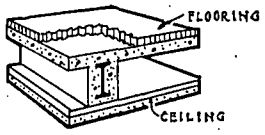
TABLE 9. COEFFICIENTS OF TRANSMISSION (*U*) OF CONCRETE CONSTRUCTION FLOORS AND CEILINGS[a]

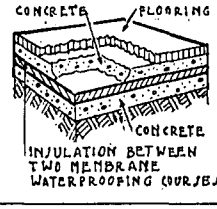
Coefficients are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between the air on the two sides, and are based on still air (no wind) conditions on both sides.

TYPICAL CONSTRUCTION 	THICKNESS OF CONCRETE (INCHES)	No.	TYPE OF FLOORING				
			No Flooring (Concrete Bare)[b]	Yellow Pine Flooring[c] on Wood Sleepers Embedded in Concrete[d]	Maple or Oak Flooring[e] on Yellow Pine Sub-Flooring[e] on Wood Sleepers Embedded in Concrete	Tile or Terrazzo[f] Flooring on Concrete	¼ in. Battleship Linoleum Directly on Concrete
TYPE OF CEILING			A	B	C	D	E
No Ceiling	4	1	0.65	0.40	0.31	0.61	0.44
	6	2	0.59	0.37	0.30	0.56	0.41
	8	3	0.53	0.35	0.28	0.51	0.38
	10	4	0.49	0.33	0.27	0.47	0.36
½ in. Plaster Applied Directly to Under Side of Concrete	4	5	0.59	0.38	0.30	0.56	0.41
	6	6	0.54	0.35	0.28	0.52	0.38
	8	7	0.50	0.33	0.27	0.47	0.36
	10	8	0.45	0.32	0.26	0.44	0.34
Suspended or Furred Metal Lath and Plaster (¾ in.) Ceiling	4	9	0.37	0.28	0.23	0.36	0.29
	6	10	0.35	0.26	0.22	0.34	0.28
	8	11	0.33	0.25	0.21	0.32	0.27
	10	12	0.32	0.24	0.21	0.31	0.25
Suspended or Furred Ceiling of Plasterboard (⅜ in.) and Plaster (½ in.)	4	13	0.35	0.26	0.22	0.34	0.28
	6	14	0.33	0.25	0.21	0.32	0.26
	8	15	0.31	0.24	0.21	0.30	0.25
	10	16	0.30	0.23	0.20	0.29	0.24
Suspended or Furred Ceiling of Rigid Insulation (½ in.) and Plaster (½ in.)	4	17	0.24	0.20	0.17	0.24	0.21
	6	18	0.23	0.19	0.17	0.23	0.20
	8	19	0.22	0.18	0.16	0.22	0.19
	10	20	0.22	0.18	0.16	0.21	0.19
Plaster (½ in.) on Corkboard (1½ in.) Set in Cement Mortar (½ in.) on Concrete	4	21	0.15	0.13	0.12	0.14	0.14
	6	22	0.14	0.13	0.12	0.14	0.13
	8	23	0.14	0.12	0.11	0.14	0.13
	10	24	0.14	0.12	0.11	0.14	0.13

[a] Computed from factors marked by * in Table 2.
[b] The figures in COLUMN A may be used with sufficient accuracy for concrete floors covered with carpet.
[c] Thickness of yellow pine flooring assumed to be ²⁵/₃₂ in.
[d] The figures in COLUMN B may be used with sufficient accuracy for maple or oak flooring applied directly over the concrete on wood sleepers.
[e] Thickness of maple or oak flooring assumed to be ¹³/₁₆ in.
[f] Thickness of tile or terrazzo assumed 1 in.

TABLE 10. COEFFICIENTS OF TRANSMISSION (*U*) OF CONCRETE FLOORS ON GROUND WITH VARIOUS TYPES OF FINISH FLOORING[a, c]

Coefficients are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between the ground and the air over the floor, and are based on still air (no wind) conditions.

TYPICAL CONSTRUCTION 	THICKNESS OF CONCRETE (INCHES)	No.	TYPE OF FINISH FLOORING				
			No Flooring (Concrete Bare)	Yellow Pine Flooring[b] on Wood Sleepers Resting on Concrete	Maple or Oak Flooring[c] on Yellow Pine Sub-Flooring on Wood Sleepers Resting on Concrete	Tile or Terrazzo[d] on Concrete	¼ in. Battleship Linoleum Directly on Concrete
TYPE AND THICKNESS OF INSULATION			A	B	C	D	E
None	4	1	1.07	0.35	0.28	0.98	0.60
	6	2	0.90	0.33	0.27	0.84	0.54
	8	3	0.79	0.32	0.26	0.74	0.50
	10	4	0.70	0.30	0.25	0.66	0.46
None[e]	4	5	0.66	0.29	0.24	0.63	0.44
	8	6	0.54	0.27	0.23	0.52	0.39
1 in. Rigid Insulation[e]	4	7	0.22	0.16	0.14	0.22	0.19
1 in. Rigid Insulation[e]	8	8	0.21	0.15	0.13	0.20	0.18
2 in. Corkboard[e]	4	9	0.12	0.099	0.093	0.12	0.11
2 in. Corkboard[e]	8	10	0.12	0.096	0.090	0.12	0.11

[a] Computed from factors marked by * in Table 2.
[b] Assumed ²⁵/₃₂ in. thick.
[c] Assumed ¹³/₁₆ in. thick.
[d] Assumed 1 in. thick.
[e] The figures for Nos. 5 to 10, inclusive, include 3 in. cinder concrete placed directly on the ground. The insulation is applied between the cinder concrete and the stone concrete. Usually the insulation is protected on both sides by a waterproof membrane, but this is not considered in the calculations.