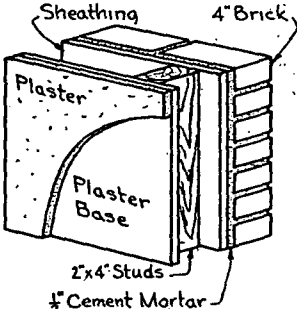


TABLE 27. COEFFICIENTS OF TRANSMISSION (*U*) OF BRICK VENEER FRAME WALLS

Note.—These coefficients are expressed in B.T.U. per hour per square foot per 1 deg. Fahr. difference in temperature between the air on the two sides and are based on an outside wind exposure of 15 miles per hour.

| The values of <i>U</i> in this Table are based on the following internal conductivities or conductances which are expressed in B.T.U. per Hr. per Sq. Ft. per 1° F.                                                                                                                                                                                |                                    |                                           |              |            |                    |                       |                     |                   |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|--------------|------------|--------------------|-----------------------|---------------------|-------------------|---------------|
| Wood (Yellow Pine or Fir) 1.00 per 1"<br>Plaster (Gypsum) 2.32 per 1"<br>Plaster board 3.73 per 3/8"<br>Cork board 0.30 per 1"<br>Wood Lath & Plaster 2.00 as applied<br>Rigid Insulation (Board form) 0.33 per 1"<br>Flexible Insulation 0.27 per 1"<br>Cellular Gypsum (18*) 0.59 per 1"<br>Flaked Gypsum (24*) 0.48 per 1"<br>Brick 5.00 per 1" |                                    |                                           |              |            |                    |                       |                     |                   |               |
| Typical Construction                                                                                                                                                                                                                                                                                                                               |                                    |                                           |              |            |                    |                       |                     |                   |               |
|                                                                                                                                                                                                                                                                   |                                    |                                           |              |            |                    |                       |                     |                   |               |
| Number                                                                                                                                                                                                                                                                                                                                             | Type of Sheathing                  | Insulation between Studding               | Plaster Base |            |                    |                       |                     |                   |               |
|                                                                                                                                                                                                                                                                                                                                                    |                                    |                                           | Wood Lath    | Metal Lath | 3/8" Plaster board | 1/2" Rigid Insulation | 1" Rigid Insulation | 1 1/2" Cork board | 2" Cork board |
|                                                                                                                                                                                                                                                                                                                                                    |                                    |                                           | A            | B          | C                  | D                     | E                   | F                 | G             |
| 1                                                                                                                                                                                                                                                                                                                                                  | 1" Wood <sup>b</sup>               | None                                      | 0.247        | 0.258      | 0.248              | 0.189                 | 0.147               | 0.114             | 0.087         |
| 2                                                                                                                                                                                                                                                                                                                                                  |                                    | Flaked Gypsum Fill (24*) <sup>a</sup>     | 0.094        | 0.095      | 0.094              | 0.084                 | 0.075               | 0.065             | 0.058         |
| 3                                                                                                                                                                                                                                                                                                                                                  |                                    | Cellular Gypsum Fill (18*) <sup>a-c</sup> | 0.108        | 0.110      | 0.108              | 0.095                 | 0.083               | 0.072             | 0.064         |
| 4                                                                                                                                                                                                                                                                                                                                                  |                                    | 1/2" Flexible Insulation                  | 0.147        | 0.150      | 0.147              | 0.125                 | 0.105               | 0.087             | 0.076         |
| 5                                                                                                                                                                                                                                                                                                                                                  | 1/2" Rigid Insulation (Board form) | None                                      | 0.209        | 0.217      | 0.210              | 0.166                 | 0.133               | 0.106             | 0.090         |
| 6                                                                                                                                                                                                                                                                                                                                                  |                                    | Flaked Gypsum Fill (24*) <sup>a</sup>     | 0.087        | 0.089      | 0.087              | 0.079                 | 0.071               | 0.062             | 0.056         |
| 7                                                                                                                                                                                                                                                                                                                                                  |                                    | Cellular Gypsum Fill (18*) <sup>a-c</sup> | 0.100        | 0.102      | 0.101              | 0.089                 | 0.079               | 0.068             | 0.061         |
| 8                                                                                                                                                                                                                                                                                                                                                  |                                    | 1/2" Flexible Insulation                  | 0.133        | 0.136      | 0.133              | 0.114                 | 0.098               | 0.082             | 0.072         |
| 9                                                                                                                                                                                                                                                                                                                                                  | 1/2" Plaster board                 | None                                      | 0.276        | 0.290      | 0.277              | 0.206                 | 0.157               | 0.120             | 0.100         |
| 10                                                                                                                                                                                                                                                                                                                                                 |                                    | Flaked Gypsum Fill (24*) <sup>a</sup>     | 0.098        | 0.100      | 0.098              | 0.087                 | 0.077               | 0.067             | 0.060         |
| 11                                                                                                                                                                                                                                                                                                                                                 |                                    | Cellular Gypsum Fill (18*) <sup>a-c</sup> | 0.113        | 0.115      | 0.113              | 0.100                 | 0.086               | 0.074             | 0.066         |
| 12                                                                                                                                                                                                                                                                                                                                                 |                                    | 1/2" Flexible Insulation                  | 0.157        | 0.161      | 0.157              | 0.131                 | 0.109               | 0.090             | 0.079         |

<sup>a</sup>Thickness of fill assumed 3 3/4 in., based on 2 in. by 4 in. studding.

<sup>b</sup>Based on 3/4 in., the actual thickness of 1 in. or 3/8 in. sheathing. Building paper neglected.

<sup>c</sup>The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.

TABLE 28. COEFFICIENTS OF TRANSMISSION (*U*) OF INTERIOR WALLS AND PARTITIONS

Note.—These coefficients are expressed in B.T.U. per hour per square foot per 1 deg. Fahr. difference in temperature between the air on the two sides and are based on still-air (no wind) conditions on both sides.

| PLASTERED FRAME PARTITIONS                                                                                                                                                                                                                                 |                                                 |                              |                           |                                    |                              |                                     |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------|---------------------------|------------------------------------|------------------------------|-------------------------------------|---------------------------------|
| The values of <i>U</i> in this Table are based on the following internal conductivities or conductances which are expressed in B.T.U. per Hr. per Sq. Ft. per 1° F.                                                                                        |                                                 | On one side of Studding only | On both sides of Studding | Insulation between Studding        | Gypsum Fill between Studding |                                     |                                 |
| Plaster (Gypsum) 2.32 per 1"<br>Plaster board 3.73 per 3/8"<br>Wood Lath & Plaster 2.00 as applied<br>Rigid Insulation (Board form) 0.33 per 1"<br>Flexible Insulation 0.27 per 1"<br>Cellular Gypsum (18*) 0.59 per 1"<br>Flaked Gypsum (24*) 0.48 per 1" |                                                 | Studding                     | Studding                  | Insulation                         | Gypsum Fill                  |                                     |                                 |
|                                                                                                                                                                                                                                                            |                                                 | Plaster                      | Plaster                   | Plaster                            | Plaster                      |                                     |                                 |
|                                                                                                                                                                                                                                                            |                                                 | Plaster Base                 | Plaster Base              | Plaster Base                       | Plaster Base                 |                                     |                                 |
|                                                                                                                                                                                                                                                            |                                                 |                              |                           | 1/2" Rigid Insulation (Board form) | 1/2" Flexible Insulation     | Cellular Gypsum Fill <sup>a-d</sup> | Flaked Gypsum Fill <sup>a</sup> |
| No.                                                                                                                                                                                                                                                        | Plaster Base                                    | A                            | B                         | C                                  | D                            | E                                   | F                               |
| 1                                                                                                                                                                                                                                                          | Metal Lath <sup>b</sup>                         | 0.551                        | 0.328                     | 0.183                              | 0.173                        | 0.121                               | 0.103                           |
| 2                                                                                                                                                                                                                                                          | Wood Lath <sup>c</sup>                          | 0.502                        | 0.294                     | 0.172                              | 0.162                        | 0.116                               | 0.100                           |
| 3                                                                                                                                                                                                                                                          | 3/8" Plaster board <sup>c</sup>                 | 0.506                        | 0.297                     | 0.172                              | 0.163                        | 0.117                               | 0.100                           |
| 4                                                                                                                                                                                                                                                          | 1/2" Rigid Insulation (Board form) <sup>c</sup> | 0.310                        | 0.170                     | 0.121                              | 0.116                        | 0.090                               | 0.080                           |
| 5                                                                                                                                                                                                                                                          | 1" Rigid Insulation (Board form) <sup>c</sup>   | 0.211                        | 0.113                     | 0.088                              | 0.086                        | 0.071                               | 0.064                           |
| 6                                                                                                                                                                                                                                                          | 1 1/2" Cork board                               | 0.149                        | 0.078                     | 0.066                              | 0.064                        | 0.055                               | 0.052                           |
| 7                                                                                                                                                                                                                                                          | 2" Cork board                                   | 0.119                        | 0.062                     | 0.054                              | 0.053                        | 0.047                               | 0.044                           |
| PLASTERED MASONRY PARTITIONS                                                                                                                                                                                                                               |                                                 |                              |                           |                                    |                              |                                     |                                 |
| The values of <i>U</i> in this Table are based on the following internal conductivities or conductance which are expressed in B.T.U. per Hr. per Sq. Ft. per 1° F.                                                                                         |                                                 | Plain Walls (No Plaster)     | Walls Plastered one side  | Walls Plastered both sides         |                              |                                     |                                 |
| Hollow Clay Tile (4") 0.93 per 4"<br>Brick 5.00 per 1"<br>Hollow Gypsum Tile 0.46 per 4"                                                                                                                                                                   |                                                 |                              | 1/2" Gypsum Plaster       | 1/2" Gypsum Plaster                |                              |                                     |                                 |
|                                                                                                                                                                                                                                                            |                                                 |                              |                           |                                    |                              |                                     |                                 |
|                                                                                                                                                                                                                                                            |                                                 |                              |                           |                                    |                              |                                     |                                 |
| No.                                                                                                                                                                                                                                                        | Wall Construction                               | A                            | B                         | C                                  |                              |                                     |                                 |
| 1                                                                                                                                                                                                                                                          | 4" Hollow Clay Tile                             | 0.390                        | 0.360                     | 0.333                              |                              |                                     |                                 |
| 2                                                                                                                                                                                                                                                          | 4" Brick                                        | 0.437                        | 0.400                     | 0.367                              |                              |                                     |                                 |
| 3                                                                                                                                                                                                                                                          | 4" Hollow Gypsum Tile                           | 0.273                        | 0.258                     | 0.244                              |                              |                                     |                                 |

<sup>a</sup>The thickness of the gypsum fill is approximately 3 3/4 in., the approximate 4 in. dimension of 2 in. by 4 in. studding.

<sup>b</sup>Metal lath and plaster assumed 3/4 in. thick.

<sup>c</sup>Plaster assumed 1/2 in. thick.

<sup>d</sup>The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.