c</sup>Nominal thicknesses specified—actual thicknesses used in calculations.TABLE 15. COEFFICIENTS OF TRANSMISSION ( $U$ ) OF PITCHED ROOFS

Coefficients are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between the air on the two sides and are based on a wind velocity of 15 mph.

| TYPE OF CEILING<br>(APPLIED DIRECTLY TO ROOF RAFTERS)  | WOOD SHINGLES<br>(ON 1 x 4 WOOD STRIPS<br>SPACED 2 IN. APART) | ASPHALT SHINGLES OR<br>ROLL ROOFING (ON SOLID<br>WOOD SHEATHING) <sup>a</sup> | SLATE OR TILE <sup>b</sup><br>(ON SOLID WOOD<br>SHEATHING) <sup>a</sup> | NUMBER                              |       |       |                                     |       |       |                                     |       |       |
|--------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------|-------|-------|-------------------------------------|-------|-------|-------------------------------------|-------|-------|
|                                                        |                                                               |                                                                               |                                                                         | INSULATION BETWEEN RAFTERS          |       |       | INSULATION BETWEEN RAFTERS          |       |       | INSULATION BETWEEN RAFTERS          |       |       |
|                                                        |                                                               |                                                                               |                                                                         | Blanket or Bat<br>(Thickness Below) |       |       | Blanket or Bat<br>(Thickness Below) |       |       | Blanket or Bat<br>(Thickness Below) |       |       |
|                                                        |                                                               |                                                                               |                                                                         | None                                | 1 In. | 2 In. | None                                | 1 In. | 2 In. | None                                | 1 In. | 2 In. |
| No Ceiling Applied to Rafters.....                     | A                                                             | B                                                                             | C                                                                       | D                                   | E     | F     | G                                   | H     | I     | J                                   | K     | L     |
|                                                        | 0.48/                                                         | 0.15                                                                          | 0.11                                                                    | 0.083                               | 0.43/ | 0.15  | 0.11                                | 0.083 | 0.56/ | 0.16                                | 0.11  | 0.085 |
| Metal Lath and Plaster <sup>c</sup>                    | 0.31                                                          | 0.14                                                                          | 0.10                                                                    | 0.082                               | 0.33  | 0.15  | 0.10                                | 0.083 | 0.34  | 0.15                                | 0.11  | 0.083 |
| Gypsum Board (1/2 in.) Decorated                       | 0.31                                                          | 0.14                                                                          | 0.10                                                                    | 0.082                               | 0.33  | 0.15  | 0.10                                | 0.082 | 0.34  | 0.15                                | 0.11  | 0.083 |
| Wood Lath and Plaster <sup>d</sup>                     | 0.30                                                          | 0.14                                                                          | 0.10                                                                    | 0.080                               | 0.31  | 0.14  | 0.10                                | 0.082 | 0.32  | 0.15                                | 0.10  | 0.082 |
| Gypsum Lath (1/2 in.) Plastered <sup>e</sup>           | 0.29                                                          | 0.14                                                                          | 0.10                                                                    | 0.080                               | 0.31  | 0.14  | 0.10                                | 0.082 | 0.32  | 0.15                                | 0.10  | 0.082 |
| Plywood (1/2 in.) Plain or Decorated                   | 0.29                                                          | 0.14                                                                          | 0.10                                                                    | 0.080                               | 0.30  | 0.14  | 0.10                                | 0.080 | 0.31  | 0.14                                | 0.10  | 0.082 |
| Insulating Board (1/2 in.) Plain or Decorated          | 0.22                                                          | 0.12                                                                          | 0.090                                                                   | 0.073                               | 0.23  | 0.12  | 0.093                               | 0.074 | 0.24  | 0.13                                | 0.094 | 0.076 |
| Insulating Board Lath (1/2 in.) Plastered <sup>f</sup> | 0.22                                                          | 0.12                                                                          | 0.090                                                                   | 0.073                               | 0.22  | 0.12  | 0.090                               | 0.073 | 0.23  | 0.12                                | 0.093 | 0.074 |
| Insulating Board Lath (1 in.) Plastered <sup>f</sup>   | 0.16                                                          | 0.10                                                                          | 0.077                                                                   | 0.065                               | 0.17  | 0.10  | 0.077                               | 0.065 | 0.17  | 0.10                                | 0.080 | 0.066 |

<sup>a</sup>Coefficients corrected for framing.<sup>b</sup>Figures in Columns I, J, K and L may be used with sufficient accuracy for rigid asbestos shingles on wood sheathing. Layer of slate's felt neglected.<sup>c</sup>Sheathing and wood strips assumed 1/2 in. thick.<sup>d</sup>Plaster assumed 1/2 in. thick.<sup>e</sup>Plaster assumed 1/2 in. thick.<sup>f</sup>No air space included in I-A, I-E or I-I; all other coefficients based on one air space.