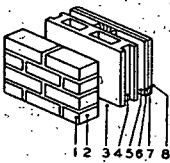


TABLE 8. COEFFICIENTS OF TRANSMISSION (U) OF MASONRY CAVITY WALLS^a
Coefficients are expressed in Btu per (hour) (square foot) (Fahrenheit degree difference in temperature between the air on the two sides), and are based on an outside wind velocity of 15 mph.

EXAMPLE		EXAMPLE OF SUBSTITUTION	
Resistances used are given below in this table or in Table 3 or 4		Resistances used are given below in this table or in Table 3 or 4.	
	Construction	Resistance (R)	Replace item 4 with 8 in. concrete block and items 6 and 7 with ½ in. plas. (sand agg.) applied directly to concrete block.
	1. Outside surface (15 mph wind)	0.17	Total resistance..... 4.90
	2. Common brick (4 in.) (av. R)	0.76	Deduct
	3. Air space ^b	0.97	4. Concrete block (gravel agg.) (4 in.)..... 0.71
	4. Concrete block (gravel agg.) (4 in.)	0.71	5. Air space ^b 0.97
	5. Air space ^b	0.97	6. Gypsum lath (¾ in.)..... 0.32
	6. Gypsum lath (¾ in.)	0.32	7. Plas. (lt. wt. agg.) ½ in..... 0.32
	7. Plas. (lt. wt. agg.) ½ in.	0.32	8. Inside surface (still air)..... 0.68
	8. Inside surface (still air)	0.68	Total resistance..... 4.90
	Total resistance..... 4.90		$U = 1/R = 1/4.90 = 0.20$
See value 0.20 in bold face type in table below.		Resistance deducted..... 2.52	
		Difference..... 2.38	
		Add	
		4. Concrete block (gravel agg.) 8 in..... 1.11	
		7. Plas. (sand agg.) ½ in..... 0.11	
		Resistance added..... 1.22	
		Total resistance =..... 3.60	
		$U = 1/R = 1/3.60 = 0.28$	

TO ADJUST U VALUES FOR CONSTRUCTION WITH ADDED INSULATION^c BETWEEN INNER AND OUTER TIERS OR BETWEEN FURRING STRIPS, SEE TABLE 16.

EXTERIOR CONSTRUCTION			INNER SECTION		INTERIOR FINISH																			
					NONE	PLAS ½ IN. ON WALL		METAL LATH AND ¾ IN. PLAS. ON FURRING		GYPSUM LATH (¾ IN.) AND ½ IN. PLAS. ON FURRING		INSUL. BD. LATH AND ¾ IN. PLAS. ON FURRING		WOOD LATH AND ½ IN. PLAS.										
						(Sand Agg.)	(Lt. Wt. Agg.)	(Sand Agg.)	(Lt. Wt. Agg.)	No Plas	(Sand Agg.)	(Lt. Wt. Agg.)	No Plas	(Sand Agg.)	(Lt. Wt. Agg.)	No Plas	(Sand Agg.)	(Lt. Wt. Agg.)						
RESISTANCE →		R	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
MATERIAL	AV. R.																						MATERIAL	
Face brick (4 in.)	0.44	Concrete block (4 in.)	0.71	0.34	0.32	0.30	0.25	0.23	0.23	0.23	0.22	0.19	0.18	0.23	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Gravel agg.)	0.71	0.34	0.32	0.30	0.25	0.23	0.23	0.23	0.22	0.19	0.18	0.23	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Cinder agg.)	1.11	0.30	0.29	0.27	0.22	0.21	0.21	0.21	0.20	0.17	0.17	0.21	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Lt. wt. agg.)	1.50	0.27	0.26	0.24	0.21	0.19	0.20	0.19	0.19	0.16	0.16	0.19	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
Common brick (4 in.)	0.80	Common brick (4 in.)	0.80	0.33	0.32	0.29	0.24	0.22	0.23	0.23	0.21	0.18	0.18	0.23	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Clay tile (4 in.)	1.11	0.30	0.29	0.27	0.22	0.21	0.21	0.21	0.20	0.17	0.17	0.21	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Concrete block (4 in.)	0.71	0.30	0.29	0.27	0.23	0.21	0.22	0.21	0.20	0.18	0.17	0.21	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Gravel agg.)	0.71	0.30	0.29	0.27	0.23	0.21	0.22	0.21	0.20	0.18	0.17	0.21	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
Concrete block (cinder agg.) (4 in.)	0.76	(Cinder agg.)	1.11	0.27	0.26	0.25	0.21	0.19	0.20	0.20	0.19	0.16	0.16	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Lt. wt. agg.)	1.50	0.25	0.24	0.22	0.19	0.18	0.19	0.18	0.18	0.15	0.15	0.18	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Common brick (4 in.)	0.80	0.30	0.29	0.27	0.22	0.21	0.21	0.21	0.20	0.17	0.17	0.21	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Clay tile (4 in.)	1.11	0.27	0.26	0.25	0.21	0.19	0.20	0.20	0.19	0.16	0.16	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
Concrete block (cinder agg.) (4 in.)	1.11	Concrete block (4 in.)	0.71	0.27	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.15	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Gravel agg.)	0.71	0.27	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.15	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Cinder agg.)	1.11	0.25	0.24	0.23	0.19	0.18	0.19	0.18	0.18	0.15	0.15	0.18	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Lt. wt. agg.)	1.50	0.23	0.22	0.21	0.18	0.17	0.17	0.17	0.17	0.15	0.14	0.17	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
Common brick (4 in.)	0.80	Common brick (4 in.)	0.80	0.27	0.26	0.24	0.21	0.19	0.20	0.20	0.19	0.16	0.16	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Clay tile (4 in.)	1.11	0.25	0.24	0.23	0.19	0.18	0.19	0.18	0.18	0.16	0.15	0.18	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		Concrete block (4 in.)	0.71	0.27	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.15	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40
		(Gravel agg.)	0.71	0.27	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.15	0.20	0.11	0.39	0.19	0.47	0.32	0.41	0.64	1.43	1.58	0.40

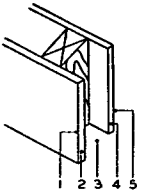
^a See text section Calculating Overall Coefficients for basis of calculations.

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

^c If insulation is to be used in the cavity it should be a water resistant type.

TABLE 9. COEFFICIENTS OF TRANSMISSION (U) OF FRAME PARTITIONS OR INTERIOR WALLS^a

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.		Resistances used are given below in this table or in Table 3 or 4.	
	Construction	Resistance (R)	Replace item 2 with wood fiber hardboard (¾ in.).
	1. Surface (still air)	0.68	Total resistance..... 2.97
	2. Gypsum bd. (¾ in.)	0.32	Deduct
	3. Air space ^b	0.97	2. Gypsum wall board (¾ in.)..... 0.32
	4. Gypsum wall board (¾ in.)	0.32	Deduct
	5. Surface (still air)	0.68	2. Gypsum wall board (¾ in.)..... 0.32
	Total resistance..... 2.97		Difference..... 2.65
	$U = 1/R = 1/2.97 = 0.34$		Add
	See value 0.34 in bold face type in table below.		2. Hardboard (¾ in.)..... 0.18
			Total resistance..... 2.83
			$U = 1/R = 1/2.83 = 0.35$

TO ADJUST U VALUES FOR CONSTRUCTION WITH ADDED INSULATION BETWEEN MEMBERS, SEE TABLE 16.

TYPE OF INTERIOR FINISH	MATERIAL	R	U	U
SINGLE PARTITION (FINISH ON ONLY ONE SIDE OF STUDS)	Gypsum bd. (¾ in.)	0.32	0.60	0.34
	Gypsum lath (¾ in.) and ½ in. plas. (lt. wt. agg.)	0.64	0.50	0.28
	Gypsum lath (¾ in.) and ½ in. plas. (sand agg.)	0.41	0.56	0.32
	Metal lath and ¾ in. plas. (lt. wt. agg.)	0.47	0.55	0.31
	Metal lath and ¾ in. plas. (sand agg.)	0.13	0.67	0.39
	Insul. bd. (¾ in.)	1.43	0.36	0.19
	Insul. bd. lath (¾ in.) and ½ plas. (sand agg.)	1.68	0.35	0.19
	Plywood: (¾ in.)	0.31	0.60	0.34
	(¾ in.)	0.47	0.55	0.31
	(¾ in.)	0.63	0.50	0.28
DOUBLE PARTITION (FINISH ON BOTH SIDES OF STUDS)	Wood panels (¾ in.)	0.94	0.43	0.24
	Wood lath and ½ in. plas. (sand agg.)	0.40	0.57	0.32
	Sheet metal panels	0	0.74	0.43
	Glass and glass blocks			

See Table 20

^a See text section Calculating Overall Coefficients for basis of calculations.

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

tion of heat flow. Each part is based on temperature conditions considered generally appropriate for the case.

Any and all U values are based on a series of assumptions as to nominal characteristics. Common variations in conditions, materials, workmanship, etc. can introduce much greater variations in U values than the variations resulting from the assumed mean temperatures and temperature differences described. From this it is also clear that the use of more than two significant figures in stating a U value is assuming more precision than can possibly exist. Three significant figures are used in Table 16 merely as a means of reducing cumulative errors when the table is used several times to obtain a single result. It should not be assumed that the figures are accurate, over-all, to three significant figures. Also, a result taken from Table 16 should always be rounded off to two significant figures.

(Text continued on page 202)