

and C. C. Schrader, reported in TRANSACTIONS, A. S. H. AND V. E., Vol. 30, 1924 and Vol. 31, 1925 and others may be conveniently adapted to calculation purposes.

Tables 14 and 15 as well as Figs. 4, 5, and 6 present values from the recent tests by Houghten and Schrader at the Research Laboratory of the AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS at

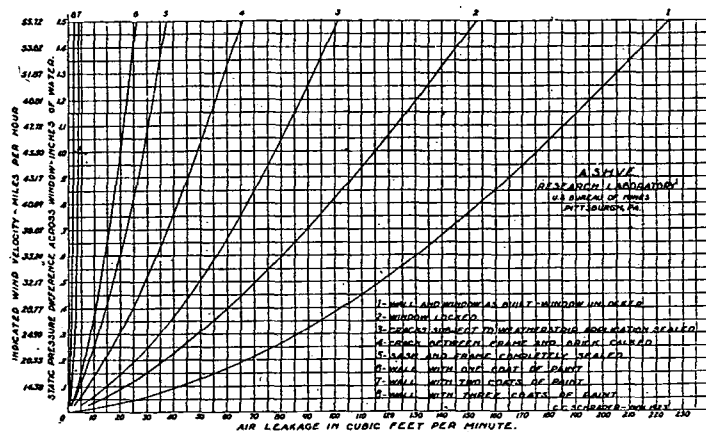


FIG. 4. RESULTS OF TESTS OF LEAKAGE THROUGH VARIOUS PARTS OF WINDOW AND FRAME

Pittsburgh. Table 14 and Fig. 4 based on the report TRANSACTIONS, Vol. 30, 1924, No. 686 while Table 15 and Figs. 5 and 6 are based on data presented in the TRANSACTIONS, Vol. 30, 1924, p. 313.

TABLE 13. AIR CHANGES TAKING PLACE UNDER AVERAGE CONDITIONS EXCLUSIVE OF AIR PROVIDED FOR VENTILATION

Kind of Room or Building	Number of Air Changes Taking Place per Hour
Rooms, 1 side exposed	1
Rooms, 2 sides exposed	1½
Rooms, 3 sides exposed	2
Rooms, 4 sides exposed	2
Rooms with no windows or outside doors	½ to ¾
Entrance Halls	2 to 3
Reception Halls	2
Living Rooms	1 to 2
Dining Rooms	1 to 2
Bath Rooms	2
Drug Stores	2 to 3
Clothing Stores	1
Churches, Factories, Lofts, etc.	½ to 3

Table 14 gives the leakage through a 13 in. brick wall, between the frame and the brick, the leakage for a plain window not weather-stripped and the leakage for the same window fitted with a good weather-strip for various wind velocities.

Table 15 gives the leakage in cubic feet per hour per foot of crack per mile wind velocity for a plain frame window and also for a frame window fitted with weather-stripping. The leakage is given for various cracks

TABLE 14. AIR LEAKAGE IN CUBIC FEET PER HOUR AND B.T.U. NECESSARY TO HEAT SUCH LEAKAGE FROM 0 TO 70 DEG. FAHR. FOR CRACKS INDICATED AND ⅜ IN. CLEARANCE, WINDOW UNLOCKED

WIND VELOCITY MILES PER HOUR	PER FT. OF CRACK AROUND THE SASH INCLUDING MEETING RAIL			
	Plain Unstripped Wood Window		Weather Stripped Window	
	Average Results		Best Results	
	Leakage Cu. Ft. per Hour	B.t.u.	Leakage Cu. Ft. per Hour	B.t.u.
PART I Values actually determined by Laboratory tests	PER FT. CRACK AROUND FRAME		PER FT. CRACK AROUND FRAME	
	Leakage Cu. Ft. per Hour	B.t.u.	Leakage Cu. Ft. per Hour	B.t.u.
	1.76	2.22	62.5	4.15
	7.95	10.1	100.0	9.14
	14.1	17.9	134.0	16.6
	28.3	35.9	197.0	32.5
	38.8	49.3	256.0	49.0
	67.1	85.3	370.0	83.1
	95.0	121.0	491.0	125.0
	111.0	141.0	634.0	168.0
PART II Values for practical use; Average test values reduced by 20 per cent. to allow for building up or measure in room, etc.	PER SQ. FT. OF 13" BRICK WALL; PLASTERED		PER SQ. FT. OF 13" BRICK WALL; PLASTERED	
	Leakage Cu. Ft. per Hour	B.t.u.	Leakage Cu. Ft. per Hour	B.t.u.
	0.666	0.845	50.0	3.80
	1.73	2.20	80.0	8.64
	3.07	3.90	107.0	14.9
	6.66	8.45	157.0	29.1
	10.7	13.5	204.0	44.3
	19.9	25.1	296.0	75.6
	31.5	40.0	392.0	111.0
	42.9	54.5	507.0	149.0