

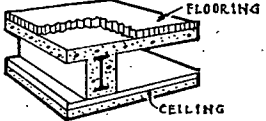
approximately twice the floor heat loss under average conditions in northern latitudes or about 4.0 Btu per hour per square foot (total, not per degree temperature difference) between the basement air and the ground at a level corresponding to the mid-height of the basement wall. Until further data are available, this value may be used with reasonable accuracy for calculating heat losses through basement walls, of heated basements.

CONDENSATION IN BUILDINGS

The water vapor in buildings will be transmitted through many types of building construction if there is a difference in the vapor pressures on

TABLE 11. COEFFICIENTS OF TRANSMISSION (U) OF CONCRETE CONSTRUCTION FLOORS AND CEILINGS

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.

TYPE OF CEILING	THICKNESS OF CONCRETE* (INCHES)	TYPE OF FLOORING					NUMBER
		No Flooring (Concrete Bare)	Tile* or Terrazo Flooring on Concrete	¼ In. Battulose* Linoleum Directly on Concrete	Parquet* Flooring In Mastic on Concrete	Double Wood Floor* on Sleepers*	
		A	B	C	D	E	
	3	0.69	0.65	0.45	0.45	0.25	1
	6	0.59	0.56	0.41	0.41	0.23	2
	10	0.50	0.48	0.36	0.36	0.22	3
No Ceiling	3	0.62	0.59	0.43	0.43	0.24	4
	6	0.54	0.52	0.39	0.39	0.22	5
	10	0.46	0.44	0.34	0.34	0.21	6
½ in. Plaster Applied to Underside of Concrete	3	0.38	0.37	0.30	0.30	0.19	7
	6	0.35	0.34	0.28	0.28	0.18	8
	10	0.32	0.31	0.26	0.26	0.17	9
Metal Lath and Plaster—Suspended or Furred	3	0.36	0.35	0.28	0.28	0.19	10
	6	0.33	0.32	0.27	0.27	0.18	11
	10	0.30	0.29	0.24	0.24	0.17	12
Gypsum Board (½ in.) and Plaster—Suspended or Furred	3	0.25	0.24	0.21	0.21	0.15	13
	6	0.23	0.23	0.20	0.20	0.15	14
	10	0.22	0.21	0.19	0.19	0.14	15
Insulating Board Lath (¼ in.) and Plaster—Suspended or Furred	3	0.25	0.24	0.21	0.21	0.15	13
	6	0.23	0.23	0.20	0.20	0.15	14
	10	0.22	0.21	0.19	0.19	0.14	15

*Thickness of tile assumed to be 1 in.

^bThe figures in Column C may be used with sufficient accuracy for concrete floors covered with carpet.

*Thickness of wood assumed to be 1 1/4 in.; thickness of mastic, 1/2 in. ($k = 4.5$).

^cBased on 3/4 in. yellow pine or fir sub-flooring and 1 1/4 in. hardwood finish flooring with an air space between sub-floor and concrete.

*Thickness of plaster assumed to be 3/4 in.

^dThickness of plaster assumed to be 1/2 in.

*For other thicknesses of concrete, interpolate.

TABLE 12. COEFFICIENTS OF TRANSMISSION (U) OF CONCRETE FLOORS ON GROUND WITH VARIOUS TYPES OF FINISH FLOORING

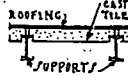
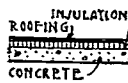
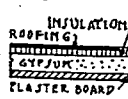
$U = 0.10^a$ Btu per hour per square foot per degree Fahrenheit temperature difference between the ground and the air over the floor.

^aUntil more complete data are available, based on tests now in progress, it is recommended that a coefficient of 0.10 be used for all types of concrete floors on the ground, with or without insulation. For basement wall below grade, use the same average coefficient (0.10). A lower ground temperature should, however, be used for walls than floors as explained in Chapter 6. For further data see A.S.H.V.E. RESEARCH REPORT No. 1213—Heat Loss Through Basement Walls and Floors, by F. C. Houghten, S. I. Taimuty, Carl Gutberlet and C. J. Brown (A.S.H.V.E. TRANSACTIONS, Vol. 48, 1942, p. 369).

TABLE 13. COEFFICIENTS OF TRANSMISSION (U) OF FLAT ROOFS COVERED WITH BUILT-UP ROOFING. NO CEILING—UNDER SIDE OF ROOF EXPOSED

(See Table 14 for Flat Roofs with Ceilings)

These 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 an outside wind velocity of 15 mph.

TYPE OF ROOF DECK	THICKNESS OF ROOF DECK (INCHES)	NO INSULATION	INSULATION ON TOP OF DECK (COVERED WITH BUILT-UP ROOFING)								NUMBER
			INSULATING BOARD (Thickness Below)				CORKBOARD (Thickness Below)				
			1/2 In.	1 In.	1 1/2 In.	2 In.	1 In.	1 1/2 In.	2 In.		
			A	B	C	D	E	F	G	H	
Flat Metal Roof Deck ^a 		0.94	0.39	0.24	0.18	0.14	0.23	0.17	0.13	1	
Precast Cement Tile 	1 1/2 in.	0.84	0.37	0.24	0.18	0.14	0.22	0.16	0.13	2	
Concrete 	2 in. 4 in. 6 in.	0.82 0.72 0.65	0.37 0.34 0.33	0.24 0.23 0.22	0.17 0.17 0.16	0.14 0.13 0.13	0.22 0.21 0.21	0.16 0.16 0.15	0.13 0.12 0.12	3 4 5	
Gypsum and Wood Fiber ^b on 3/4 in. Gypsum Board 	2 3/4 in. 3 3/4 in.	0.40 0.32	0.25 0.22	0.18 0.16	0.14 0.13	0.12 0.11	0.17 0.15	0.13 0.12	0.11 0.10	6 7	
Wood ^c 	1 in. 1 1/4 in. 2 in. 3 in.	0.49 0.37 0.32 0.23	0.28 0.24 0.22 0.17	0.20 0.18 0.16 0.14	0.15 0.14 0.13 0.11	0.12 0.11 0.11 0.096	0.19 0.17 0.16 0.13	0.14 0.13 0.12 0.11	0.12 0.11 0.10 0.091	8 9 10 11	

^aCoefficient of transmission of bare corrugated iron (no roofing) is 1.50 Btu per hour per square foot of projected area per degree Fahrenheit difference in temperature, based on an outside wind velocity of 15 mph.

^b87 1/2 per cent gypsum, 12 1/2 per cent wood fiber. Thickness indicated includes 1/2 in. gypsum board.

^cNominal thicknesses specified—actual thicknesses used in calculations.