

TABLE 33. COEFFICIENTS OF TRANSMISSION (U) OF FLAT ROOFS COVERED WITH BUILT-UP ROOFING WITH METAL LATH AND PLASTER CEILING

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" thickness		Kind of Insulation	Thickness—X										Thickness—X		Type of Roofing		Type of Ceiling	
			1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"				
Concrete	1.325 per 1"	No Insulation	0.370	0.363	0.356	0.348	0.334	0.321	0.309	0.297	0.285	0.273	0.261	0.249	1"	Asphalt or Composition Roofing	Insulation	Flat Metal Roofs
Gypsum (Fiber Concrete)	8.30 per 1"	Rigid Insulation (Board form)	0.237	0.235	0.228	0.222	0.216	0.211	0.206	0.201	0.196	0.191	0.186	0.181	1"	Asbestos Shingles	Insulation	Insulation
Wood (Yellow Pine or Fir)	1.66 per 1"		0.174	0.173	0.169	0.166	0.163	0.161	0.159	0.157	0.155	0.153	0.151	0.149	1"	Wood Shingles	Insulation	Insulation
Rigid Insulation (Board form)	0.33 per 1"	Corkboard	0.138	0.137	0.135	0.133	0.131	0.129	0.127	0.125	0.123	0.121	0.119	0.117	1"	Wood Lath & Plaster	Insulation	Insulation
Flexible Insulation	0.27 per 1"		0.114	0.113	0.112	0.110	0.109	0.108	0.107	0.106	0.105	0.104	0.103	0.101	1"	Plaster board	Insulation	Insulation
Plaster board	3.73 per 1"	Flexible Insulation (Not compressed)	0.166	0.164	0.161	0.158	0.155	0.153	0.151	0.149	0.147	0.145	0.143	0.141	1"	Plaster (Gypsum)	Insulation	Insulation
Cellular Gypsum (24")	0.77 per 1"		0.130	0.129	0.127	0.125	0.123	0.121	0.119	0.117	0.115	0.113	0.111	0.109	1"	Flaked Gypsum (24") Dry	Insulation	Insulation
Plaster (Gypsum)	2.32 per 1"	Cellular Gypsum	0.107	0.106	0.105	0.104	0.103	0.101	0.101	0.100	0.099	0.098	0.097	0.096	1"		Insulation	Insulation
			0.219	0.217	0.212	0.207	0.202	0.197	0.194	0.191	0.188	0.187	0.183	0.179	1"		Insulation	Insulation
			0.156	0.155	0.152	0.150	0.147	0.144	0.143	0.141	0.139	0.137	0.135	0.133	1"		Insulation	Insulation
			0.188	0.187	0.183	0.179	0.175	0.172	0.170	0.168	0.166	0.164	0.162	0.160	1"		Insulation	Insulation

aPre cast cement.

bNominal thickness specified—actual thicknesses used in computations.

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

CHAPTER 2—HEAT LOSSES FROM BUILDINGS

TABLE 34. 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" thickness		Type of Ceiling									
		No Ceiling	Metal Lath and 1/2" Plaster	Plaster board and 1/2" Plaster	Wood Lath and 1/2" Plaster	1" Rigid Insulation and 1/2" Plaster	1" Rigid Insulation and 1/2" Plaster	1" Corkboard and 1/2" Plaster	2" Corkboard and 1/2" Plaster	2" Corkboard and 1/2" Plaster	2" Corkboard and 1/2" Plaster
Number	Type of Roofing and Roof Sheathing	A	B	C	D	E	F	G	H	I	J
1	Wood Shingles on Wood Straps	0.483	0.303	0.289	0.288	0.212	0.161	0.122	0.102		
2	Asphalt Shingles or Composition Roofing on Wood Sheathing	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	Rigid Asbestos Shingles 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	Slate or Tile and Roofing Felt on Wood Sheathing	3/8" Flaked c Gypsum	0.102	0.101	0.101	0.089	0.079	0.068	0.061		
11		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	Flat Metal Roofs	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		None	0.548	0.327	0.311	0.309	0.224	0.167	0.126	0.104	
17		1/2" Flexible b	0.172	0.167	0.167	0.138	0.114	0.093	0.081		
18	Typical Construction	1" Flexible b	0.131	0.128	0.127	0.110	0.095	0.080	0.070		
16		3/8" Cellular c Gypsum	0.121	0.118	0.118	0.103	0.089	0.076	0.067		
17		3/8" Flaked c Gypsum	0.103	0.101	0.101	0.090	0.079	0.069	0.062		
18		3/8" Flaked c Gypsum	0.103	0.101	0.101	0.090	0.079	0.069	0.062		

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

bCan also be applied to underside of roof rafters with furring strips between.

cAssumed 3/8 in. thick, based on 2 in. by 4 in. rafters.

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