

Anexo B

Resultados de los ensayos de resistencia a compresión

SCMS		EDAD	LADOS		ÁREAS	MASA	FUERZA	TENSIÓN	f'c (Mpa)	σ
CFA 20	CUBO 1	3	50.2	50.9	2555	217.9	94.6	37.02	37.63	0.6
	CUBO 2		50	50.8	2540	216.4	95.7	37.68		
	CUBO 3		50.2	50.3	2525	215.2	96.4	38.18		
CFA 40	CUBO 1	3	49.9	49.7	2480	207	32.6	13.15	13.45	0.3
	CUBO 2		49.6	49.5	2455	201.7	33.4	13.60		
	CUBO 3		49.4	49.3	2435	202.2	33.1	13.59		
RHA 20	CUBO 1	3	51.1	50.8	2596	246.5	92.3	35.56	36.10	0.6
	CUBO 2		49.7	49.9	2480	234.6	89.2	35.97		
	CUBO 3		50.7	50	2535	232.3	93.2	36.77		
RHA 40	CUBO 1	3	49.7	50	2485	216.6	84.2	33.88	28.83	4.5
	CUBO 2		49.6	50	2480	218	67.8	27.34		
	CUBO 3		49.6	50	2480	220.4	62.7	25.28		
SSA 20	CUBO 1	3	51.2	50	2560	253.3	91.1	35.59	34.86	1.6
	CUBO 2		50.3	51	2565	240.8	84.8	33.06		
	CUBO 3		49.9	49.7	2480	233.1	89.1	35.93		
SSA 40	CUBO 1	3	49.8	50.5	2515	228.9	63.8	25.37	27.05	2.4
	CUBO 2		49.9	49.8	2485	227.1	64.6	26.00		
	CUBO 3		50	49.8	2490	225.5	74.2	29.80		
FFA 20	CUBO 1	3	51.3	51.2	2627	248.9	87.1	33.16	34.35	1.0
	CUBO 2		50.4	50.2	2530	236.4	88.6	35.02		
	CUBO 3		50.1	50.3	2520	236.3	87.9	34.88		
FFA 40	CUBO 1	3	50.1	50.6	2535	225.4	58.7	23.16	22.92	0.8
	CUBO 2		49.9	50	2495	223.5	58.7	23.53		
	CUBO 3		50.3	50.1	2520	222.8	55.6	22.06		
CT 40	CUBO 1	3	50.3	49.8	2505	236.1	40.5	16.17	18.15	2.1
	CUBO 2		50.3	49.7	2500	235.7	50.9	20.36		
	CUBO 3		50.1	49.6	2485	235.4	44.5	17.91		
FIL 40	CUBO 1	3	50	49.1	2455	222.8	42.7	17.39	17.65	0.5
	CUBO 2		50.1	48.7	2440	226.4	42.4	17.38		
	CUBO 3		49.8	50	2490	225.1	45.3	18.19		
FIL 20	CUBO 1	3	50.5	48.6	2454	231.1	76.0	30.97	28.79	2.0
	CUBO 2		50.3	49.8	2505	233.3	67.8	27.07		
	CUBO 3		50.1	49.1	2460	231.3	69.7	28.33		

Desempeño de materiales cementantes suplementarios en resistencia a compresión e hidratación en pastas de cemento.

SCMS		EDAD	LADOS		ÁREAS	MASA	FUERZA	TENSIÓN	f'c (Mpa)	σ
CT 20	CUBO 1	3	49.7	50.3	2500	235.1	72.1	28.84	29.62	0.7
	CUBO 2		50.1	50.1	2510	235.9	74.6	29.72		
	CUBO 3		52.6	51.1	2688	254.8	81.4	30.28		
OPC 40	1	3	49.9	49.7	2480.03	240.3	98.482	39.71		
OPC 47	1	3	50.1	49.8	2494.98	231.4	75.698	30.34		
OPC 50	1	3	50	50.2	2510	228.9	67.82	27.02		
OPC 54	1	3	49.8	50	2490	222.3	57.619	23.14		
OPC 59	1	3	50	49.9	2495	219.4	47.405	19.00		
CT 20	CUBO 1	7	50.1	50.1	2510	236.7	81.7	32.55	36.00	3.0
	CUBO 2		50.1	50	2505	235.7	93.8	37.45		
	CUBO 3		50.2	49.9	2505	235.1	95.2	38.00		
FIL 20	CUBO 1	7	50.1	49.1	2460	227.3	79.2	32.20	33.12	0.9
	CUBO 2		50	49.7	2485	232.9	84.7	34.08		
	CUBO 3		49.9	49.5	2470	232.2	81.7	33.08		
FIL 40	CUBO 1	7	49.8	48.9	2435	228.3	64.6	26.53	24.71	1.6
	CUBO 2		50.1	48.9	2450	225.6	58.8	24.00		
	CUBO 3		50	49.3	2465	229.1	58.2	23.61		
CFA 20	CUBO 1	7	50.3	49.1	2470	228.6	109.2	44.22	45.15	1.0
	CUBO 2		50.1	49.8	2495	231	115.4	46.25		
	CUBO 3		49.7	49.1	2440	208.5	109.8	45.00		
CFA 40	CUBO 1	7	49.2	49.9	2455	208.9	51.6	21.02	18.93	1.8
	CUBO 2		49.8	50.9	2535	232.1	44.5	17.56		
	CUBO 3		50.2	49	2460	228.6	44.8	18.21		
RHA 40	CUBO 1	7	49.6	50	2480	218.2	90.2	36.37	36.05	0.4
	CUBO 2		49.8	50	2490	216.4	88.6	35.58		
	CUBO 3		49.6	50	2480	220	89.8	36.21		
SSA 20	CUBO 1	7	50	50.2	2510	254	110.5	44.02	39.42	4.7
	CUBO 2		50.2	49.8	2500	257	86.6	34.64		
	CUBO 3		49.7	49.2	2445	242.6	96.8	39.59		
SSA 40	CUBO 1	7	50.2	50	2510	230	93.0	37.05	35.46	2.2
	CUBO 2		51.1	50.5	2581	241.6	93.8	36.35		
	CUBO 3		50	49.9	2495	224.6	82.3	32.99		
RHA 20	CUBO 1	7	50	49.2	2460	229.6	128.9	52.40	47.76	4.6
	CUBO 2		50.2	51	2560	250.9	110.5	43.16		
	CUBO 3		51	50	2550	245.2	121.7	47.73		
FFA 20	CUBO 1	7	50.1	49.9	2500	237.4	98.2	39.28	41.96	2.8

Desempeño de materiales cementantes suplementarios en resistencia a compresión e hidratación en pastas de cemento.

SCMS		EDAD	LADOS		ÁREAS	MASA	FUERZA	TENSIÓN	f'c (Mpa)	σ
	CUBO 2		49.6	50.8	2520	234.7	105.2	41.75		
	CUBO 3		50.2	50.1	2515	250.3	112.8	44.85		
FFA 40	CUBO 1	7	49.9	50.1	2500	221.8	82.9	33.16	31.95	1.3
	CUBO 2		49.6	49.2	2440	224.6	78.2	32.04		
	CUBO 3		50.1	49.9	2500	226.6	76.6	30.64		
CT 40	CUBO 1	7	50	50.1	2505	248.5	66.2	26.43	26.08	0.4
	CUBO 2		50	50	2500	248.2	64.2	25.68		
	CUBO 3		50	49.9	2495	249.8	65.2	26.13		
OPC 40	1	7	50.1	49.8	2494.98	241.7	128.9	51.66		
OPC 47	1	7	49.9	50	2495	231.4	95.5	38.28		
OPC 50	1	7	49.8	50.1	2494.98	227.5	83.9	33.63		
OPC 54	1	7	50.1	49.8	2494.98	222.7	70.7	28.34		
OPC 59	1	7	50	50	2500	219.9	57.15	22.86		
RHA 20	CUBO 1	28	50	49.8	2490	233.2	132.3	53.13	51.77	1.4
	CUBO 2		49.8	50.1	2495	236.2	129.2	51.78		
	CUBO 3		51.1	50.2	2565	248.1	129.3	50.41		
RHA 40	CUBO 1	28	50	49.9	2495	223.1	125.7	50.38	46.87	3.1
	CUBO 2		49.8	50.3	2505	225.4	111.1	44.35		
	CUBO 3		49.8	50	2490	221.6	114.2	45.86		
SSA 20	CUBO 1	28	50	50	2500	239.4	149.5	59.80	50.02	8.6
	CUBO 2		50	49.9	2495	240.5	109.5	43.89		
	CUBO 3		50	49.8	2490	242.9	115.5	46.39		
SSA 40	CUBO 1	28	50.2	51	2560	248.4	114.8	44.84	46.47	2.3
	CUBO 2		49.9	50.1	2500	237	113.7	45.48		
	CUBO 3		51.1	50.5	2581	253.7	126.7	49.10		
FFA 20	CUBO 1	28	50.1	50.01	2506		128.9	51.45	50.69	3.1
	CUBO 2		50.08	50.09	2509		133.9	53.38		
	CUBO 3		50.2	50.1	2515		118.8	47.24		
FFA 40	CUBO 1	28	50.01	50.05	2503		107.5	42.95	41.38	2.1
	CUBO 2		50.02	50	2501		97.6	39.02		
	CUBO 3		50.05	50	2503		105.5	42.16		
FIL 20	CUBO 1	28	51	51.1	2606	259.28	118.6	45.51	44.84	0.6
	CUBO 2		51.6	50.6	2611	259.45	115.9	44.39		
	CUBO 3		51	50.5	2576	256.9	114.9	44.61		
FIL 40	CUBO 1	28	51.6	50.2	2590	247.43	86.4	33.35	33.39	1.8
	CUBO 2		51	51	2601	252.12	91.6	35.22		

Desempeño de materiales cementantes suplementarios en resistencia a compresión e hidratación en pastas de cemento.

SCMS		EDAD	LADOS		ÁREAS	MASA	FUERZA	TENSIÓN	f'c (Mpa)	σ
	CUBO 3		51.4	50.3	2585	250.57	81.7	31.60		
CT 20	CUBO 1	28	50.2	50.1	2515	242.29	99.2	39.44	42.18	3.9
	CUBO 2		51	52	2652	256	107.3	40.46		
	CUBO 3		49.2	50	2460	236.72	114.7	46.63		
	CUBO 3		49.2	50	2460	236.72	114.7	46.63		
CFA 20	CUBO 1	28	50	50	2500	235	138.3	55.32	51.94	4.8
	CUBO 2		49.5	49.8	2465	233.9	119.7	48.56		
	CUBO 3		50	50	2500	233.3	162.3			
	CUBO 3		50	50	2500	233.3	162.3			
CFA 40	CUBO 1	28	49.5	50	2475	211.45	75.1	30.34	27.02	3.0
	CUBO 2		50.5	51.4	2596	231.6	64.1	24.69		
	CUBO 3		49.6	49.5	2455	211.72	63.9	26.03		
	CUBO 3		49.6	49.5	2455	211.72	63.9	26.03		
CT 40	CUBO 1	28	50	50	2500		85.2	34.08	34.78	0.8
	CUBO 2		50	49.6	2480		88.4	35.65		
	CUBO 3		50	49.8	2490		86.2	34.62		
	CUBO 3		50	49.8	2490		86.2	34.62		
OPC 40	1	28	49.9	49.7	2480.03	240.3	176.8	71.29		
OPC 47	1	28	49.6	50.2	2489.92	230.9	127.5	51.21		
OPC 50	1	28	49.5	50	2475	225.7	110.1	44.48		
OPC 54	1	28	50.3	49.9	2509.97	224.1	92.4	36.81		
OPC 59	1	28	50	49.7	2485	218.5	72.3	29.09		
RHA 20	CUBO 1	90	50	50	2500	240.3	137.1	54.84	54.83	4.6
	CUBO 2		49.8	50	2490	234.3	148	59.44		
	CUBO 3		50	50.2	2510	236	126	50.20		
	CUBO 3		50	50.2	2510	236	126	50.20		
RHA 40	CUBO 1	90	51.2	50.5	2586		128.3	49.62	49.32	1.7
	CUBO 2		51.2	50.8	2601		132.3	50.87		
	CUBO 3		51.2	51	2611		124	47.49		
	CUBO 3		51.2	51	2611		124	47.49		
SSA 20	CUBO 1	90	50	49.8	2490	241	164.9	66.22	61.15	5.0
	CUBO 2		50	49.8	2490	241.1	140.2	56.31		
	CUBO 3		50	50	2500	243	152.3	60.92		
	CUBO 3		50	50	2500	243	152.3	60.92		
SSA 40	CUBO 1	90	50	49.3	2465	231.7	129.1	52.37	48.48	4.5
	CUBO 2		50	50.5	2525	241.3	124.9	49.47		
	CUBO 3		50	50	2500	237.4	109	43.60		
	CUBO 3		50	50	2500	237.4	109	43.60		
FFA 20	CUBO 1	90	50	49.8	2490	241.4	113.5	45.58	54.32	7.6
	CUBO 2		50	49.2	2460	239.3	141.7	57.60		
	CUBO 3		50.3	50.1	2520	243.5	150.6	59.76		
	CUBO 3		50.3	50.1	2520	243.5	150.6	59.76		
FFA 40	CUBO 1	90	51.1	50.9	2601	249.8	150	57.67	54.19	3.8
	CUBO 2		51	51	2601	247.4	130.5	50.17		
	CUBO 3		51.6	50.6	2611	249	142.9	54.73		
	CUBO 3		51.6	50.6	2611	249	142.9	54.73		

Desempeño de materiales cementantes suplementarios en resistencia a compresión e hidratación en pastas de cemento.

SCMS		EDAD	LADOS		ÁREAS	MASA	FUERZA	TENSIÓN	f'c (Mpa)	σ
FIL 20	CUBO 1	90	50	49.8	2490	244.7	112.3	45.10	47.66	2.3
	CUBO 2		50	49.8	2490	244.2	120.7	48.47		
	CUBO 3		50	48.9	2445	243.5	120.8	49.41		
FIL 40	CUBO 1	90	50	48.7	2435	241	103	42.30	42.80	1.7
	CUBO 2		50	48.6	2430	243	100.7	41.44		
	CUBO 3		50	49.2	2460	245	109.9	44.67		
CT 20	CUBO 1	90	51	51.3	2616	262.3	109.4	41.81	52.03	8.9
	CUBO 2		50	50.1	2505	247.4	142.3	56.81		
	CUBO 3		49.7	50.1	2490	246.2	143.1	57.47		
CFA 20	CUBO 1	90	50	48.7	2435	235.1	117.8	48.38	57.35	10.8
	CUBO 2		49.9	49.8	2485	238.3	135.2	54.41		
	CUBO 3		51.1	49.8	2545	254.3	176.3	69.28		
CFA 40	CUBO 1	90	49.7	49	2435	216.5	92.3	37.90	39.13	1.2
	CUBO 2		50.9	49.9	2540	229.2	99.8	39.29		
	CUBO 3		49.2	49	2411	213.2	96.9	40.19		
CT 40	CUBO 1	90	50	49.8	2490	238	112.7	45.26	41.20	3.8
	CUBO 2		50	49.9	2495	238.1	94.3	37.80		
	CUBO 3		50	50.7	2535	239.6	102.8	40.55		
OPC 40	1	90	50	49.8	2490	241.2	177.5	71.29		
OPC 47	1	90	49.7	49.9	2480.03	230.0	127.1	51.25		
OPC 50	1	90	49.8	50.1	2494.98	227.5	111	44.49		
OPC 54	1	90	49.8	50.1	2494.98	222.7	91.9	36.83		
OPC 59	1	90	49.9	50.2	2504.98	220.3	72.9	29.10		