

GENERAL & TECH INFO

ACI 347-04 (Walls)

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Unit weight coefficient: C_w

Less than 140 pcf:
 $C_w = 0.5[1 + (w/145 \text{ pcf})]$
 (but not less than 0.80)

140 to 150 pcf:
 $C_w = 1.0$

More than 150 pcf:
 $C_w = w/145 \text{ pcf}$

BASE VALUES OF LATERAL PRESSURE ON WALL FORMS												
Multiply value by unit weight & chemistry coefficients to obtain pressure on wall form												
Table based on: $C_c = 1.0$ $C_w = 1.0$												
RATE OF PLACEMENT	p, maximum lateral pressure, psf, for temperature indicated											
	90 F		80 F		70 F		60 F		50 F		40 F	
1	663	250	728	263	810	279	920	300	1074	330	1305	375
2	694	350	763	375	850	407	967	450	1130	510	1375	600
3	726	450	798	488	890	536	1013	600	1186	690	1445	825
4	757	550	833	600	930	664	1060	750	1242	870	1515	1050
5	788	650	868	713	970	793	1107	900	1298	1050	1585	1275
6	819	750	903	825	1010	921	1153	1050	1354	1230	1655	1500
7	850		938		1050		1200		1410		1725	
8	881		973		1090		1247		1466		1795	
9	912		1008		1130		1293		1522		1865	
10	943		1043		1170		1340		1578		1935	
11	974		1078		1210		1387		1634		2005	
12	1006		1113		1250		1433		1690		2075	
13	1037		1148		1290		1480		1746		2145	
14	1068		1183		1330		1527		1802		2215	
15	1099		1218		1370		1573		1858		2285	
16	1130		1253		1410		1620		1914		2355	
17	1161		1288		1450		1667		1970		2425	

$P = C_w C_c [150 + 43, 400/T + 2800 R/T]$ applies where placement height is greater than 14'.
 $P = C_w C_c [150 + 9000R/T]$ (shaded) applies for R less than 7 FT/HR.

ACI 347-04 (Columns)

Chemistry coefficient C_c

Type I, II and III, w/o retarders: $C_c = 1.0$

Type I, II and III w/ retarders: $C_c = 1.2$

Other types containing less than 70% slag or 40% fly ash, w/o retarders: $C_c = 1.2$

Other types containing less than 70% slag or 40% fly ash w/ retarders: $C_c = 1.4$

Blends containing more than 70% slag or 40% fly ash: $C_c = 1.4$

Base values of lateral pressure on column forms, * psf, for various pour rates and concrete temperatures.
 Multiply value from this table by unit weight and chemistry coefficients to obtain pressure for design of column forms.

Rate of placement R, ft per hr	Concrete temperature during placement, degrees F					
	90° F	80° F	70° F	60° F	50° F	40° F
1	250	263	279	300	330	375
2	350	375	407	450	510	600
3	450	488	536	600	690	825
4	550	600	664	750	870	1050
5	650	713	793	900	1050	1275
6	750	825	921	1050	1230	1500
7	850	938	1050	1200	1410	1725
8	950	1050	1179	1350	1590	1950
9	1050	1163	1307	1500	1770	2175
10	1150	1275	1436	1650	1950	2400
11	1250	1388	1564	1800	2130	2625
12	1350	1500	1693	1950	2310	2850
13	1450	1613	1821	2100	2490	
14	1550	1725	1950	2250	2670	
16	1750	1950	2207	2550		
18	1950	2175	2464	2850		
20	2150	2400	2721			
22	2350	2625	2979			
24	2550	2850				
26	2750					
28	2950					

* Base value of lateral pressure equals $150 + 9000 R/T$
 NOTE: Depending on coefficient values, the minimum pressure of 600 C_w may govern. Do not use pressures in excess of w_h .