

TABLE 10-C. COEFFICIENTS OF TRANSMISSION (*U*) OF VARIOUS TYPES OF FLOORS AND CEILINGS

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.

CONCRETE CONSTRUCTION ON GROUND *

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

Tile or Terrazzo	10.00	per 1°
Concrete (Stone 1:2 1/4 mix)	8.50	per 1°
Cinder Concrete	5.20	per 1°
Wood (Yellow Pine)	1.00	per 1°
Wood (Maple)	1.20	per 1°
Fiber Insulation (Board form)	0.33	per 1°
Cork board	0.30	per 1°

Typical Construction

Y = Thickness of Insulation in Inches where specified

Insulation between 2 membrane waterproofing Courses †

Floor Number	Type of Insulation (between Cinder & Stone Concrete)	Thickness <i>Y</i>	Thickness <i>X</i>	Type of Flooring			
				No Flooring (Concrete bare)	Type of Flooring		
					1" Yellow Pine Flooring on Wood Sleepers embedded in Concrete †	3/4" 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	
204	No Insulation	0"	4"	0.556	0.388	0.308	0.526
205		0"	5"	0.521	0.370	0.297	0.495
206		0"	6"	0.490	0.355	0.286	0.467
207		0"	8"	0.439	0.327	0.268	0.420
208	Fiber Insulation (Board form)	1"	4"	0.207	0.178	0.159	0.203
209		1"	5"	0.202	0.174	0.156	0.198
210		1"	6"	0.197	0.171	0.153	0.193
211		1"	8"	0.188	0.164	0.148	0.185
212	Cork board	2"	4"	0.118	0.108	0.101	0.117
213		2"	5"	0.116	0.107	0.100	0.115
214		2"	6"	0.115	0.105	0.098	0.113
215		2"	8"	0.112	0.103	0.096	0.110

*Assume ground temperature to be 50 deg. Fahr.

†Membrane water proofing neglected in calculations.

‡The figures in column "b" may be used with sufficient accuracy for maple or oak flooring on wood sleepers embedded in concrete.

TABLE 11-A. COEFFICIENTS OF TRANSMISSION (*U*) OF VARIOUS TYPES OF FLAT ROOFS COVERED WITH BUILT-UP ROOFING

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.

Note.—These coefficients are expressed in B.t.u. per hour per square foot per 1 deg. Fahr. difference in temperature with an outside wind exposure of 15 miles per hour.

FLAT ROOFS - NO PLASTER CEILINGS (UNDERSIDE OF ROOF DECK UNFINISHED)

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 °F.

Roofing
Concrete 1.325 per ft.
Gypsum (5 sawdust fiber) 8.30 per ft.
Wood (Yellow Pine or Fir) 2.30 per ft.
Fiber Insulation (Board form) 1.00 per ft.
Felts & Quilts (Soft) 0.35 per ft.
Cork board 0.27 per ft.
Plaster board 0.30 per ft.
Cellular Gypsum (2 1/2") 3.04 per ft.
Cellular Gypsum (2 1/2") 0.77 per ft.

Concrete Roofs

Thickness - X

Wood Roofs

Thickness - X †

Poured Gypsum containing 15% Wood Fiber

Thickness - X

Flat Metal Roofs

n

Corrugated Iron Roofs

1.50 ‡

Roof No. Thickness of Insulation Kind of Insulation

216 0" No Insulation

217 1/2" Fiber Insulation (Board form)

218 1" "

219 1 1/2" "

220 2" "

221 1" Cork board

222 1 1/2" "

223 2" "

224 1/2" Soft Felt or Quilt (Not Compressed)

225 1" "

226 2" Cellular Gypsum

1 1/2" 2" 3" 4" 5" 6" 1 1/2" 2" 3" 4" m

0.480 0.658 0.610 0.568 0.532 0.500 0.485 0.386 0.345 0.156 0.204

0.334 0.350 0.317 0.306 0.295 0.285 0.280 0.243 0.226 0.184 0.156

0.272 0.220 0.214 0.209 0.203 0.199 0.196 0.178 0.168 0.144 0.126

0.166 0.165 0.162 0.159 0.156 0.153 0.151 0.140 0.134 0.118 0.106

0.133 0.132 0.130 0.128 0.126 0.124 0.123 0.116 0.112 0.100 0.091

0.208 0.206 0.201 0.196 0.192 0.188 0.185 0.169 0.160 0.138 0.121

0.154 0.153 0.151 0.148 0.145 0.143 0.142 0.132 0.126 0.124 0.101

0.123 0.122 0.120 0.119 0.117 0.115 0.114 0.108 0.104 0.095 0.086

0.301 0.297 0.286 0.277 0.268 0.260 0.256 0.225 0.210 0.174 0.148

0.193 0.191 0.187 0.183 0.179 0.175 0.174 0.159 0.151 0.131 0.116

0.246 0.243 0.236 0.229 0.223 0.217 0.214 0.193 0.182 0.154 0.133

*Pre cast cement.

†Nominal thicknesses specified—actual thicknesses used in computations.

‡No built-up roofing. The value for corrugated iron is obtained by assuming that the surface area is increased 50 per cent.