

Table 2
Heat Transfer Multipliers (Heating)

No. 1 Single Pane Window	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
HTM (Btu/h per sq. ft.)																	
Clear Glass																	
A. Wood Frame	19.8	24.8	29.7	34.7	39.6	44.6	49.5	54.5	59.4	64.4	69.3	74.3	79.2	84.2	89.1	94.1	.990
B. T.I.M. Frame	20.9	26.1	31.4	36.6	41.8	47.0	52.3	57.5	62.7	67.9	73.2	78.4	83.6	88.8	94.1	99.3	1.045
C. Metal Frame	23.1	28.9	34.7	40.4	46.2	52.0	57.8	63.5	69.3	75.1	80.9	86.6	92.4	98.2	104.0	109.7	1.155
Low Emittance Glass, e = 0.60																	
D. Wood Frame	18.4	23.0	27.5	32.1	36.7	41.3	45.9	50.5	55.1	59.7	64.3	68.9	73.4	78.0	82.6	87.2	.918
E. T.I.M. Frame	19.4	24.2	29.1	33.9	38.8	43.6	48.5	53.3	58.1	63.0	67.8	72.7	77.5	82.4	87.2	92.1	.969
F. Metal Frame	21.4	26.8	32.1	37.5	42.8	48.2	53.6	58.9	64.3	69.6	75.0	80.3	85.7	91.0	96.4	101.7	1.071
Low Emittance Glass, e = 0.40																	
G. Wood Frame	16.4	20.5	24.6	28.7	32.8	36.9	41.0	45.0	49.1	53.2	57.3	61.4	65.5	69.6	73.7	77.8	.819
H. T.I.M. Frame	17.3	21.6	25.9	30.3	34.6	38.9	43.2	47.5	51.9	56.2	60.5	64.8	69.2	73.5	77.8	82.1	.865
I. Metal Frame	19.1	23.9	28.7	33.4	38.2	43.0	47.8	52.6	57.3	62.1	66.9	71.7	76.4	81.2	86.0	90.8	.956
Low Emittance Glass, e = 0.20																	
J. Wood Frame	14.2	17.8	21.3	24.9	28.4	32.0	35.6	39.1	42.7	46.2	49.8	53.3	56.9	60.4	64.0	67.5	.711
K. T.I.M. Frame	15.0	18.8	22.5	26.3	30.0	33.8	37.5	41.3	45.0	48.8	52.5	56.3	60.0	63.8	67.5	71.3	.751
L. Metal Frame	16.6	20.7	24.9	29.0	33.2	37.3	41.5	45.6	49.8	53.9	58.1	62.2	66.4	70.5	74.7	78.8	.830
HTM (Btu/h per sq. ft.)																	
No. 2 Single Pane Window & Storm	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
Clear Glass																	
A. Wood Frame	9.5	11.9	14.3	16.6	19.0	21.4	23.8	26.1	28.5	30.9	33.3	35.6	38.0	40.4	42.8	45.1	.475
B. T.I.M. Frame	10.5	13.1	15.8	18.4	21.0	23.6	26.3	28.9	31.5	34.1	36.8	39.4	42.0	44.6	47.3	49.9	.525
C. Metal Frame	13.0	16.3	19.5	22.8	26.0	29.3	32.5	35.8	39.0	42.3	45.5	48.8	52.0	55.3	58.5	61.8	.650
Low Emittance Glass																	
D. Wood Frame	8.4	10.5	12.5	14.6	16.7	18.8	20.9	23.0	25.1	27.2	29.3	31.4	33.4	35.5	37.6	39.7	.418
E. T.I.M. Frame	9.2	11.6	13.9	16.2	18.5	20.8	23.1	25.4	27.7	30.0	32.3	34.7	37.0	39.3	41.6	43.9	.462
F. Metal Frame	11.4	14.3	17.2	20.0	22.9	25.7	28.6	31.5	34.3	37.2	40.0	42.9	45.8	48.6	51.5	54.3	.572
HTM (Btu/h per sq. ft.)																	
No. 3 Double Pane Window	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
Clear Glass																	
A. Wood Frame	11.0	13.8	16.5	19.3	22.0	24.8	27.6	30.3	33.1	35.8	38.6	41.3	44.1	46.8	49.6	52.3	.551
B. T.I.M. Frame	12.2	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.5	39.6	42.6	45.7	48.7	51.8	54.8	57.9	.609
C. Metal Frame	14.5	18.1	21.8	25.4	29.0	32.6	36.3	39.9	43.5	47.1	50.8	54.4	58.0	61.6	65.3	68.9	.725
Low Emittance Glass																	
D. Wood Frame	7.2	9.0	10.8	12.6	14.4	16.2	18.1	19.9	21.7	23.5	25.3	27.1	28.9	30.7	32.5	34.3	.361
E. T.I.M. Frame	8.0	10.0	12.0	14.0	16.0	18.0	20.0	21.9	23.9	25.9	27.9	29.9	31.9	33.9	35.9	37.9	.399
F. Metal Frame	9.5	11.9	14.3	16.6	19.0	21.4	23.8	26.1	28.5	30.9	33.3	35.6	38.0	40.4	42.8	45.1	.475
Adjustable Blind Between Panes																	
G. Wood Frame	4.8	5.9	7.1	8.3	9.5	10.7	11.9	13.1	14.3	15.4	16.6	17.8	19.0	20.2	21.4	22.6	.238
H. T.I.M. Frame	5.3	6.6	7.9	9.2	10.5	11.8	13.1	14.4	15.8	17.1	18.4	19.7	21.0	22.3	23.6	24.9	.263

Footnotes for this table are found on page 71.

Table 2 (Continued)

No. 4 Double Pane Window & Storm		Winter Temperature Difference																
		20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
		HTM (Btuh per sq. ft.)																
Clear Glass																		
A. Wood Frame	6.8	8.5	10.2	11.9	13.7	15.4	17.1	18.8	20.5	22.2	23.9	25.6	27.3	29.0	30.7	32.4	.341	
B. T.I.M. Frame	7.7	9.6	11.6	13.5	15.4	17.3	19.3	21.2	23.1	25.0	27.0	28.9	30.8	32.7	34.7	36.6	.385	
C. Metal Frame	9.8	12.3	14.7	17.2	19.6	22.1	24.5	27.0	29.4	31.9	34.3	36.8	39.2	41.7	44.1	46.6	.490	
Low Emittance Glass																		
D. Wood Frame	5.3	6.6	7.9	9.2	10.5	11.8	13.2	14.5	15.8	17.1	18.4	19.7	21.1	22.4	23.7	25.0	.263	
E. T.I.M. Frame	5.9	7.4	8.9	10.4	11.9	13.4	14.9	16.3	17.8	19.3	20.8	22.3	23.8	25.2	26.7	28.2	.297	
F. Metal Frame	7.6	9.5	11.3	13.2	15.1	17.0	18.9	20.8	22.7	24.6	26.5	28.4	30.2	32.1	34.0	35.9	.378	
No. 5 Triple Pane Window		Winter Temperature Difference																
		20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
		HTM (Btuh per sq. ft.)																
Clear Glass																		
A. Wood Frame	7.6	9.5	11.4	13.3	15.2	17.1	19.0	20.9	22.8	24.7	26.6	28.5	30.4	32.3	34.2	36.1	.380	
B. T.I.M. Frame	8.8	11.0	13.2	15.4	17.6	19.7	21.9	24.1	26.3	28.5	30.7	32.9	35.1	37.3	39.5	41.7	.439	
C. Metal Frame	10.9	13.7	16.4	19.1	21.8	24.6	27.3	30.0	32.8	35.5	38.2	41.0	43.7	46.4	49.1	51.9	.546	
Low Emittance Glass																		
D. Wood Frame	6.2	7.8	9.4	10.9	12.5	14.0	15.6	17.2	18.7	20.3	21.8	23.4	25.0	26.5	28.1	29.6	.312	
E. T.I.M. Frame	7.2	9.0	10.8	12.6	14.4	16.2	18.0	19.8	21.6	23.4	25.2	27.0	28.8	30.6	32.4	34.2	.360	
F. Metal Frame	9.0	11.2	13.4	15.7	17.9	20.2	22.4	24.6	26.9	29.1	31.4	33.6	35.8	38.1	40.3	42.6	.448	
Clear Glass & Storm																		
G. Wood Frame	5.3	6.6	7.9	9.2	10.5	11.8	13.2	14.5	15.8	17.1	18.4	19.7	21.1	22.4	23.7	25.0	.263	
H. T.I.M. Frame	6.2	7.8	9.3	10.9	12.4	14.0	15.5	17.1	18.6	20.2	21.7	23.2	24.8	26.4	27.9	29.5	.311	
I. Metal Frame	7.6	9.5	11.3	13.2	15.1	17.0	18.9	20.8	22.7	24.6	26.5	28.4	30.2	32.1	34.0	35.9	.378	
No. 6 Jalousie Windows		Winter Temperature Difference																
		20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
		HTM (Btuh per sq. ft.)																
A. Metal Frame-Single Glass	22.0	27.5	33.0	38.5	44.0	49.5	55.0	60.5	66.0	71.5	77.0	82.5	88.0	93.5	99.0	104.5	1.100	
B. Metal Frame-Single Glass & Storm	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	.500	
No. 7 Skylights		Winter Temperature Difference																
		20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
		HTM (Btuh per sq. ft.)																
Single; Clear Glass																		
A. Wood Frame	22.1	27.7	33.2	38.7	44.3	49.8	55.4	60.9	66.4	72.0	77.5	83.0	88.6	94.1	99.6	105.2	1.107	
B. T.I.M. Frame	23.4	29.2	35.1	40.9	46.7	52.6	58.4	64.3	70.1	76.0	81.8	87.6	93.5	99.3	105.2	111.0	1.169	
C. Metal Frame	25.8	32.3	38.7	45.2	51.7	58.1	64.6	71.0	77.5	83.9	90.4	96.9	103.3	109.8	116.2	122.7	1.292	
Single; Plastic Dome																		
D. Wood Frame	20.7	25.9	31.1	36.2	41.4	46.6	51.8	56.9	62.1	67.3	72.5	77.6	82.8	88.0	93.2	98.3	1.035	
E. T.I.M. Frame	21.9	27.3	32.8	38.2	43.7	49.2	54.6	60.1	65.6	71.0	76.5	81.9	87.4	92.9	98.3	103.8	1.093	
F. Metal Frame	24.2	30.2	36.2	42.3	48.3	54.3	60.4	66.4	72.5	78.5	84.5	90.6	96.6	102.6	107.8	114.7	1.208	
Double; Plastic Dome or Clear Glass																		
G. Wood Frame	13.3	16.6	20.0	23.3	26.6	29.9	33.3	36.6	39.9	43.2	46.6	49.9	53.2	56.5	59.9	63.2	.665	
H. T.I.M. Frame	14.7	18.4	22.1	25.7	29.4	33.1	36.8	40.4	44.1	47.8	51.5	55.1	58.8	62.5	66.2	69.8	.735	
I. Metal Frame	17.5	21.9	26.3	30.6	35.0	39.4	43.8	48.1	52.5	56.9	61.3	65.6	70.0	74.4	78.8	83.1	.875	
Double; Low Emittance Glass																		
J. Wood Frame	9.9	12.4	14.8	17.3	19.8	22.2	24.7	27.2	29.6	32.1	34.6	37.1	39.5	42.9	44.5	46.9	.494	
K. T.I.M. Frame	10.9	13.7	16.4	19.1	21.8	24.6	27.3	30.0	32.8	35.5	38.2	41.0	43.7	46.4	49.1	51.9	.546	
L. Metal Frame	13.0	16.3	19.5	22.8	26.0	29.3	32.5	35.8	39.0	42.3	45.5	48.8	52.0	55.3	58.5	61.8	.650	

Footnotes for this table are found on page 71.

Table 2 (Continued)

No. 8 Sliding Glass Doors	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
Single Pane, Clear Glass																	
A. Wood Frame	19.8	24.8	29.7	34.7	39.6	44.6	49.5	54.5	59.4	64.4	69.3	74.3	79.2	84.2	89.1	94.1	.990
B. T.I.M. Frame	20.9	26.1	31.4	36.6	41.8	47.0	52.3	57.5	62.7	67.9	73.2	78.4	83.6	88.8	94.1	99.3	1.045
C. Metal Frame	23.1	28.9	34.7	40.4	46.2	52.0	57.8	63.5	69.3	75.1	80.9	86.6	92.4	98.2	104.0	109.7	1.155
Single Pane, Low "e" Glass																	
D. Wood Frame	16.4	20.5	24.6	28.7	32.8	36.9	41.0	45.0	49.1	53.2	57.3	61.4	65.5	69.6	73.7	77.8	.819
E. T.I.M. Frame	17.3	21.6	25.9	30.3	34.6	38.9	43.2	47.5	51.9	56.2	60.5	64.8	69.2	73.5	77.8	82.1	.865
F. Metal Frame	19.1	23.9	28.7	33.4	38.2	43.0	47.8	52.6	57.3	62.1	66.9	71.7	76.4	81.2	86.0	90.8	.956
Single Pane & Storm, Clear Glass																	
G. Wood Frame	9.5	11.9	14.3	16.6	19.0	21.4	23.8	26.1	28.5	30.9	33.3	35.6	38.0	40.4	42.8	45.1	.475
H. T.I.M. Frame	10.5	13.1	15.8	18.4	21.0	23.6	26.3	28.9	31.5	34.1	36.8	39.4	42.0	44.6	47.3	49.9	.525
I. Metal Frame	13.0	16.3	19.5	22.8	26.0	29.3	32.5	35.8	39.0	42.3	45.5	48.8	52.0	55.3	58.5	61.8	.650
Single Pane & Storm, Low "e" Glass																	
J. Wood Frame	8.4	10.5	12.5	14.6	16.7	18.8	20.9	23.0	25.1	27.2	29.3	31.4	33.4	35.5	37.6	39.7	.418
K. T.I.M. Frame	9.2	11.6	13.9	16.2	18.5	20.8	23.1	25.4	27.7	30.0	32.3	34.7	37.0	39.3	41.6	43.9	.462
L. Metal Frame	11.4	14.3	17.2	20.0	22.9	25.7	28.6	31.5	34.3	37.2	40.0	42.9	45.8	48.6	51.5	54.3	.572
Double Pane, Clear Glass																	
M. Wood Frame	11.0	13.8	16.5	19.3	22.0	24.8	27.6	30.3	33.1	35.8	38.6	41.3	44.1	46.8	49.6	52.3	.551
N. T.I.M. Frame	12.2	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.5	39.6	42.6	45.7	48.7	51.8	54.8	57.9	.609
O. Metal Frame	14.5	18.1	21.8	25.4	29.0	32.6	36.3	39.9	43.5	47.1	50.8	54.4	58.0	61.6	65.3	68.9	.725
Double Pane, Low "e" Glass																	
P. Wood Frame	7.2	9.0	10.8	12.6	14.4	16.2	18.1	19.9	21.7	23.5	25.3	27.1	28.9	30.7	32.5	34.3	.361
Q. T.I.M. Frame	8.0	10.0	12.0	14.0	16.0	18.0	20.0	21.9	23.9	25.9	27.9	29.9	31.9	33.9	35.9	37.9	.399
R. Metal Frame	9.5	11.9	14.3	16.6	19.0	21.4	23.8	26.1	28.5	30.9	33.3	35.6	38.0	40.4	42.8	45.1	.475
Triple Pane or Double Pane & Storm																	
S. Wood Frame	6.8	8.5	10.2	11.9	13.7	15.4	17.1	18.8	20.5	22.2	23.9	25.6	27.3	29.0	30.7	32.4	.341
T. T.I.M. Frame	7.7	9.6	11.6	13.5	15.4	17.3	19.3	21.2	23.1	25.0	27.0	28.9	30.8	32.7	34.7	36.6	.385
U. Metal Frame	9.8	12.3	14.7	17.2	19.6	22.1	24.5	27.0	29.4	31.9	34.3	36.8	39.2	41.7	44.1	46.6	.490
Triple or Double & Storm, Low "e"																	
V. Wood Frame	5.3	6.6	7.9	9.2	10.5	11.8	13.2	14.5	15.8	17.1	18.4	19.7	21.1	22.4	23.7	25.0	.263
W. T.I.M. Frame	5.9	7.4	8.9	10.4	11.9	13.4	14.9	16.3	17.8	19.3	20.8	22.3	23.8	25.2	26.7	28.2	.297
X. Metal Frame	7.6	9.5	11.3	13.2	15.1	17.0	18.9	20.8	22.7	24.6	26.5	28.4	30.2	32.1	34.0	35.9	.378
<hr/>																	
No. 9 French Doors	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
Single Pane, Clear Glass																	
A. Wood Frame	18.7	23.4	28.1	32.7	37.4	42.1	46.8	51.4	56.1	60.8	65.5	70.1	74.8	79.5	84.2	88.8	.935
B. T.I.M. Frame	19.8	24.8	29.7	34.7	39.6	44.6	49.5	54.5	59.4	64.4	69.3	74.3	79.2	84.2	89.1	94.1	.990
C. Metal Frame	24.2	30.3	36.3	42.4	48.4	54.5	60.5	66.6	72.6	78.7	84.7	90.8	96.8	102.9	108.9	115.0	1.210
Single Pane, Low "e" Glass																	
D. Wood Frame	15.5	19.3	23.2	27.1	30.9	34.8	38.7	42.5	46.4	50.3	54.1	58.0	61.9	65.7	69.6	73.5	.774
E. T.I.M. Frame	16.4	20.5	24.6	28.7	32.8	36.9	41.0	45.0	49.1	53.2	57.3	61.4	65.5	69.6	73.7	77.8	.819
F. Metal Frame	20.0	25.0	30.0	35.0	40.0	45.0	50.1	55.1	60.1	65.1	70.1	75.1	80.1	85.1	90.1	95.1	1.001
Double Pane, Clear Glass																	
G. Wood Frame	10.4	13.1	15.7	18.3	20.9	23.5	26.1	28.7	31.3	33.9	36.5	39.2	41.8	44.4	47.0	49.6	.522
H. T.I.M. Frame	11.0	13.8	16.5	19.3	22.0	24.8	27.6	30.3	33.1	35.8	38.6	41.3	44.1	46.8	49.6	52.3	.551
I. Metal Frame	15.1	18.9	22.6	26.4	30.2	33.9	37.7	41.5	45.2	49.0	52.8	56.6	60.3	64.1	67.9	71.6	.754
Double Pane, Low "e" Glass																	
J. Wood Frame	6.8	8.6	10.3	12.0	13.7	15.4	17.1	18.8	20.5	22.2	23.9	25.7	27.4	29.1	30.8	32.5	.342
K. T.I.M. Frame	7.2	9.0	10.8	12.6	14.4	16.2	18.1	19.9	21.7	23.5	25.3	27.1	28.9	30.7	32.5	34.3	.361
L. Metal Frame	9.9	12.4	14.8	17.3	19.8	22.2	24.7	27.2	29.6	32.1	34.6	37.1	39.5	42.0	44.5	46.9	.494
Triple Pane, Clear Glass																	
M. Wood Frame	7.4	9.3	11.1	13.0	14.8	16.7	18.5	20.4	22.2	24.1	25.9	27.8	29.6	31.5	33.3	35.2	.371
N. T.I.M. Frame	7.8	9.8	11.7	13.7	15.6	17.6	19.5	21.5	23.4	25.4	27.3	29.3	31.2	33.2	35.1	37.1	.390
O. Metal Frame	11.7	14.6	17.6	20.5	23.4	26.3	29.3	32.2	35.1	38.0	41.0	43.9	46.8	49.7	52.7	55.6	.585
Triple Pane, Low "e" Glass																	
P. Wood Frame	5.1	6.4	7.7	9.0	10.3	11.5	12.8	14.1	15.4	16.7	18.0	19.2	20.5	21.8	23.1	24.4	.257
Q. T.I.M. Frame	5.4	6.8	8.1	9.5	10.8	12.2	13.5	14.9	16.2	17.6	18.9	20.3	21.6	23.0	24.3	25.7	.270
R. Metal Frame	8.1	10.1	12.2	14.2	16.2	18.2	20.3	22.3	24.3	26.3	28.4	30.4	32.4	34.4	36.5	38.5	.405

Table 2 (Continued)

No. 10 Wood Doors	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
HTM (Btu/h per sq. ft.)																	
A. Hollow Core	11.2	14.0	16.8	19.6	22.4	25.2	28.0	30.8	33.6	36.4	39.2	42.0	44.8	47.6	50.4	53.2	.560
B. Hollow Core & Wood Storm	6.6	8.3	9.9	11.6	13.2	14.9	16.5	18.2	19.8	21.5	23.1	24.8	26.4	28.1	29.7	31.4	.330
C. Hollow Core & Metal Storm	7.2	9.0	10.8	12.6	14.4	16.2	18.0	19.8	21.6	23.4	25.2	27.0	28.8	30.6	32.4	34.2	.360
D. Solid Core	9.2	11.5	13.8	16.1	18.4	20.7	23.0	25.3	27.6	29.9	32.2	34.5	36.8	39.1	41.4	43.7	.460
E. Solid Core & Wood Storm	5.8	7.3	8.7	10.2	11.6	13.1	14.5	16.0	17.4	18.9	20.3	21.8	23.2	24.7	26.1	27.6	.290
F. Solid Core & Metal Storm	6.4	8.0	9.6	11.2	12.8	14.4	16.0	17.6	19.2	20.8	22.4	24.0	25.6	27.2	28.8	30.4	.320
G. Panel	13.4	16.8	20.1	23.5	26.8	30.2	33.5	36.9	40.2	43.6	46.9	50.3	53.6	57.0	60.3	63.7	.670
H. Panel & Wood Storm	7.2	9.0	10.8	12.6	14.4	16.2	18.0	19.8	21.6	23.4	25.2	27.0	28.8	30.6	32.4	34.2	.360
I. Panel & Metal Storm	8.2	10.3	12.3	14.4	16.4	18.5	20.5	22.6	24.6	26.7	28.7	30.8	32.8	34.9	36.9	39.0	.410
No. 11 Metal Doors	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
HTM (Btu/h per sq. ft.)																	
A. Fiberglass Core	11.8	14.8	17.7	20.7	23.6	26.6	29.5	32.5	35.4	38.4	41.3	44.3	47.2	50.2	53.1	56.1	.590
B. Fiberglass Core & Storm	7.3	9.2	11.0	12.8	14.7	16.5	18.4	20.2	22.0	23.9	25.7	27.5	29.4	31.2	33.0	34.9	.367
C. Polystyrene Core	9.4	11.8	14.1	16.5	18.8	21.2	23.5	25.9	28.2	30.6	32.9	35.3	37.6	40.0	42.3	44.7	.470
D. Polystyrene Core & Storm	6.3	7.9	9.5	11.1	12.7	14.3	15.9	17.4	19.0	20.6	22.2	23.8	25.4	26.9	28.5	30.1	.317
E. Urethane Core	3.8	4.8	5.7	6.7	7.6	8.6	9.5	10.5	11.4	12.4	13.3	14.3	15.2	16.2	17.1	18.1	.190
F. Urethane Core & Storm	3.4	4.3	5.1	6.0	6.8	7.7	8.5	9.4	10.2	11.1	11.9	12.8	13.6	14.5	15.3	16.2	.170
No. 12 Wood Frame Exterior Walls with Sheathing and Siding or Brick, or Other Exterior Finish.	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
Cavity Insul	Sheathing	HTM (Btu/h per sq. ft.)															
A. None 1/2" Gypsum Brd (R-0.5)	5.4	6.8	8.1	9.5	10.8	12.2	13.6	14.9	16.3	17.6	19.0	20.3	21.7	23.0	24.4	25.7	.271
B. None 1/2" Asphalt Brd (R-1.3)	4.3	5.4	6.5	7.6	8.7	9.8	10.8	11.9	13.0	14.1	15.2	16.3	17.4	18.4	19.5	20.6	.217
C. R-11 1/2" Gypsum (R-0.5)	1.8	2.3	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2	7.6	8.1	8.5	.090
D. R-11 1/2" Asphalt Brd (R-1.3) R-11 1/2" Bead Brd (R-1.8) R-13 1/2" Gypsum Brd (R-0.5)	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8	7.2	7.6	.080
E. R-11 1/2" Extr Poly Brd (R-2.5) R-11 3/4" Bead Brd (R-2.7) R-13 1/2" Asphalt Brd (R-1.3) R-13 3/4" Bead Brd (R-1.8)	1.5	1.9	2.3	2.6	3.0	3.4	3.8	4.1	4.5	4.9	5.3	5.6	6.0	6.4	6.8	7.1	.075
F. R-11 1" Bead Brd (R-3.6) R-11 3/4" Extr Poly Brd (R-3.8) R-13 1/2" Extr Poly Brd (R-2.5) R-13 3/4" Bead Brd (R-2.7)	1.4	1.8	2.1	2.4	2.8	3.2	3.5	3.8	4.2	4.6	4.9	5.3	5.6	5.9	6.3	6.6	.070
G. R-13 3/4" Extr Poly Brd (R-3.8) R-13 1" Bead Brd (R-3.6)	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2	5.5	5.9	6.2	.065
H. R-11 1" Extr Poly Brd (R-5.0) R-13 1" Extr Poly Brd (R-5.0) R-19 1/2" Gypsum Brd (R-0.5)	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	.060
I. R-19 1/2" Asphalt Brd (R-1.3) R-19 1/2" Bead Brd (R-1.8)	1.1	1.4	1.6	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.8	4.1	4.4	4.7	4.9	5.2	.055
J. R-11 R-8 Sheathing R-13 R-8 Sheathing R-19 1/2" or 3/4" Extr Poly Brd R-19 3/4" or 1" Bead Brd	1.0	1.3	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0	4.2	4.5	4.7	.050
K. R-19 1" Extr Poly Brd (R-5.0)	.9	1.1	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.4	3.6	3.8	4.0	4.3	.045
L. R-19 R-8 Sheathing	.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	.040
M. R-27 Wall	.7	.9	1.1	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.6	2.8	3.0	3.1	3.3	3.5	.037
N. R-30 Wall	.7	.8	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.1	2.3	2.5	2.6	2.8	3.0	3.1	.033
O. R-33 Wall	.6	.8	.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	.030
No. 13 Frame or Masonry Partitions Between a Conditioned and an Unconditioned Space.	Use HTM from Construction No. 12 or 14. Select HTM for Actual Temperature Difference Expected Across the Partition																

Footnotes are found on page 71.

Table 2 (Continued)

No. 14 Masonry Walls, Block or Brick, Finished or Unfinished - Above Grade	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btu/h per sq. ft.)																
A. 8" or 12" Block, No Insul., Unfin.	10.2	12.8	15.3	17.8	20.4	22.9	25.5	28.0	30.6	33.1	35.7	38.2	40.8	43.3	45.9	48.4	.510
B. 8" or 12" Block + R-5	2.9	3.6	4.3	5.0	5.8	6.5	7.2	7.9	8.6	9.4	10.1	10.8	11.5	12.2	13.0	13.7	.144
C. 8" or 12" Block + R-11	1.5	1.9	2.3	2.7	3.1	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.2	6.5	6.9	7.3	.077
D. 8" or 12" Block + R-19	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8	4.1	4.3	4.6	.048
E. 4" Brick + 8" Block, No. Insul.	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	.400
F. 4" Brick + 8" Block + R-5	2.7	3.3	4.0	4.7	5.3	6.0	6.6	7.3	8.0	8.6	9.3	10.0	10.6	11.3	12.0	12.6	.133
G. 4" Brick + 8" Block + R-11	1.5	1.9	2.2	2.6	3.0	3.3	3.7	4.1	4.4	4.8	5.2	5.5	5.9	6.3	6.7	7.0	.074
H. 4" Brick + 8" Block + R-19	.9	1.2	1.4	1.6	1.9	2.1	2.3	2.6	2.8	3.1	3.3	3.5	3.8	4.0	4.2	4.5	.047
No. 15 Masonry Walls, Block or Brick, Finished or Unfinished - Below Grade*	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btu/h per sq. ft.)																
Walls Extend 2'-5' Below Grade																	
A. 8" or 12" Block + No Insul.	2.5	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5	8.1	8.7	9.4	10.0	10.6	11.2	11.9	.125
B. 8" or 12" Block + R-5	1.5	1.8	2.2	2.6	3.0	3.3	3.7	4.1	4.4	4.8	5.2	5.5	5.9	6.3	6.7	7.0	.074
C. 8" or 12" Block + R-11	1.0	1.3	1.5	1.8	2.0	2.3	2.6	2.8	3.1	3.3	3.6	3.8	4.1	4.3	4.6	4.8	.051
D. 8" or 12" Block + R-19	.7	.9	1.0	1.2	1.4	1.5	1.7	1.9	2.0	2.2	2.4	2.6	2.7	2.9	3.1	3.2	.034
Walls Extend More Than 5' Below Grade																	
E. 8" or 12" Block + No Insul.	1.7	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6	6.1	6.5	6.9	7.4	7.8	8.2	.087
F. 8" or 12" Block + R-5	1.2	1.5	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	.059
G. 8" or 12" Block + R-11	.9	1.1	1.3	1.5	1.7	2.0	2.2	2.4	2.6	2.8	3.0	3.3	3.5	3.7	3.9	4.1	.043
H. 8" or 12" Block + R-19	.6	.8	.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	2.9	.031
No. 16 Ceilings Under a Ventilated Attic Space or Unheated Room	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btu/h per sq. ft.)																
A. No Insulation	12.0	15.0	18.0	21.0	24.0	27.0	29.9	32.9	35.9	38.9	41.9	44.9	47.9	50.9	53.9	56.9	.599
B. R-7 Insulation	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	10.8	11.4	.120
C. R-11 Insulation	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.8	5.3	5.7	6.2	6.6	7.0	7.5	7.9	8.4	.088
D. R-19 Insulation	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.7	4.0	4.2	4.5	4.8	5.0	.053
E. R-22 Insulation	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8	4.1	4.3	4.6	.048
F. R-26 Insulation	.8	1.0	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	.038
G. R-30 Insulation	.7	.8	1.0	1.2	1.3	1.5	1.6	1.8	2.0	2.1	2.3	2.5	2.6	2.8	3.0	3.1	.033
H. R-38 Insulation	.5	.7	.8	.9	1.0	1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.5	.026
I. R-44 Insulation	.5	.6	.7	.8	.9	1.0	1.1	1.3	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.2	.023
J. R-57 Insulation	.3	.4	.5	.6	.7	.8	.8	.9	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.6	.017
K. Wood Decking, No Insulation	5.7	7.2	8.6	10.0	11.5	12.9	14.3	15.7	17.2	18.6	20.0	21.5	22.9	24.3	25.8	27.2	.287
No. 17 Roof on Exposed Beams or Rafters	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btu/h per sq. ft.)																
A. 1½" Wood Decking, No Insul.	6.3	7.9	9.4	11.0	12.6	14.2	15.8	17.3	18.9	20.5	22.0	23.6	25.2	26.8	28.3	29.9	.315
B. 1½" Wood Decking + R-4	2.9	3.6	4.3	5.0	5.8	6.5	7.2	7.9	8.6	9.4	10.1	10.8	11.5	12.2	13.0	13.7	.144
C. 1½" Wood Decking + R-5	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.8	10.4	11.0	11.6	.122
D. 1½" Wood Decking + R-6	2.2	2.7	3.3	3.8	4.4	4.9	5.4	6.0	6.5	7.1	7.6	8.2	8.7	9.3	9.8	10.4	.109
E. 1½" Wood Decking + R-8	1.8	2.2	2.7	3.1	3.6	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.1	7.6	8.0	8.5	.089
F. 2" Shredded Wood Planks	4.3	5.4	6.5	7.6	8.7	9.8	10.8	11.9	13.0	14.1	15.2	16.3	17.4	18.4	19.5	20.6	.217
G. 3" Shredded Wood Plank	3.2	4.0	4.8	5.6	6.4	7.2	7.9	8.7	9.5	10.3	11.1	11.9	12.7	13.5	14.3	15.1	.159
H. 1½" Fiber Board Insulation	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.1	14.0	14.9	15.8	16.6	.175
I. 2" Fiber Board Insulation	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2	11.9	12.6	13.3	.140
J. 3" Fiber Board Insulation	2.0	2.5	3.0	3.5	4.0	4.5	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	.099
K. 1½" Wood Decking + R-13	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	.060
L. 1½" Wood Decking + R-19	.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	.041

Footnotes are found on page 71.

Table 2 (Continued)

No. 18 Roof-Ceiling Combination	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
A. No Insulation	6.2	7.7	9.2	10.8	12.3	13.9	15.4	16.9	18.5	20.0	21.6	23.1	24.6	26.2	27.7	29.3	.308
B. R-11 Batts	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.3	4.7	5.0	5.4	5.8	6.1	6.5	6.8	.072
C. R-19 Batts (2" x 8" Rafters)	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	3.9	4.2	4.4	4.7	.049
D. R-22 Batts (2" x 8" Rafters)	.9	1.1	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.4	3.6	3.8	4.0	4.3	.045
E. R-26 Batts (2" x 8" Rafters)	.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	.040
F. R-30" Batts (2" x 10" Rafters)	.7	.9	1.0	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.2	3.3	.035
No. 19 Floors Over an Unheated Basement, Enclosed Crawl Space* or Crawl Space with Closable Vents.	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
A. Hardwood Floor + No Insulation	3.1	3.9	4.7	5.5	6.2	7.0	7.8	8.6	9.4	10.1	10.9	11.7	12.5	13.3	14.0	14.8	.312
B. Hardwood Floor + R-11	.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	.080
C. Hardwood Floor + R-13	.8	1.0	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	.076
D. Hardwood Floor + R-19	.5	.7	.8	.9	1.0	1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.5	.052
E. Hardwood Floor + R-30	.4	.5	.6	.7	.8	.9	1.0	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	.037
F. Carpeted Floor + No Insulation	2.2	2.7	3.3	3.8	4.4	4.9	5.4	6.0	6.5	7.1	7.6	8.2	8.7	9.3	9.8	10.4	.218
G. Carpeted Floor + R-11	.7	.9	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.3	2.5	2.7	2.9	3.1	3.2	3.4	.071
H. Carpeted Floor + R-13	.7	.9	1.0	1.2	1.4	1.5	1.7	1.9	2.0	2.2	2.4	2.5	2.7	2.9	3.1	3.2	.068
I. Carpeted Floor + R-19	.5	.6	.7	.8	1.0	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.2	2.3	.048
J. Carpeted Floor + R-30	.4	.4	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	.035	
No. 20 Floors Over an Open Crawl Space or Garage	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
A. Hardwood Floor + No Insulation	6.2	7.8	9.4	10.9	12.5	14.0	15.6	17.2	18.7	20.3	21.8	23.4	25.0	26.5	28.1	29.6	.312
B. Hardwood Floor + R-11	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8	7.2	7.6	.080
C. Hardwood Floor + R-13	1.5	1.9	2.3	2.7	3.0	3.4	3.8	4.2	4.6	4.9	5.3	5.7	6.1	6.5	6.8	7.2	.076
D. Hardwood Floor + R-19	1.0	1.3	1.6	1.8	2.1	2.3	2.6	2.9	3.1	3.4	3.6	3.9	4.2	4.4	4.7	4.9	.052
E. Hardwood Floor + R-30	.7	.9	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.1	3.3	3.5	.037
F. Carpeted Floor + No Insulation	4.4	5.5	6.5	7.6	8.7	9.8	10.9	12.0	13.1	14.2	15.3	16.3	17.4	18.5	19.6	20.7	.218
G. Carpeted Floor + R-11	1.4	1.8	2.1	2.5	2.8	3.2	3.6	3.9	4.3	4.6	5.0	5.3	5.7	6.0	6.4	6.7	.071
H. Carpeted Floor + R-13	1.4	1.7	2.0	2.4	2.7	3.1	3.4	3.7	4.1	4.4	4.8	5.1	5.4	5.8	6.1	6.5	.068
I. Carpeted Floor + R-19	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8	4.1	4.3	4.6	.048
J. Carpeted Floor + R-30	.7	.9	1.0	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.2	3.3	.035
No. 21 Basement Floors	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per sq. ft.)																
A. 2 or More Feet Below Grade	.5	.6	.7	.8	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.0	2.1	2.3	.024
No. 22 Concrete Slab on Grade	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per running linear foot of perimeter)																
A. No Edge Insulation	16.2	20.3	24.3	28.3	32.4	36.4	40.5	44.5	48.6	52.7	56.7	60.8	64.8	68.8	72.9	76.9	.810
B. 1" Edge Insulation, R = 5.0	8.2	10.3	12.3	14.3	16.4	18.4	20.5	22.5	24.6	26.6	28.7	30.8	32.8	34.8	36.9	38.9	.410
C. 1½" Edge Insulation, R = 8.0	5.4	6.8	8.1	9.4	10.8	12.1	13.5	14.8	16.2	17.5	18.9	20.2	21.6	22.9	24.3	25.6	.270
D. 2" Edge Insulation, R = 11.0	4.2	5.3	6.3	7.4	8.4	9.4	10.5	11.5	12.6	13.6	14.7	15.8	16.8	17.8	18.9	20.0	.210
No. 23 Concrete Slab with Perimeter Warm Air Duct System	Winter Temperature Difference																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	U
	HTM (Btuh per running linear foot of perimeter)																
A. No Edge Insulation	38.0	47.5	57.0	66.5	76.0	85.5	95.0	104.5	114.0	123.5	133.0	142.5	152.0	161.5	171.0	180.5	1.90
B. 1" Edge Insulation, R = 5.0	22.8	28.5	34.2	39.9	45.6	51.3	57.0	62.7	68.4	74.1	79.8	85.5	91.2	96.9	102.6	108.3	1.14
C. 1½" Edge Insulation, R = 8.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	1.00
D. 2" Edge Insulation, R = 11.0	18.6	23.3	27.9	32.5	37.2	41.8	46.5	51.1	55.8	60.4	65.1	69.7	74.4	79.0	83.7	88.3	.930

Footnotes are found on page 71.

Footnotes to Table 2

1. Table 2 does not include any allowance for infiltration. U values are calculated for 15 mph wind (outdoor) velocity.
 2. The HTM values for construction numbers 1 through 5 can be reduced to 85 percent of the values listed in this table if the window is equipped with an internal shading device which can be adjusted to provide a tight closure over the window area and which is installed as a permanent fixture.
 3. "Low Emittance" refers to glass that has a coating or a composition which decreases the effective "U" value of the glass. Clear glass has an "e" value of 0.84 and the "e" value of low emittance glass can range from 0.10 to 0.60. The net "U" value of low emittance glass decreases as the "e" value of the coating decreases. The U values in this table are for a glass that has a "Low E" coating on one side of one pane of glass and do not include an allowance for multiple coatings.

Three choices for the "e" value are included in construction number 1 because the "U" value for single pane construction is fairly sensitive to changes in the "e" value of the low emittance coating.

A default "e" value of 0.40 was applied to construction numbers 2, 3, 4, and 5 because the "U" values for multiple pane construction are less sensitive to changes in the "e" value of the low emittance coating.

When coated glass is installed but the "e" and "U" values are unknown, refer to the window manufacturers performance data, the builder or architect for the required information.

If the exact "U" value for any given window or glass door is known, the heating HTM value can be precisely calculated by multiplying the "U" value by the winter design temperature difference.
 4. The "U" values and "HTM" values for windows and glass doors have been adjusted for framing in accordance with the adjustment factors listed in Table 13C, Chapter 27 of the 1985 ASHRAE Fundamentals. The adjustment factors used for calculating the Manual J HTM values correspond to average value of the adjustment factors which are listed in the ASHRAE tables. These adjustment factors are intended to apply to windows and glass doors that have 80% to 90% glass and 20% to 10% frame. The "U" and "HTM" values for french doors have been adjusted for frame constructions which are wider than the frames used on windows and glass doors.
 5. "T.I.M." refers to thermally improved metal frames which are manufactured with a thermal break between the indoor and outdoor frames.
 6. The HTM values for skylights are based on Table 13C, Chapter 27 of the 1985 ASHRAE Fundamentals (Parts B and C). Averages of the Table 13C adjustment factors were used to account for the effects of framing. An "e value" of 0.40 was assumed for skylights that are constructed with low emittance glass.
 7. The HTM values for wood and metal doors are based on the information provided in Tables 5A and 5B (Chapter 23 of the 1985 ASHRAE Fundamentals). Table 5B is supplemented by information from other sources. Wood doors include an allowance for a small pane of glass. Metal doors do not include an allowance for a small pane of glass.
 8. Storm sash is assumed to be outdoor type with a 1" air space.
 9. Wall U values include wood framing equal to 20% of the opaque wall area.
 10. Ceiling U values include wood framing equal to 10% of the opaque ceiling area.
 11. Floor U values include wood framing equal to 15% of the opaque floor area.
 12. For walls below grade (construction number 15), the U values include an additional R value for the heat flow path through the soil. For walls which are two to five feet below grade, an additional R value of 4.85 was added to the wall R value. For walls which are five to eight feet below grade, an additional R value of 7.84 was added to the wall R value.
 13. Because ground surface temperatures are somewhat higher than the winter outdoor design temperatures, effective "U" values equal to 85 percent of the calculated "U" values were used to calculate the HTM values for construction number 15 (below grade walls) and 21 (basement floors).
 14. The temperature difference that was used to calculate the HTM values for floors over an unheated basement or enclosed crawl space (construction number 19) was assumed to be equal to 50 percent of the winter design temperature difference. For other temperature differences, the HTM can be calculated by multiplying the U value by the expected temperature difference.
 15. Note - Masonry wall which has a floor that is less than two feet below grade should be considered as No. 14 (above grade). Use 15 A,B,C,D, if floor is 2 - 5 feet below grade. Use 15 E,F,G,H, if floor is 5 - 8 feet below grade. Calculate the wall area from ground level to the floor level for 15A through 15H.