

TABLE 26. COEFFICIENTS OF TRANSMISSION (*U*) OF FRAME CONSTRUCTION FLOORS AND CEILINGS

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.

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"
Wood (Maple)	1.20 per 1"
Plaster (Gypsum)	2.32 per 1"
Plaster board	3.73 per 1"
Wood Lath & Plaster	2.00 as applied
Cork board	0.30 per 1"
Rigid Insulation (Board form)	0.33 per 1"
Cellular Gypsum (18")	0.59 per 1"
Flaked Gypsum, Dry (18")	0.34 per 1"
Flexible Insulation	0.27 per 1"

Typical Construction

Number	Type of Ceiling	Insulation between Joists	Type of Flooring				
			No Flooring	1" Yellow Pine Flooring on Joists	1" Yellow Pine Flooring on Rigid Insulation (Board form) on Joists	1" Maple or Oak Flooring on 1" Yellow Pine Sub-flooring on Joists	
			A	B	C	D	
1	No Ceiling	None		0.440	0.264	0.339	
2	Metal Lath & Plaster ($\frac{1}{2}$ ")	None	0.551	0.298	0.200	0.239	
3	Wood Lath & Plaster ($\frac{1}{2}$ ")	None	0.502	0.272	0.192	0.230	
4	Plaster board & Plaster ($\frac{1}{2}$ ")	None	0.506	0.273	0.193	0.230	
5	Rigid Insulation (Board form) & Plaster ($\frac{1}{2}$ ")	None	0.310	0.204	0.156	0.179	
6	Wood Lath & Plaster ($\frac{1}{2}$ ")	$\frac{1}{2}$ " Flexible ^a Insulation	0.210	0.155	0.126	0.140	
7	Wood Lath & Plaster ($\frac{1}{2}$ ")	$\frac{1}{2}$ " Rigid Insulation (Board form) ^a	0.226	0.163	0.131	0.148	
8	Wood Lath & Plaster ($\frac{1}{2}$ ")	Cellular Gypsum Fill (2") ^{d-c}	0.186	0.141	0.117	0.129	
9	Wood Lath & Plaster ($\frac{1}{2}$ ")	Flaked Gypsum Fill (2") ^c	0.127	0.105	0.090	0.098	
10	$\frac{1}{2}$ " Cork board & Plaster ($\frac{1}{2}$ ")	None	0.149	0.119	0.101	0.110	
11	2" Cork board & Plaster ($\frac{1}{2}$ ")	None	0.119	0.100	0.087	0.093	

^aThe value of *U* is the same if insulation is applied to underside of joists and lath and plaster ceiling separated by furring strips.

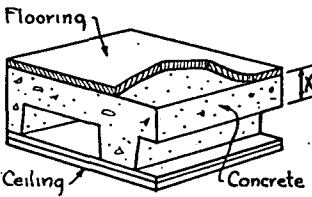
^bBased on actual thickness of approximately ¾ in. for 1 in. yellow pine flooring.

^cThickness of fill assumed 2 in.

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

TABLE 27. COEFFICIENTS OF TRANSMISSION (*U*) OF CONCRETE CONSTRUCTION FLOORS AND CEILINGS

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.

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.				Typical Construction		
Tile or Terrazzo 10.00 per 1" Concrete (Stone 1:2:4 mix) 8.30 per 1" Cement Mortar 8.00 per 1" Wood (Yellow Pine or Fir) 1.00 per 1" Wood (Maple) 1.20 per 1" Plaster board 3.73 per 1" Plaster (Gypsum) 2.32 per 1" Cork board 0.30 per 1" Rigid Insulation (Board form) 0.33 per 1"						
Number	Type of Ceiling	Thickness	Type of Flooring			
			No Flooring ^a (Concrete bare)	1" Yellow Pine Floor ^b on Wood Sleepers embedded in Concrete	1" Maple or Oak Flooring on 1" Yellow Pine Sub-flooring on Wood Sleepers embedded in Concrete	1" Terrazzo or Tile Flooring on Concrete
			A	B	C	D
1	No Ceiling	4"	0.508	0.364	0.292	0.483
2		6"	0.452	0.334	0.273	0.433
3		8"	0.408	0.310	0.256	0.392
4		10"	0.372	0.288	0.241	0.358
5	½" Plaster applied directly to under-side of Concrete	4"	0.457	0.337	0.275	0.437
6		6"	0.411	0.311	0.258	0.395
7		8"	0.374	0.290	0.243	0.361
8		10"	0.344	0.271	0.230	0.332
9	Suspended or Furred Metal Lath & Plaster Ceiling	4"	0.312	0.251	0.215	0.303
10		6"	0.299	0.237	0.204	0.282
11		8"	0.272	0.224	0.195	0.264
12		10"	0.255	0.212	0.186	0.249
13	Suspended or Furred Ceiling of ½" Plaster board & Plaster	4"	0.297	0.241	0.208	0.289
14		6"	0.277	0.228	0.198	0.270
15		8"	0.260	0.216	0.189	0.254
16		10"	0.245	0.206	0.181	0.239
17	Suspended or Furred Ceiling of ½" Rigid Insulation (Board form) & Plaster	4"	0.217	0.185	0.165	0.212
18		6"	0.206	0.178	0.159	0.202
19		8"	0.197	0.170	0.153	0.193
20		10"	0.187	0.163	0.147	0.184
21	½" Plaster on 1½" Cork board set in ½" Cement Mortar on Concrete	4"	0.138	0.124	0.115	0.136
22		6"	0.133	0.121	0.112	0.132
23		8"	0.129	0.117	0.109	0.128
24		10"	0.125	0.114	0.106	0.124
25	½" Plaster on 2" Cork board set in ½" Cement Mortar on Concrete	4"	0.112	0.103	0.097	0.111
26		6"	0.109	0.101	0.094	0.108
27		8"	0.106	0.098	0.092	0.105
28		10"	0.104	0.096	0.090	0.103

^aThe figures in column "A" are sufficiently accurate for concrete floors covered with carpet or linoleum.

^bThe figures in column "B" are sufficiently accurate for ¾ in. maple or oak flooring applied directly over the concrete on wood sleepers.