

TABLE 8-D. COEFFICIENTS OF TRANSMISSION (*U*) OF VARIOUS TYPES OF FRAME WALL CONSTRUCTION

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.

BRICK VENEER WALLS				
The values of <i>U</i> in this Table are based on the following Internal Conductivities (<i>C</i>) which are expressed in B.t.u. per Hr. per Sq.ft. per 1" F			Typical Construction	
Brick			Sheathing	
Cement Mortar			4" Brick	
Plaster (Gypsum)			2"x4" Studs	
Wood Lath & Plaster			Plaster	
Plaster Board			Plaster Base	
Cork board			1/2" Cement Mortar	
Fiber Insulation (Board form)				
Felt or Quilt Insulation (Soft)				
Cellular Gypsum (18")				
Flaked Gypsum, Dry (26")				
Wall Number	Type of Sheathing	Insulation Between Studding	Plaster Base	Coefficient of Transmission <i>U</i>
144	Wood *	None	Wood Lath	0.216
145	Wood *	1/2" Felt or Quilt † Insulation	Wood Lath	0.125
146	Wood *	1/2" Fiber Insulation ‡ (Board form)	Wood Lath	0.131
147	Wood *	Cellular Gypsum Fill **	Wood Lath	0.108
148	Wood *	Flaked Gypsum Fill **	Wood Lath	0.099
149	Wood *	None	1 1/2" Cork board	0.107
150	Wood *	None	2" Cork board	0.091
150-A	Wood *	None	1/2" Fiber Insulation (Board form)	0.170
151	1/2" Fiber Insulation (Board form)	None	1/2" Fiber Insulation (Board form)	0.152
152	1" Fiber Insulation (Board form)	None	1/2" Fiber Insulation (Board form)	0.123
153	1/2" Fiber Insulation (Board form)	1/2" Fiber Insulation ‡ (Board form)	1/2" Fiber Insulation (Board form)	0.104
154	3/8" Plaster Board	None	3/8" Plaster Board	0.262

*Based on 3/8 in., the actual thickness of 1 in. or 1/2 in. sheathing.

**Thickness of fill assumed 3 3/4 in., based on 2 in. by 4 in. studding.

†Building paper neglected in computations in accordance with accepted practice.

‡Can also be applied to inside of studding with plaster base separated by furring strips.

Note.—The coefficient used for plasterboard is 3.04 per inch thickness—recent data indicate values as low as 1.30 for this material.

Note.—Plasterboard sheathing is now made in half inch thickness.

Note.—The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.

TABLE 9 A AND B. COEFFICIENTS OF TRANSMISSION (*U*) OF VARIOUS TYPES OF INTERIOR WALLS AND PARTITIONS

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 still air (no wind) conditions on both sides.

Note: The values of *U* in this Table are based on the two sides of air and are for partitions.

A PLASTERED FRAME PARTITIONS

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

Plaster (Gypsum)	2.32 per 1"
Plaster Board	3.04 per 1"
Wood Lath & Plaster	2.00 as appl'd.
Fiber Ins. (Board form)	0.33 per 1"
Felt or Quilt Ins. (Soft)	0.27 per 1"
Corkboard	0.30 per 1"
Cellular Gypsum (18")	0.59 per 1"
Flaked Gypsum, Dry (26")	0.52 per 1"

On one side of Studding only

On both sides of Studding

Insulation Between Studding

Gypsum Fill Between Studding

Wall No.	Plaster Base	a	b	c	d	e	f
155	Metal Lath †	0.551	0.275	0.158	0.143	0.124	0.113
156	Wood Lath †	0.502	0.251	0.143	0.136	0.119	0.108
157	3/8" Plaster Board ‡	0.546	0.273				
158	1/2" Fiber Insulation (Board form) ‡	0.311	0.155	0.106			
159	1" Fiber Insulation (Board form) ‡	0.211	0.106	0.080			
160	1 1/2" Cork board ‡	0.149	0.074				
161	2" Cork board ‡	0.119	0.060				

B PLASTERED MASONRY PARTITIONS

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

Hollow Clay Tile (4")	0.65 per 4"
Brick	5.00 per 1"
Hollow Gypsum Tile (4")	1.00 per 1"

Plain Walls (No Plaster)

Walls Plastered One Side

Walls Plastered both Sides

Wall No.	Wall Construction	a	b	c
162	4" Hollow Clay Tile	0.33	0.31	0.29
163	4" Brick	0.44	0.40	0.37
164	4" Hollow Gypsum Tile	0.18	0.175	0.17

*The thickness of the Gypsum Fill is approximately 3 3/4 in., as this is the approximate 4 in. dimension of 2 in. by 4 in. studding.

†Metal lath and plaster assumed 3/4 in. thick.

‡Plaster assumed 1/2 in. thick.

Note.—The coefficient used for plasterboard is 3.04 per inch thickness—recent data indicate values as low as 1.30 for this material.

Note.—The coefficient used for cellular gypsum, 0.59 is for 18 lb. weight—weights as low as 12 lb. may be used.