

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 °F.		
Roofing		1.325 per °F.
Concrete		8.30 per °F.
Gypsum (Fiber-Concrete)		1.66 per °F.
Wood (Yellow Pine or Fir)		1.00 per °F.
Liquid Insulation (Board form)		0.33 per °F.
Flexible Insulation		0.27 per °F.
Cor-k-board		0.20 per °F.
Plaster board		3.75 per °F.
Cellular Gypsum (24°)		0.77 per °F.
Plaster (Gypsum)		2.32 per °F.

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" thickness													
Roofing Concrete 1.325 per 1" Gypsum (Fiber Concrete) 8.30 per 1" Wood (Yellow Pine or Fir) 1.66 per 1" Rigid Insulation (Board form) 0.33 per 1" Flexible Insulation 0.27 per 1" Cork board 0.30 per 1" Plaster board 3.73 per 1" Cellular Gypsum (24") 0.77 per 1" Plaster (Gypsum) 2.32 per 1"													
Number	Thickness of Insulation	Kind of Insulation	Concrete Roofs										
			Thickness - X										
			1 1/2"	2"	3"	4"	5"	6"	1"	1 1/2"	2"	3"	4"
1	0"	No Insulation	0.370	0.363	0.348	0.334	0.321	0.309	0.304	0.262	0.242	0.195	0.163
2	1/2"	Rigid Insulation (Board form)	0.237	0.235	0.228	0.222	0.216	0.211	0.208	0.187	0.177	0.150	0.131
3	1"		0.174	0.173	0.169	0.166	0.163	0.160	0.158	0.146	0.140	0.123	0.109
4	1 1/2"		0.138	0.137	0.135	0.133	0.131	0.129	0.128	0.120	0.115	0.104	0.094
5	2"		0.114	0.113	0.112	0.110	0.109	0.108	0.107	0.101	0.098	0.089	0.082
6	1"	Cork board	0.166	0.164	0.161	0.158	0.155	0.153	0.151	0.140	0.134	0.118	0.106
7	1 1/2"		0.130	0.129	0.127	0.125	0.123	0.121	0.121	0.113	0.110	0.099	0.090
8	2"		0.107	0.106	0.105	0.104	0.103	0.101	0.101	0.096	0.092	0.085	0.078
9	1"	Flexible Insulation (Not compressed)	0.219	0.217	0.212	0.207	0.202	0.197	0.194	0.176	0.167	0.143	0.126
10	1"		0.156	0.155	0.152	0.150	0.147	0.144	0.143	0.133	0.128	0.113	0.102
11	2"	Cellular Gypsum	0.188	0.187	0.183	0.179	0.175	0.172	0.170	0.156	0.148	0.129	0.114

Concrete Roofs			Wood Roofs											Gypsum Fiber Concrete (8 1/4% Gypsum - 12 1/2% Wood Fiber)				Flat Metal Roofs	
Number	Thickness of Insulation	Kind of Insulation	Thickness - X											Thickness - X				N	
			1 1/2"	2"	3"	4"	5"	6"	1"	1 1/2"	2"	3"	4"	2 1/2"	3 1/2"	M			
1	0"	No Insulation	0.370	0.363	0.348	0.334	0.321	0.309	0.304	0.262	0.242	0.195	0.163	0.247	0.215	0.398			
2	1/2"	Rigid Insulation (Board form)	0.237	0.235	0.228	0.222	0.216	0.211	0.208	0.187	0.177	0.150	0.131	0.179	0.162	0.248			
3	1"		0.174	0.173	0.169	0.166	0.163	0.160	0.158	0.146	0.140	0.123	0.109	0.141	0.130	0.180			
4	1 1/2"		0.138	0.137	0.135	0.133	0.131	0.129	0.128	0.120	0.115	0.104	0.094	0.116	0.108	0.142			
5	2"		0.114	0.113	0.112	0.110	0.109	0.108	0.107	0.101	0.098	0.089	0.082	0.099	0.093	0.117			
6	1"	Cork board	0.166	0.164	0.161	0.158	0.155	0.153	0.151	0.140	0.134	0.118	0.106	0.135	0.125	0.113			
7	1 1/2"		0.130	0.129	0.127	0.125	0.123	0.121	0.121	0.113	0.110	0.099	0.090	0.110	0.104	0.133			
8	2"		0.107	0.106	0.105	0.104	0.103	0.101	0.101	0.096	0.092	0.085	0.078	0.093	0.088	0.109			
9	1"	Flexible Insulation (Not compressed)	0.219	0.217	0.212	0.207	0.202	0.197	0.194	0.176	0.167	0.143	0.126	0.169	0.154	0.229			
10	1"		0.156	0.155	0.152	0.150	0.147	0.144	0.143	0.133	0.128	0.113	0.102	0.129	0.120	0.161			
11	2"	Cellular Gypsum	0.188	0.187	0.183	0.179	0.175	0.172	0.170	0.156	0.148	0.129	0.114						

The figures in this table may be used with sufficient accuracy for wood lath and plaster ceilings.

TABLE 31. COEFFICIENTS OF TRANSMISSION (U) OF PITCHED ROOFS
OVER HEATED ATTICS

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										
Asphalt or Composition Roofing			6.50		as applied					
Asbestos Shingles			6.00		as applied					
Slate Shingles			10.37		per 1"					
Wood (Yellow Pine or Fir)			1.00		per 1"					
Wood Lath & Plaster			2.00		as applied					
Plaster board			3.73		per 3"					
Plaster (Gypsum)			2.32		per 1"					
Rigid Insulation (Board form)			0.33		per 1"					
Flexible Insulation			0.27		per 1"					
Cork board			0.30		per 1"					
Cellular Gypsum (18")			0.54		per 1"					
Flaked Gypsum (24") Dry			0.48		per 1"					

Typical Construction										

Type of Ceiling										
Number	Type of Roofing and Roof Sheathing	Insulation between Roof Rafters	No Ceiling	Metal Lath and 1/2" Plaster	Plaster board 1/2" and 5/8" Plaster	Wood Lath and 1/2" Plaster	1/2" Rigid Insulation 1/2" Plaster	1/2" Rigid Insulation 1/2" Plaster	1/2" Cork board and 1/2" Plaster	2" Cork board and 1/2" Plaster
			A	B	C	D	E	F	G	H
1	Wood Shingles on Wood Strips	None	0.483	0.303	0.289	0.288	0.212	0.161	0.122	0.102
2		1/2" Flexible b		0.165	0.161	0.160	0.134	0.111	0.091	0.079
3		1" Flexible b		0.126	0.124	0.124	0.107	0.092	0.078	0.069
4		3/8" Cellular c Gypsum		0.112	0.110	0.110	0.097	0.085	0.072	0.065
5		3/8" Flaked c Gypsum		0.097	0.096	0.096	0.085	0.076	0.066	0.059
6	Asphalt Shingles or Composition Roofing on Wood Sheathing	None	0.518	0.316	0.301	0.300	0.219	0.164	0.124	0.103
7		1/2" Flexible b		0.169	0.165	0.164	0.136	0.113	0.092	0.080
8		1" Flexible b		0.129	0.126	0.126	0.109	0.094	0.079	0.070
9		3/8" Cellular c Gypsum		0.120	0.117	0.117	0.102	0.088	0.076	0.067
10		3/8" Flaked c Gypsum		0.102	0.101	0.101	0.089	0.079	0.068	0.061
11	Rigid Asbestos Shingles on Wood Sheathing	None	0.515	0.315	0.300	0.298	0.218	0.164	0.124	0.103
12		1/2" Flexible b		0.169	0.164	0.164	0.136	0.113	0.092	0.080
13		1" Flexible b		0.129	0.126	0.126	0.109	0.093	0.079	0.070
14		3/8" Cellular c Gypsum		0.119	0.117	0.117	0.102	0.088	0.075	0.067
15		3/8" Flaked c Gypsum		0.102	0.101	0.100	0.089	0.079	0.068	0.061
16	Slate or Tile and Roofing Felt on Wood Sheathing	None	0.548	0.327	0.311	0.309	0.224	0.167	0.126	0.104

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