

TABLE 28. COEFFICIENTS OF TRANSMISSION (U) OF CONCRETE CONSTRUCTION FLOORS ON GROUND^a

Note.—THESE COEFFICIENTS ARE EXPRESSED IN B.T.U. PER HOUR PER SQUARE FOOT PER 1 DEG. FAHR. DIFFERENCE IN TEMPERATURE BETWEEN THE GROUND AND THE AIR OVER THE FLOOR AND ARE BASED ON STILL-AIR (NO WIND) CONDITIONS.

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

Tile or Terrazzo	10.00 per 1"
Concrete (Stone 1:2:4 mix)	8.30 per 1"
Cinder Concrete	5.20 per 1"
Wood (Yellow Pine)	1.00 per 1"
Wood (Maple)	1.20 per 1"
Rigid Insulation (Board form)	0.33 per 1"
Cork board	0.30 per 1"

Typical Construction

Concrete

3" Cinder Concrete

Insulation between 2 membrane waterproofing courses^b

Y = Thickness of Insulation in Inches where specified

Number	Type of Insulation (Between Cinder & Stone Concrete)	Thickness Y	Thickness X	Type of Flooring			
				No Flooring (Concrete bare)	1" Yellow Pine Flooring on Wood Sleepers embedded in Concrete ^c	1 1/2" Maple or Oak Flooring on 1" Yellow Pine Sub-Flooring on Wood Sleepers embedded in Concrete	1" Terrazzo or Tile Flooring on Concrete
				A	B	C	D
1	No Insulation	0"	4"	0.556	0.388	0.308	0.526
2		0"	5"	0.521	0.370	0.297	0.495
3		0"	6"	0.490	0.355	0.286	0.467
4		0"	8"	0.439	0.327	0.268	0.420
5	Rigid Insulation (Board form)	1"	4"	0.207	0.178	0.159	0.203
6		1"	5"	0.202	0.174	0.156	0.198
7		1"	6"	0.197	0.171	0.153	0.193
8		1"	8"	0.188	0.164	0.148	0.185
9	Cork board	2"	4"	0.118	0.108	0.101	0.117
10		2"	5"	0.116	0.107	0.100	0.115
11		2"	6"	0.115	0.105	0.098	0.113
12		2"	8"	0.112	0.103	0.096	0.110

^aAssume ground temperature to be 50 deg. fahr.

^bMembrane waterproofing neglected in calculations.

^cThe figures in column "B" may be used with sufficient accuracy for maple or oak flooring on wood sleepers embedded in concrete.

TABLE 29. COEFFICIENTS OF TRANSMISSION (U) OF VARIOUS TYPES OF FLAT ROOFS COVERED WITH BUILT-UP ROOFING WITHOUT CEILINGS. (UNDERSIDE OF ROOF EXPOSED)

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									
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"									
Lt. wt. Heat-treated Clay Aggregate Cement 1.62 per 1"									
			Concrete Roofs						Wood Roofs
			Roofing Insulation Concrete						Roofing Insulation Wood
			X						X
			X						X
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^aPre cast cement tile. For heat-treated clay aggregate cement tile covered with roofing, $U = 0.438$ (1 1/2 in. slab) and $U = 0.628$ (1 in. slab), based on a conductivity of 1.62 per 1 in.

^bNominal thicknesses specified—actual thicknesses used in computations.

^cNo built-up roofing. The value for corrugated iron is obtained by assuming that the surface area is increased 50 per cent.