

WALL ASSEMBLY 7

The Insulated Concrete Form wall is becoming more common practice in residential applications. The wall system is made of two rigid insulation sides held together with wire mesh. The two sides come together to create the formwork for the concrete. This system is advantageous since it eliminates the time spent in removing the concrete forms and a greater R-Value is achieved because of the extra insulation.

WALL LAYERS DESCRIPTION

Layer	Total R-Value $\text{ft}^2 \cdot {}^\circ\text{F} \cdot \text{h/Btu}$
¾-in concrete stucco	
Foam shells	11.230
Concrete core	
Steel connectors	

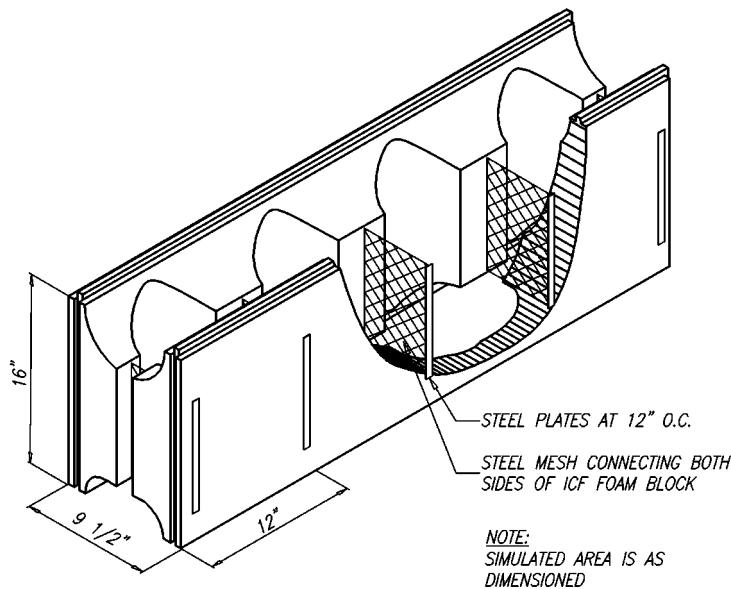
3-D WALL RESPONSE FACTORS

n	X_n $\text{Btu/h ft}^2 \cdot {}^\circ\text{F}$	Y_n $\text{Btu/h ft}^2 \cdot {}^\circ\text{F}$
0	1.1082968E+00	2.9661970E-04
1	-9.3157481E-01	1.8108235E-03
2	-3.0740358E-03	2.5078731E-03
3	-2.7195180E-03	2.5965690E-03
4	-2.5786520E-03	2.5508817E-03
5	-2.4847592E-03	2.4781231E-03
6	-2.4035890E-03	2.4016944E-03
7	-2.3273471E-03	2.3265318E-03
8	-2.2541361E-03	2.2535769E-03
9	-2.1834230E-03	2.1829337E-03
10	-2.1150070E-03	2.1145449E-03
11	-2.0487753E-03	2.0483305E-03
12	-1.9846430E-03	1.9842129E-03
13	-1.9225360E-03	1.9221195E-03
14	-1.8623858E-03	1.8619824E-03
15	-1.8041278E-03	1.8037371E-03
16	-1.7477004E-03	1.7473220E-03
17	-1.6930445E-03	1.6926779E-03
18	-1.6401031E-03	1.6397481E-03
19	-1.5888217E-03	1.5884777E-03
20	-1.5391472E-03	1.5388140E-03
21	-1.4910287E-03	1.4907059E-03

EQUIVALENT WALL THERMOPHYSICAL

PROPERTIES

Layer	R_n $\text{ft}^2 \cdot {}^\circ\text{F} \cdot \text{h/Btu}$	C_n $\text{Btu}/\text{ft}^2 \cdot {}^\circ\text{F}$	l_n in	k_n $\text{Btu}/(\text{in} \cdot \text{h} \cdot \text{ft}^2 \cdot {}^\circ\text{F})$	ρ_n lb/ft^3	c_{pn} $\text{Btu}/(\text{lb} \cdot {}^\circ\text{F})$
N						
1	6.37766	5.05859	3.5	0.549	69.38	0.25
2	1.07764	6.32324	3.725	3.457	97	0.21
3	3.77514	3.79394	3.5	0.927	52.03	0.25
Total	11.230					



WALL ASSEMBLY 7

The Insulated Concrete Form wall is becoming more common practice in residential applications. The wall system is made of two rigid insulation sides held together with wire mesh. The two sides come together to create the formwork for the concrete. This system is advantageous since it eliminates the time spent in removing the concrete forms and a greater R-Value is achieved because of the extra insulation.

3-D WALL RESPONSE FACTORS CONT.

n	X_n	Y_n
	Btu/h ft ² °F	Btu/h ft ² °F
22	-1.4444169E-03	1.4441042E-03
23	-1.3992642E-03	1.3989613E-03
24	-1.3555246E-03	1.3552312E-03
25	-1.3131536E-03	1.3128693E-03
26	-1.2721080E-03	1.2718327E-03
27	-1.2323464E-03	1.2320796E-03
28	-1.1938282E-03	1.1935698E-03
29	-1.1565146E-03	1.1562643E-03
30	-1.1203677E-03	1.1201252E-03
31	-1.0853510E-03	1.0851161E-03
32	-1.0514291E-03	1.0512015E-03
33	-1.0185676E-03	1.0183471E-03
34	-9.8673337E-04	9.8651981E-04
35	-9.5589429E-04	9.5568741E-04
36	-9.2601919E-04	9.2581878E-04
37	-8.9707792E-04	8.9688377E-04
38	-8.6904126E-04	8.6885318E-04
39	-8.4188092E-04	8.4169871E-04
40	-8.1556949E-04	8.1539298E-04