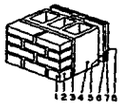
Table 7 . . . . Coefficients of Transmission (U) of Masonry Walls[a]

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—Wall G 1

Resistances used are given below in this table or in Table 3 or 4



Construction	Resistance (R)
1. Outside surface (15 mph wind)	0.17
2. Face brick (4 in.) (av. R.)	0.89
3. Cement mortar (½ in)	0.10
4. Concrete block (cinder agg.) (4 in.)	1.11
5. Air space[b]	0.97
6. Gypsum lath (⅜ in.)	0.32
7. Plas. (sand agg.) (½ in)	0.09
8. Inside surface (still air)	0.68
Total resistance	3.83
$U = 1/R = 1/3.83 =$	0.26

See value 0.26 in boldface type in table below.

Example of Substitution

Resistances used are given below in this table or in Table 3 or 4

Replace items 6 and 7 with wood panels (¾ in.) and vapor barrier applied over furring strips		
Total resistance		3.83
Deduct 6. Gypsum lath (⅜ in.)	0.32	
7. Plas. (sand agg.) (½ in)	0.09	0.41
Difference		3.42
Add 6. Vapor barrier	0.06	
7. Wood panel (¾ in.)	0.94	1.00
Total resistance		4.42
$U = 1/R = 1/4.42 =$		0.23

To Adjust U Values for Construction with Added Insulation between Furring Strips, See Table 16

Exterior Facing Material	R	Av. R	Backing Material	R	Interior Finish: None	Plas. ⅝ in. on Wall (Sand agg.)	Plas. ⅝ in. on Wall (Lt. wt. agg.)	Metal Lath and ¾ in. Plas. on Furring (Sand agg.)	Metal Lath and ¾ in. Plas. on Furring (Lt. wt. agg.)	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring: No plas.	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring (Sand agg.)	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring (Lt. wt. agg.)	Insul. Bd. Lath (½ in.) and ½ in. Plas. on Furring: No plas.	Insul. Bd. Lath (½ in.) and ½ in. Plas. on Furring (Sand agg.)	Wood Lath and ½ in. Plas. (Sand agg.)	Number
			Resistance →			0.11	0.39	0.13	0.47	0.32	0.41	0.64	1.43	1.52	0.40	
					U	U	U	U	U	U	U	U	U	U	U	
					A	B	C	D	E	F	G	H	I	J	K	
			Concrete block (Cinder agg.)													
			(4 in.)	1.11	0.41	0.39	0.35	0.28	0.26	0.27	0.26	0.25	0.21	0.20	0.26	1
			(8 in.)	1.78	0.33	0.32	0.29	0.24	0.22	0.23	0.23	0.21	0.18	0.18	0.23	2
			(12 in.)	1.89	0.31	0.30	0.28	0.23	0.21	0.22	0.22	0.21	0.18	0.17	0.22	3
			(Lt. wt. agg.)													
			(4 in.)	1.50	0.35	0.34	0.31	0.25	0.23	0.24	0.24	0.22	0.19	0.19	0.24	4
Face brick			(8 in.)	2.00	0.30	0.29	0.27	0.23	0.21	0.22	0.21	0.20	0.17	0.17	0.21	5
4 in.	0.44		(12 in.)	2.27	0.28	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.16	0.20	6
Stone			(Sand agg.)													
4 in.	0.32		(4 in.)	0.71	0.49	0.46	0.41	0.32	0.29	0.30	0.29	0.27	0.22	0.22	0.29	7
Precast concrete		0.39	(8 in.)	1.11	0.41	0.39	0.35	0.28	0.26	0.27	0.26	0.25	0.21	0.20	0.26	8
(sand agg.)			(12 in.)	1.28	0.38	0.37	0.33	0.27	0.25	0.26	0.25	0.24	0.20	0.20	0.25	9
4 in.	0.32															
6 in.	0.48		Hollow clay tile													
			(4 in.)	1.11	0.41	0.39	0.35	0.28	0.26	0.27	0.26	0.25	0.21	0.20	0.26	10
			(8 in.)	1.85	0.31	0.30	0.28	0.23	0.22	0.22	0.22	0.21	0.18	0.18	0.22	11
			(12 in.)	2.50	0.26	0.25	0.24	0.20	0.19	0.19	0.19	0.18	0.16	0.16	0.19	12
			Concrete (Sand agg.)													
			(4 in.)	0.32	0.60	0.56	0.49	0.36	0.32	0.34	0.33	0.31	0.25	0.24	0.33	13
			(6 in.)	0.48	0.55	0.52	0.45	0.34	0.31	0.32	0.31	0.29	0.24	0.23	0.31	14
			(8 in.)	0.64	0.51	0.48	0.42	0.32	0.29	0.31	0.30	0.28	0.23	0.22	0.30	15
			Concrete block (Cinder agg.)													
			(4 in.)	1.11	0.36	0.35	0.32	0.26	0.24	0.25	0.24	0.23	0.19	0.19	0.24	16
			(8 in.)	1.78	0.29	0.29	0.26	0.22	0.21	0.21	0.21	0.20	0.17	0.17	0.21	17
			(12 in.)	1.89	0.28	0.27	0.25	0.21	0.20	0.21	0.20	0.19	0.17	0.17	0.20	18
			(Lt. wt. agg.)													
			(4 in.)	1.50	0.32	0.30	0.28	0.23	0.22	0.22	0.22	0.21	0.18	0.18	0.22	19
			(8 in.)	2.00	0.27	0.26	0.25	0.21	0.20	0.20	0.20	0.19	0.16	0.16	0.20	20
			(12 in.)	2.27	0.25	0.25	0.23	0.20	0.19	0.19	0.19	0.18	0.16	0.16	0.19	21
Common brick			(Sand agg.)													
4 in.	0.80		(4 in.)	0.71	0.42	0.40	0.36	0.29	0.26	0.27	0.27	0.25	0.21	0.21	0.27	22
Precast concrete		0.72	(8 in.)	1.11	0.36	0.35	0.32	0.26	0.24	0.25	0.24	0.23	0.19	0.19	0.24	23
(sand agg.)			(12 in.)	1.28	0.34	0.33	0.30	0.25	0.23	0.24	0.23	0.22	0.19	0.18	0.23	24
8 in.	0.64															
			Hollow clay tile													
			(4 in.)	1.11	0.36	0.35	0.32	0.26	0.24	0.25	0.24	0.23	0.19	0.19	0.24	25
			(8 in.)	1.85	0.28	0.28	0.26	0.22	0.20	0.21	0.20	0.19	0.17	0.17	0.20	26
			(12 in.)	2.50	0.24	0.23	0.22	0.19	0.18	0.18	0.18	0.17	0.15	0.15	0.18	27
			Concrete (Sand agg.)													
			(4 in.)	0.32	0.50	0.48	0.42	0.32	0.29	0.30	0.30	0.28	0.23	0.22	0.30	28
			(6 in.)	0.48	0.47	0.44	0.39	0.31	0.28	0.29	0.28	0.27	0.22	0.22	0.28	29
			(8 in.)	0.64	0.43	0.41	0.37	0.29	0.27	0.28	0.27	0.26	0.21	0.21	0.27	30

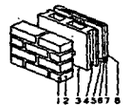
[a] See text section Calculating Overall Coefficients for basis of calculations.
[b] To adjust U values for the effect of added insulation between framing members, see Table 18.

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—Wall H 6

Resistances used are given below in this table or in Table 3 or 4



Construction		Resistance (R)
1. Outside surface (15 mph wind)		0.17
2. Common brick (4 in.) (av. R.)		0.76
3. Air space[b]		0.97
4. Concrete block (gravel agg.) (4 in.)		0.71
5. Air space[b]		0.97
6. Gypsum lath (⅜ in.)		0.32
7. Plas. (lt. wt. agg.) (½ in.)		0.32
8. Inside surface (still air)		0.68
Total resistance		4.90
$U = 1/R = 1/4.90 =$		0.20

See value 0.20 in boldface type in table below.

Example of Substitution

Resistances used are given below in this table or in Table 3 or 4

Replace item 4 with 8 in. concrete block and items 6 and 7 with ⅝ in. plas. (sand agg.) applied directly to concrete block.		
Total resistance		4.90
Deduct 4. Concrete block (gravel agg.) 4 in.	0.71	
5. Air space	0.97	
6. Gypsum lath (⅜ in.)	0.32	
7. Plas. (lt. wt. agg.) (½ in.)	0.32	2.32
Difference		2.58
Add 4. Concrete block (gravel agg.) 8 in.	1.11	
7. Plas. (sand agg.) (⅝ in)	0.11	1.22
Total resistance =		3.80
$U = 1/R = 1/3.80$		0.26

To Adjust U Values for Construction with Added Insulation[a] between Inner and Outer Tiers or between Furring Strips, See Table 16

Exterior Construction Material	R	Av. R	Inner Section Material	R	Interior Finish: None	Plas. ⅝ in. on Wall (Sand agg.)	Plas. ⅝ in. on Wall (Lt. wt. agg.)	Metal Lath and ¾ in. Plas. on Furring (Sand agg.)	Metal Lath and ¾ in. Plas. on Furring (Lt. wt. agg.)	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring: No plas.	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring (Sand agg.)	Gypsum Lath (⅜ in.) and ½ in. Plas. on Furring (Lt. wt. agg.)	Insul. Bd. Lath and ½ in. Plas. on Furring: No plas.	Insul. Bd. Lath and ½ in. Plas. on Furring (Sand agg.)	Wood Lath and ½ in. Plas. (Sand agg.)	Number
			Resistance →			0.11	0.39	0.13	0.47	0.32	0.41	0.64	1.43	1.52	0.40	
					U	U	U	U	U	U	U	U	U	U	U	
					A	B	C	D	E	F	G	H	I	J	K	
			Concrete block (4 in.)													
			(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	1
			(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	2
Face brick			(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	3
(4 in.)	0.44															
			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	4
			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	5
			Concrete block (4 in.)													
			(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	6
Common brick			(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	7
(4 in.)	0.80		(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	8
Concrete block (gravel agg.)		0.76														
(4 in.)	0.71		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	9
			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	10
			Concrete block (4 in.)													
			(Gravel agg.)	0.71	0.27	0.27	0.25	0.21	0.20	0.20	0.20	0.19	0.17	0.16	0.20	11
			(Cinder agg.)	1.11	0.25	0.24	0.23	0.19	0.18	0.19	0.18	0.18	0.16	0.15	0.18	12
Concrete block (cinder agg.)			(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	13
(4 in.)		1.11														
			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	14
			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	15

[a] See text section Calculating Overall Coefficients for basis of calculations.
[b] To adjust U values for the effect of added insulation between framing members, see Table 18.
[c] If insulation is to be used in the cavity it should be a water resistant type.