

TABLE 10. COEFFICIENTS OF TRANSMISSION (*U*) OF MASONRY PARTITIONS*

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

EXAMPLE	EXAMPLE OF SUBSTITUTION
Resistances used are given below in this table or in Table 3 or 4. Construction Resistance (<i>R</i>) 1. Inside surface (still air)..... 0.68 2. Plas. (lt. wt. agg.) ½ in..... 0.39 3. Cement block (cinder agg.) (4 in.)..... 1.11 4. Plas. (lt. wt. agg.) ½ in..... 0.39 5. Inside surface (still air)..... 0.68 Total resistance..... 3.25 $U = 1/R = 1/3.25 =$..... 0.31 See value 0.31 in bold face type in table below	Resistances used are given below in this table or in Table 3 or 4. Replace item 3 with gypsum tile (4 in.) Total resistance..... 3.25 Deduct..... 3. Cement block (cinder agg.) (4 in.)..... 1.11 Difference..... 2.14 Add..... 3. Gypsum tile (4 in.)..... 1.67 Total resistance..... 3.81 $U = 1/R = 1/3.81 =$..... 0.26

TYPE OF PARTITION	MATERIAL	<i>R</i>	<i>U</i>	SURFACE FINISH			
				NONE		PLAS. (LT. WT. AGG.) ½ IN.	
				One side 0.39	Two sides 0.78	One side 0.11	Two sides 0.22
Hollow concrete block	(Cinder agg.)						
	(3 in.)	0.86	0.45	0.38	0.33	0.43	0.41
	(4 in.)	1.11	0.40	0.35	0.31	0.39	0.37
	(8 in.)	1.72	0.32	0.29	0.26	0.31	0.30
	(12 in.)	1.89	0.31	0.27	0.25	0.30	0.29
	(Lt. wt. agg.)						
	(3 in.)	1.27	0.38	0.33	0.30	0.36	0.35
	(4 in.)	1.50	0.35	0.31	0.27	0.34	0.32
	(8 in.)	2.00	0.30	0.27	0.24	0.29	0.28
	(12 in.)	2.27	0.28	0.25	0.23	0.27	0.26
	(Gravel agg.)						
	(8 in.)	1.11	0.40	0.35	0.31	0.39	0.37
	(12 in.)	1.28	0.38	0.33	0.29	0.36	0.35
Hollow clay tile	(3 in.)	0.80	0.46	0.39	0.34	0.44	0.42
	(4 in.)	1.11	0.40	0.35	0.31	0.39	0.37
	(6 in.)	1.52	0.35	0.31	0.27	0.33	0.32
	(8 in.)	1.85	0.31	0.28	0.25	0.30	0.29
Hollow gypsum tile	(3 in.)	1.35	0.37	0.32	0.29	0.35	0.34
	(4 in.)	1.67	0.33	0.29	0.26	0.32	0.31
½ in. Solid plaster walls	Gypsum lath (½ in.) and plas. ¾ in. each side						
	(Lt. wt. agg.)	1.59	0.38	—	—	—	—
	(Sand agg.)	0.71	0.48	—	—	—	—
	1 in. each side						
	(Lt. wt. agg.)	1.73	0.32	—	—	—	—
Metal lath and plas. ^b	(Sand agg.)	0.81	0.46	—	—	—	—
	2 in. total thickness						
	(Lt. wt. agg.)	1.28	0.38	—	—	—	—
	(Sand agg.)	0.56	0.58	—	—	—	—
	2½ in. total thickness						
	(Lt. wt. agg.)	1.60	0.34	—	—	—	—
	(Sand agg.)	0.45	0.55	—	—	—	—
Glass and glass blocks..... See Table 20							

* See text section Calculating Overall Coefficients for basis of calculations.

^b Metal core and supports disregarded. Plaster troweled smooth both sides.

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

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

EXAMPLE	EXAMPLE OF SUBSTITUTION
Resistances used are given below in this table or in Tables 3 or 4. Heated room above unheated space Construction Resistance (<i>R</i>) (Heat flow down) 1. Top surface (still air)..... 0.82 2. Linoleum or tile (av. <i>R</i>)..... 0.05 3. Felt..... 0.06 4. Plywood (¾ in.)..... 0.78 5. Wood subfloor (2½ in.)..... 0.98 6. Air space^b (7½ in.)..... 1.25 7. Metal lath and ¾ in. plas. (lt. wt. agg.)..... 0.47 8. Bottom surface (still air)..... 0.92 Total resistance..... 6.43 $U = 1/R = 1/6.43 =$..... 0.18 See value 0.18 in bold face type in table below.	Resistances used are given below in this table or in Tables 3 or 4. Assume heated room is below unheated space so heat flow is up. Total resistance..... 5.43 Deduct..... 1. Top surface (heat flow down)..... 0.92 3. Air space (heat flow down)..... 1.52 8. Bottom surface (heat flow down)..... 0.92 Resistance deducted..... 3.09 Difference..... 2.34 Add..... 1. Top surface (heat flow up)..... 0.81 3. Air space (heat flow up)..... 0.85 8. Bottom surface (heat flow up)..... 0.81 Resistance added..... 2.07 Total resistance..... 4.41 $U = 1/R = 1/4.41 =$..... 0.23

TO ADJUST *U* VALUES FOR CONSTRUCTION WITH ADDED INSULATION BETWEEN FRAMING MEMBERS, SEE TABLE 16. $U = 1/R = 1/4.41 =$ 0.23

DIRECTION OF HEAT	HEAT FLOW UPWARD (WINTER CONDITIONS)	HEAT FLOW DOWNWARD (SUMMER CONDITIONS)	TYPE OF FLOOR														
			WOOD SUBFLOOR (2½ in.), FELT, AND—						WOOD SUBFLOOR (2½ in.) FELT, AND—								
			None	Wood subfloor (¾ in.)	Cement (1-½ in.) and ceramic tile (¾ in.)	Hardwood floor (¾ in.)	Plywood (¾ in.) and floor tile or linoleum (¾ in.)	Insul. bd. (¾ in.) and hard bd. (¾ in.) and floor tile or linoleum (¾ in.)	None	Wood subfloor (¾ in.)	Cement (1½ in.) and ceramic tile (¾ in.)	Hardwood floor (¾ in.)	Plywood (¾ in.) and floor tile ² or linoleum (¾ in.)	Insul. bd. (¾ in.) and hard bd. (¾ in.) and floor tile or linoleum (¾ in.)			
TYPE OF CEILING			Resistance →														
MATERIAL			R	U	U	U	U	U	U	U	U	U	U	U	U	U	
None.....			—	—	0.45	0.38	0.34	0.31	0.28	—	0.35	0.31	0.28	0.26	0.24		
Gypsum bd. (¾ in.).....			0.52	0.65	0.30	0.27	0.24	0.23	0.21	0.46	0.23	0.21	0.20	0.18	0.17		
Gypsum lath (¾ in.) and ½ in. plas. (lt. wt. agg.).....			0.64	0.54	0.27	0.24	0.23	0.21	0.20	0.40	0.21	0.20	0.18	0.17	0.16		
Gypsum lath (¾ in.) and ½ in. plas. (sand agg.).....			0.41	0.61	0.29	0.26	0.24	0.22	0.21	0.44	0.22	0.21	0.19	0.18	0.17		
Metal lath and ¾ in. plas. (lt. wt. agg.).....			0.47	0.59	0.28	0.26	0.23	0.22	0.20	0.43	0.22	0.20	0.19	0.18	0.17		
Metal lath and ¾ in. plas. (sand agg.).....			0.13	0.74	0.31	0.28	0.26	0.24	0.22	0.51	0.24	0.23	0.20	0.19	0.18		
Insul. bd. (¾ in.).....			1.43	0.38	0.22	0.20	0.19	0.18	0.17	0.31	0.18	0.17	0.16	0.15	0.15		
Insul. bd. lath (½ in.) and ½ in. plas. (sand agg.).....			1.52	0.36	0.22	0.20	0.19	0.18	0.17	0.30	0.18	0.17	0.16	0.15	0.14		
Acoustical tile																	
(¾ in.) on gypsum bd. (¾ in.).....			1.51 ^d	0.37	0.22	0.20	0.19	0.18	0.17	0.30	0.18	0.17	0.16	0.15	0.14		
(¾ in.) on furring.....			1.19	0.41	0.24	0.22	0.20	0.19	0.18	0.33	0.19	0.18	0.17	0.16	0.15		
(¾ in.) on gypsum bd. (¾ in.).....			1.10 ^c	0.30	0.19	0.18	0.17	0.16	0.15	0.25	0.16	0.15	0.15	0.14	0.13		
(¾ in.) on furring.....			1.78	0.33	0.21	0.19	0.18	0.17	0.16	0.28	0.17	0.16	0.15	0.14	0.14		
Wood lath and ½ in. plas. (sand agg.).....			0.40	0.62	0.29	0.26	0.24	0.22	0.21	0.45	0.22	0.21	0.19	0.18	0.17		

* See text section Calculating Overall Coefficients for basis of calculations.

^b To adjust *U* values see note just above this table.

^c Includes asphalt, rubber, and plastic tile (¾ in.), ceramic tile, or terrazzo (1 in.).

^d Includes thermal resistance of ¾ in. gypsum wall board.