

TABLE 24. 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 *U* 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"
Plaster (Gypsum)	2.32 per 1"
Plaster board	2.80 per 1"
Cork board	0.30 per 1"
Wood Lath & Plaster	2.00 as applied
Rigid Insulation (Board form)	0.33 per 1"
Flexible Insulation	0.27 per 1"
Cellular Gypsum (18*)	0.59 per 1"
Flaked Gypsum (24*)	0.48 per 1"
Brick	5.00 per 1"

Typical Construction

The diagram illustrates a cross-section of a wall. From left to right, the layers are: Sheathing, Plaster, Plaster Base, 2x4 Studs, 1/2" Cement Mortar, and 4" Brick. Arrows point from the labels to their respective layers in the wall section.

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 ^b	None	0.247	0.258	0.248	0.189	0.147	0.114	0.087
2		Flaked Gypsum Fill (24*) ^a	0.094	0.095	0.094	0.084	0.075	0.065	0.058
3		Cellular Gypsum Fill (18*) ^{a-c}	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*) ^a	0.087	0.089	0.087	0.079	0.071	0.062	0.056
7		Cellular Gypsum Fill (18*) ^{a-c}	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*) ^a	0.098	0.100	0.098	0.087	0.077	0.067	0.060
11		Cellular Gypsum Fill (18*) ^{a-c}	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

^aThickness of fill assumed 3 3/4 in., based on 2 in. by 4 in. studding.

^bBased on 3/4 in., the actual thickness of 1 in. or 1 1/4 in. sheathing. Building paper neglected.

^cThe coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.

TABLE 25. 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"	2.32 per 1"	2.32 per 1"	2.32 per 1"		
Plaster board		3.73 per 1"	3.73 per 1"	3.73 per 1"	3.73 per 1"		
Wood Lath & Plaster		2.00 as applied	2.00 as applied	2.00 as applied	2.00 as applied		
Rigid Insulation (Board form)		0.33 per 1"	0.33 per 1"	0.33 per 1"	0.33 per 1"		
Flexible Insulation		0.27 per 1"	0.27 per 1"	0.27 per 1"	0.27 per 1"		
Cork board		0.30 per 1"	0.30 per 1"	0.30 per 1"	0.30 per 1"		
Cellular Gypsum (18*)		0.59 per 1"	0.59 per 1"	0.59 per 1"	0.59 per 1"		
Flaked Gypsum, Dry (24*)		0.48 per 1"	0.48 per 1"	0.48 per 1"	0.48 per 1"		
No.	Plaster Base	A	B	C	D	E	F
1	Metal Lath ^b	0.551	0.328	0.183	0.173	0.121	0.103
2	Wood Lath ^c	0.502	0.294	0.172	0.162	0.116	0.100
3	3/8" Plaster board ^c	0.506	0.297	0.172	0.163	0.117	0.100
4	1/2" Rigid Insulation (Board form)	0.310	0.170	0.121	0.116	0.090	0.080
5	1" Rigid Insulation (Board form)	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"	0.93 per 4"	0.93 per 4"			
Brick		5.00 per 1"	5.00 per 1"	5.00 per 1"			
Hollow Gypsum Tile		0.46 per 4"	0.46 per 4"	0.46 per 4"			
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			

^aThe thickness of the gypsum fill is approximately 3 3/4 in., the approximate 4 in. dimension of 2 in. by 4 in. studding.

^bMetal lath and plaster assumed 3/4 in. thick.

^cPlaster assumed 1/2 in. thick.

^dThe coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.