Table 12-B. Coefficients of Transmission of Various Types of Pitched Roofs

Note.—The figures on this page 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 ceiling and the outside air. An average exposure of 15 miles has been assumed. These coefficients are based on ¼ pitched roofs, but are sufficiently accurate for roofs ranging from ¼ pitch to ½ pitch.

Unheated

The values of U in this Table are based on the following Internal Conductivities (C) which are expressed in B.t.u. per Hr. per Sq. Ft. per 1°F

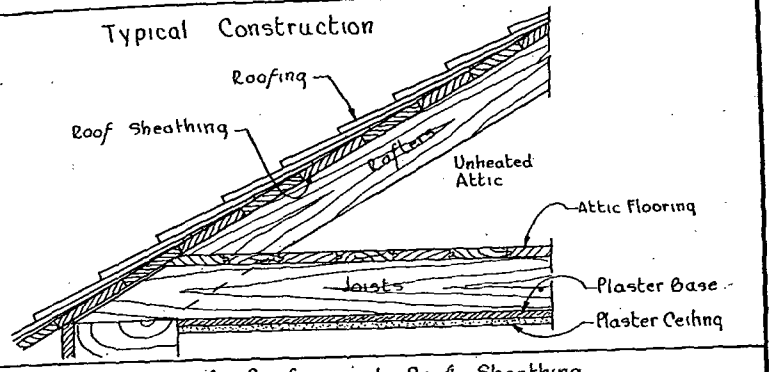
Asphalt or Composition Roofing	6.50	as applied
Asbestos Shingles	6.00	as applied
Slate Shingles	10.37	per 1"
Wood (Yellow Pine or Fir)	1.00	per 1"
Wood Lath & Plaster	2.00	as applied
Plaster Board	3.04	per 1"
Plaster (Gypsum)	2.32	per 1"
Fiber Insulation (Board form)	0.33	per 1"
Felt or Quilt Insulation (Soft)	0.27	per 1"
Cork board	0.30	per 1"
Cellular Gypsum (18*)	0.59	per 1"
Flaked Gypsum, Dry (26*)	0.52	per 1"

Roof Number	Type of Ceiling	Insulation on underside of Roof Rafters	Insulation between Ceiling Joists
251	Wood Lath & Plaster (½")	None	None
252	Wood Lath & Plaster (½")	None	1" Felt or Quilt † Insulation (Soft)
253	Wood Lath & Plaster (½")	½" Fiber Insulation (Board form)	½" Fiber Insulation † (Board form)
254	Wood Lath & Plaster (½")	None	3⅝" Cellular Gypsum Fill
255	Wood Lath & Plaster (½")	None	3⅝" Flaked Gypsum Fill
256	⅜" Plaster Board & Plaster (½")	None	None
257	1½" Cork board & Plaster (½")	None	None
258	2" Cork board & Plaster (½")	None	None
259	½" Fiber Insulation (Board form) & Plaster (½")	None	None
260	½" Fiber Insulation (Board form) & Plaster (½")	½" Fiber Insulation (Board form)	½" Fiber Insulation (Board form)

*Based on 1 in. by 4 in., spaced 2 in.
†Can also be applied to underside of ceiling joists with furring strips between insulation and ceiling.
‡Based on actual thickness of 1 in. lumber of approximately ⅝ in.
Note.—The coefficient used for plasterboard is 3.04 per inch thickness—recent data indicate values as low as 1.30 for this material.
Note.—The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.

Attics

Typical Construction



Type of Roofing and Roof Sheathing							
Wood Shingles on Wood Strips *		Asphalt Shingles or Composition Roofing on Wood Sheathing		Rigid Asbestos Shingles on Wood Sheathing		Slate or Tile and Roofing Felt on Wood Sheathing	
No Attic Flooring	1"x6" Y. P. ‡ Attic Flooring	No Attic Flooring	1"x6" Y. P. ‡ Attic Flooring	No Attic Flooring	1"x6" Y. P. ‡ Attic Flooring	No Attic Flooring	1"x6" Y. P. ‡ Attic Flooring
a	b	c	d	e	f	g	h
0.224	0.139	0.231	0.141	0.230	0.141	0.237	0.143
0.118	0.089	0.120	0.090	0.120	0.090	0.121	0.091
0.090	0.074	0.091	0.073	0.091	0.073	0.089	0.074
0.085	0.078	0.086	0.079	0.086	0.079	0.086	0.080
0.078	0.073	0.079	0.074	0.079	0.074	0.080	0.074
0.235	0.143	0.243	0.146	0.242	0.146	0.249	0.148
0.099	0.078	0.100	0.079	0.100	0.079	0.101	0.079
0.082	0.067	0.083	0.068	0.083	0.068	0.084	0.068
0.168	0.115	0.172	0.117	0.172	0.117	0.176	0.118
0.080	0.066	0.080	0.066	0.080	0.066	0.081	0.067

*Based on 1 in. by 4 in., spaced 2 in.
†Can also be applied to underside of ceiling joists with furring strips between insulation and ceiling.
‡Based on actual thickness of 1 in. lumber of approximately ⅝ in.
Note.—The coefficient used for plasterboard is 3.04 per inch thickness—recent data indicate values as low as 1.30 for this material.
Note.—The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.