

TABLE 35. COEFFICIENTS OF TRANSMISSION (U)

Note.—THE FIGURES ON THESE PAGES ARE THE COMBINED COEFFICIENTS OF TRANSMISSION OF PITCHED ROOFS, UNHEATED ATTICS, AND TOP-FLOOR CEILINGS, AND ARE EXPRESSED IN B.T.U. PER HOUR PER SQUARE FOOT OF ROOF AREA PER 1 DEG. FAHR. DIFFERENCE IN TEMPERATURE BETWEEN THE AIR UNDERNEATH THE ROOF AND THE OUTSIDE AIR. AN AVERAGE WIND EXPOSURE OF 15 MILES HAS BEEN ASSUMED. THESE COEFFICIENTS ARE BASED ON ONE-THIRD PITCHED ROOFS, BUT ARE SUFFICIENTLY ACCURATE FOR ROOFS RANGING FROM ONE-QUARTER PITCH TO ONE-HALF PITCH.

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						
Asphalt or Composition Roofing						
Asbestos Shingles						
Slate Shingles						
Wood (Yellow Pine or Fir)						
Wood Lath & Plaster						
Plaster board						
Plaster (Gypsum)						
Rigid Insulation (Board form)						
Flexible Insulation						
Cork board						
Cellular Gypsum (18")						
Flaked Gypsum, Dry (18")						
Number	Roofing and Roof Sheathing	Insulation between Ceiling Joists	No Attic Flooring			
			Wood Lath and Plaster Ceiling	Plaster board & Plaster Ceiling	1" Rigid Insulation & Plaster Ceiling	1" Rigid Insulation & Plaster Ceiling
			A	B	C	D
1		None	0.263	0.264	0.190	0.141
2	Wood Shingles on Wood Strips ^a	1" Flexible ^b	0.141	0.141	0.116	0.096
3		2" Cellular Gypsum ^d	0.126	0.126	0.107	0.090
4		2" Flaked Gypsum	0.092	0.092	0.081	0.071
5	Asphalt Shingles or Composition Roofing on Wood Sheathing	None	0.272	0.273	0.194	0.143
6		1" Flexible ^b	0.143	0.143	0.118	0.097
7		2" Cellular Gypsum ^d	0.128	0.128	0.108	0.090
8		2" Flaked Gypsum	0.093	0.093	0.081	0.071
9	Rigid Asbestos Shingles on Wood Sheathing	None	0.271	0.272	0.194	0.143
10		1" Flexible ^b	0.143	0.143	0.118	0.097
11		2" Cellular Gypsum ^d	0.128	0.128	0.108	0.090
12		2" Flaked Gypsum	0.093	0.093	0.081	0.071
13	Slate or Tile and Roofing Felt on Wood Sheathing	None	0.280	0.281	0.198	0.145
14		1" Flexible ^b	0.145	0.145	0.120	0.098
15		2" Cellular Gypsum ^d	0.130	0.130	0.109	0.090
16		2" Flaked Gypsum	0.093	0.093	0.082	0.072

^aBased on 1 in. by 4 in. spaced 2 in.

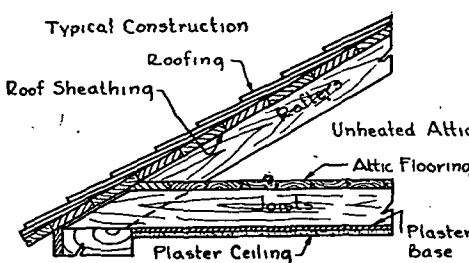
^bCan also be applied to underside of ceiling joists with furring strips between insulation and ceiling.

^cBased on actual thickness of 1 in. lumber of approximately 3/4 in.

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

OF PITCHED ROOFS WITH UNHEATED ATTICS

ROOFS, UNHEATED ATTICS, AND TOP-FLOOR CEILINGS, AND ARE EXPRESSED IN B.T.U. PER HOUR PER SQUARE FOOT OF ROOF AREA PER 1 DEG. FAHR. DIFFERENCE IN TEMPERATURE BETWEEN THE AIR UNDERNEATH THE ROOF AND THE OUTSIDE AIR. AN AVERAGE WIND EXPOSURE OF 15 MILES HAS BEEN ASSUMED. THESE COEFFICIENTS ARE BASED ON ONE-THIRD PITCHED ROOFS, BUT ARE SUFFICIENTLY ACCURATE FOR ROOFS RANGING FROM ONE-QUARTER PITCH TO ONE-HALF PITCH.

Typical Construction							
							
1x6" Yellow Pine Attic Flooring ^c							
1 1/2" Cork-board & Plaster Ceiling	2" Cork-board & Plaster Ceiling	Wood Lath and Plaster Ceiling	1" Plaster board & Plaster Ceiling	1" Rigid Insulation & Plaster Ceiling	1" Rigid Insulation & Plaster Ceiling	1 1/2" Cork-board & Plaster Ceiling	2" Cork-board & Plaster Ceiling
E	F	G	H	I	J	K	L
0.106	0.088	0.172	0.172	0.136	0.109	0.087	0.074
0.078	0.068	0.109	0.109	0.094	0.080	0.068	0.060
0.074	0.064	0.101	0.101	0.088	0.076	0.064	0.057
0.061	0.054	0.078	0.078	0.070	0.062	0.053	0.049
0.107	0.088	0.175	0.175	0.138	0.110	0.087	0.075
0.079	0.068	0.110	0.110	0.095	0.081	0.068	0.060
0.075	0.064	0.102	0.102	0.088	0.076	0.064	0.057
0.061	0.054	0.078	0.078	0.070	0.062	0.054	0.049
0.107	0.088	0.175	0.175	0.138	0.110	0.087	0.075
0.079	0.068	0.110	0.110	0.095	0.081	0.068	0.060
0.075	0.064	0.102	0.102	0.088	0.076	0.064	0.057
0.061	0.054	0.078	0.078	0.070	0.062	0.054	0.049
0.108	0.089	0.179	0.179	0.140	0.111	0.088	0.076
0.080	0.068	0.111	0.111	0.096	0.081	0.068	0.060
0.076	0.065	0.103	0.103	0.089	0.076	0.065	0.058
0.061	0.054	0.078	0.078	0.070	0.062	0.054	0.049

^aBased on 1 in. by 4 in. spaced 2 in.

^bCan also be applied to underside of ceiling joists with furring strips between insulation and ceiling.

^cBased on actual thickness of 1 in. lumber of approximately 3/4 in.

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