

EN206 Concrete Density Conformity

08 March 2008

Sutton Coldfield CEM1

Ln	Test Ref	Date Cast	Mix description	BatchBook ref	Air %	Slump req	Slump actual	Actual CC	Act 28 Day	Actual Density	Design Density	VAR kg	Grp Avg VAR	** Variation
1	1	06-Jan-05	C32/40	2PCPL	3	100	90	375	59.0	2420	2437	-17		~
2	2	06-Jan-05	C32/40	2PCPL	0	100	110	375	55.0	2455	2437	18		~
3	3	12-Jan-05	C32/40	2PCPL	0	100	140	375	58.0	2450	2437	13		~
4	4	20-Jan-05	RC35	2PCPL	0	80	130	315	46.5	2430	2435	-5		~
5	5	21-Jan-05	C32/40	2PCPL	0	100	120	375	57.5	2445	2437	8		~
6	6	21-Jan-05	C32/40	2PCPL	0	100	100	375	62.0	2455	2437	18		~
7	7	28-Jan-05	C32/40	2PCPL	0	100	100	375	62.5	2450	2437	13		~
8	8	28-Jan-05	C32/40	2PCPL	0	100	130	375	64.0	2445	2437	8		~
9	9	02-Feb-05	C28/35	2PCPL	0	100	100	325	53.5	2435	2435	0		~
10	10	02-Feb-05	C28/35	2PCPL	0	100	120	325	50.0	2420	2435	-15		~
11	11	09-Feb-05	C32/40	2PCPL	0	80	100	340	50.0	2415	2436	-21		~
12	12	09-Feb-05	C28/35	2PC	0	100	90	340	58.0	2410	2416	-6		~
13	13	09-Feb-05	C32/40	2PCPL	0	80	130	340	50.5	2415	2436	-21		~
14	14	09-Feb-05	C28/35	2PC	0	100	130	340	47.5	2415	2416	-1		~
15	15	10-Feb-05	C28/35	2PCPL	0	100	90	325	54.0	2405	2435	-30		~
16	16	10-Feb-05	C28/35	2PCPL	0	100	110	325	45.5	2430	2435	-5		~
17	17	15-Feb-05	C32/40	2PCPL	0	80	90	340	54.5	2425	2436	-11		~
18	18	15-Feb-05	C32/40	2PCPL	0	80	120	340	49.5	2405	2436	-31		~
													-5	Pass

**Variation - Analysis based upon water saturated hardened cube density using +/- 40 kg as the overall tolerance.

Table 13 - Heavyweight Concrete Density (QPA Guide)

Individual criterion = -130 kg + 100kg

Class limits / tolerance on target value = -100 kg + 100kg

Minimum number of results within class limits / tolerances per 20 consecutive non overlapping results = 18

Ref:- BS EN 12390-7: Testing hardened concrete - Part 7 Density of hardened concrete shall be to "water saturated" condition.

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1	19	16-Feb-05	C35/45	2PC	0	100	90	380	57.0	2435	2417	18		~
2	20	16-Feb-05	C35/45	2PCPL	0	100	110	380	56.0	2425	2437	-12		~
3	21	18-Feb-05	C32/40	2PCPL	0	80	110	340	53.0	2430	2436	-6		~
4	22	18-Feb-05	C32/40	2PCPL	0	80	90	340	53.5	2440	2436	4		~
5	23	18-Feb-05	C35/45	2PC	0	100	120	380	55.0	2440	2417	23		~
6	24	18-Feb-05	C35/45	2PC	0	100	130	380	54.5	2430	2417	13		~
7	25	22-Feb-05	C32/40	2PCPL	0	80	90	340	57.5	2410	2436	-26		~
8	26	22-Feb-05	C32/40	2PCPL	0	80	120	340	50.0	2415	2436	-21		~
9	27	23-Feb-05	C32/40	2PCPL	0	80	110	340	46.5	2415	2436	-21		~
10	28	23-Feb-05	C32/40	2PCPL	0	80	120	340	47.5	2435	2436	-1		~
11	29	28-Feb-05	C32/40	2PCPL	0	80	110	340	52.5	2420	2436	-16		~
12	30	28-Feb-05	C32/40	2PCPL	0	80	90	340	57.5	2420	2436	-16		~
13	31	03-Mar-05	C32/40	2PCPL	0	80	80	340	54.0	2425	2436	-11		~
14	32	03-Mar-05	C32/40	2PCPL	0	80	110	340	55.0	2435	2436	-1		~
15	33	11-Mar-05	C28/35	2PCPL	0	100	90	325	53.0	2415	2435	-20		~
16	34	11-Mar-05	C28/35	2PCPL	0	100	130	325	47.0	2420	2435	-15		~
17	35	15-Mar-05	C28/35	2PCPL	0	100	130	325	53.5	2435	2435	0		~
18	36	15-Mar-05	C28/35	2PCPL	0	100	110	325	54.0	2420	2435	-15		~
													-7	Pass

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Individual criterion = -130 kg + 100kg

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Ref:- BS EN 12390-7: Testing hardened concrete - Part 7 Density of hardened concrete shall be to "water saturated" condition.

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1	37	15-Mar-05	C35/45	2PC	0	100	120	380	55.5	2450	2417	33		~
2	38	18-Mar-05	C28/35	2PCPL	0	100	110	325	46.5	2420	2435	-15		~
3	39	18-Mar-05	C28/35	2PCPL	0	100	90	325	53.5	2425	2435	-10		~
4	40	22-Mar-05	C28/35	2PCPL	0	100	90	325	56.5	2430	2435	-5		~
5	41	22-Mar-05	C28/35	2PCPL	0	100	110	325	51.0	2440	2435	5		~
6	42	22-Mar-05	C28/35	2PCPL	0	100	100	325	48.0	2430	2435	-5		~
7	43	22-Mar-05	C28/35	2PCPL	0	100	130	325	47.0	2390	2435	-45		~
8	44	31-Mar-05	C35/45	2PC	0	100	100	340	51.5	2435	2416	19		~
9	45	31-Mar-05	C35/45	2PC	0	100	120	340	48.5	2420	2416	4		~
10	46	01-Apr-05	C28/35	2PCPL	0	100	130	325	52.0	2420	2435	-15		~
11	47	01-Apr-05	C28/35	2PCPL	0	100	100	325	58.0	2430	2435	-5		~
12	48	05-Apr-05	C28/35	2PCPL	0	100	110	325	61.5	2420	2435	-15		~
13	49	05-Apr-05	C28/35	2PCPL	0	100	130	325	49.5	2445	2435	10		~
14	50	14-Apr-05	C28/35	2PCPL	0	100	140	325	53.5	2415	2435	-20		~
15	51	14-Apr-05	C28/35	2PCPL	0	100	130	325	51.0	2455	2435	20		~
16	52	14-Apr-05	C28/35	2PCPL	0	100	130	325	53.5	2425	2435	-10		~
17	53	18-Apr-05	C28/35	2PC	0	70	70	340	58.0	2465	2416	49		~
18	54	18-Apr-05	C28/35	2PC	0	70	100	340	51.5	2460	2416	44		~
													2	Pass

**Variation - Analysis based upon water saturated hardened cube density using +/- 40 kg as the overall tolerance.

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1	55	20-Apr-05	C28/35	2PCAE	5	50	50	340	52.5	2300	2296	4		~
2	56	20-Apr-05	C28/35	2PCAE	4.4	50	70	340	52.5	2320	2296	24		~
3	57	04-May-05	C32/40	2PC	0	100	120	360	50.5	2425	2416	9		~
4	58	03-Jun-05	C28/35	2PCPL	0	100	100	325	49.0	2415	2435	-20		~
5	59	03-Jun-05	C28/35	2PCPL	0	100	130	325	51.0	2410	2435	-25		~
6	60	09-Jun-05	C28/35	2PC	0	100	140	340	47.5	2425	2416	9		~
7	61	09-Jun-05	C28/35	2PC	0	100	100	340	53.0	2420	2416	4		~
8	62	14-Jun-05	RC35	2PC	0	80	90	330	46.0	2415	2415	0		~
9	63	22-Jun-05	C28/35	2PCPL	0	70	70	315	48.0	2410	2435	-25		~
10	64	22-Jun-05	C28/35	2PCPL	0	70	110	315	44.5	2440	2435	5		~
11	65	29-Jun-05	C28/35	2PCPL	0	70	90	315	46.5	2440	2435	5		~
12	66	01-Jul-05	RC35	2PC	0	80	100	330	50.0	2450	2415	35		~
13	67	01-Jul-05	RC35	2PC	0	80	80	330	52.5	2450	2415	35		~
14	68	05-Jul-05	C28/35	2PCPL	0	70	100	315	49.0	2415	2435	-20		~
15	69	05-Jul-05	C28/35	2PCPL	0	70	80	315	49.0	2440	2435	5		~
16	70	08-Jul-05	C28/35	2PCPL	0	120	110	330	47.5	2435	2435	0		~
17	71	11-Jul-05	RC35	2PC	0	80	100	330	47.5	2450	2415	35		~
18	72	11-Jul-05	RC35	2PC	0	80	110	330	47.0	2430	2415	15		~
													5	Pass

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1	73	11-Jul-05	C28/35	2PCPL	0	70	90	315	47.5	2425	2435	-10		~
2	74	13-Jul-05	C28/35	2PCPL	0	70	90	315	51.0	2415	2435	-20		~
3	75	15-Jul-05	C28/35	2PCPL	0	70	110	315	49.0	2425	2435	-10		~
4	76	25-Jul-05	C28/35	2PCPL	0	70	110	305	52.0	2420	2434	-14		~
5	77	25-Jul-05	C28/35	2PCPL	0	70	80	350	60.0	2420	2436	-16		~
6	78	26-Jul-05	C28/35	2PCPL	0	70	90	305	52.0	2420	2434	-14		~
7	79	28-Jul-05	C40	2PCPL	0	70	70	290	44.0	2420	2433	-13		~
8	80	29-Jul-05	C28/35	2PC	0	70	70	290	42.0	2420	2413	7		~
												-11	Pass	

Overall Average Density Variation : -2 Pass

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