

CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO



TIPO/CLASSE: **CPIII-40 RS**
FÁBRICA: **FMO - FÁBRICA DE MOGI DAS CRUZES - SP**
MÊS/ANO: **JULHO/2026**



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIOXIDO DE	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO (PF)	INSOLÚVEL (RI)	ENXÓFRE (SO3)	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
UNIDADE	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(cm²/g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	≤ 5,0	≤ 4,5	≥ 12,0	≥ 23,0	≥ 40,0	–	–	≤ 8,0	≤ 5	≥ 60	≤ 720	–
01/07/2026	3.85	1.80	1.65	23.1	34.5	49.9	4280	1.1	0.2	0.0	180	220	29.0
02/07/2026	3.76	1.60	1.71	23.1	34.5	49.9	4332	1.3	0.2	0.0	190	230	29.0
03/07/2026	3.78	1.90	1.65	23.8	35.4	49.7	4321	1.1	0.1	0.0	185	220	29.0
04/07/2026	3.79	1.90	1.61	23.3	34.6	49.9	4308	1.4	0.1	0.0	190	230	29.2
06/07/2026	4.15	1.60	1.72	23.3	34.6	49.9	4318	1.4	0.2	0.0	190	240	29.2
07/07/2026	3.52	1.60	1.72	23.3	34.9	49.5	4308	1.4	0.2	0.0	200	250	29.2
08/07/2026	3.56	1.50	1.75	23.3	34.9	49.5	4391	1.0	0.1	0.0	180	225	29.2
10/07/2026	3.94	1.70	1.54	23.6	36.3	49.9	4397	1.1	0.1	0.0	185	220	29.4
11/07/2026	3.65	1.90	1.78	23.2	36.7	51.8	4497	0.8	0.1	0.0	185	220	29.8
13/07/2026	3.66	2.20	1.75	23.4	34.5	50.1	4405	1.1	0.1	0.0	180	240	29.6
14/07/2026	3.58	1.40	1.85	23.4	34.2	50.5	4371	0.8	0.1	0.0	200	250	29.2
15/07/2026	3.84	1.70	1.65	23.8	34.5	50.0	4403	1.0	0.1	0.0	180	245	29.4
16/07/2026	3.64	1.70	1.68	23.8	34.5	50.0	4340	1.1	0.1	0.0	180	230	29.4
17/07/2026	3.68	1.70	1.82	23.5	34.3	50.4	4323	1.4	0.1	0.0	185	220	29.4
18/07/2026	3.38	1.60	1.68	23.2	35.5	51.0	4300	1.2	0.2	0.0	190	240	29.4
20/07/2026	3.20	2.10	1.72	23.5	34.5	50.5	4333	1.1	0.2	0.0	190	240	29.4
21/07/2026	3.25	2.00	1.68	23.3	34.4	51.4	4238	1.0	0.1	0.0	180	230	29.6
22/07/2026	2.94	2.10	1.75	23.5	35.2	50.4	4229	1.2	0.2	0.0	185	235	29.2
23/07/2026	3.29	2.10	1.75	23.5	35.2	50.4	4283	1.1	0.2	0.0	180	220	29.2
24/07/2026	3.20	1.50	1.82	23.4	34.6	49.7	4227	1.1	0.2	0.0	185	225	29.4
25/07/2026	3.40	1.70	1.72	23.3	35.8	49.3	4160	1.2	0.2	0.0	190	230	29.4
27/07/2026	3.18	1.60	1.75	23.2	34.3	50.0	4224	1.1	0.1	0.0	180	220	29.4
28/07/2026	3.60	1.80	1.65	23.2	35.3	50.4	4261	1.2	0.1	0.0	190	230	29.4
29/07/2026	3.33	1.80	1.58	23.4	35.9	49.4	4241	1.0	0.1	0.0	190	235	29.2
30/07/2026	3.43	1.70	1.68	23.4	35.9	49.4	4331	1.1	0.1	0.0	185	220	29.2
31/07/2026	3.80	1.60	1.58	23.4	34.9	50.0	4439	1.0	0.1	0.0	185	230	29.4
MÉDIA	3.55	1.76	1.70	23.4	35.0	50.1	4318	1.1	0.1	0.0	186	231	29.3
MÁXIMO	4.15	2.20	1.85	23.8	36.7	51.8	4497	1.4	0.2	0.0	200	250	29.8
MÍNIMO	2.94	1.40	1.54	23.1	34.2	49.3	4160	0.8	0.1	0.0	180	220	29.0

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CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO



TIPO/CLASSE: **CPIII-40 RS**
FÁBRICA: **FMO - FÁBRICA DE MOGI DAS CRUZES - SP**
MÊS/ANO: **AGOSTO/2026**



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIOXIDO DE	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO (PF)	INSOLÚVEL (RI)	ENXÓFRE (SO3)	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
UNIDADE	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(cm²/g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	≤ 5,0	≤ 4,5	≥ 12,0	≥ 23,0	≥ 40,0	–	–	≤ 8,0	≤ 5	≥ 60	≤ 720	–
01/08/2026	3.41	1.80	1.82	23.5	35.5	52.0	4493	0.9	0.2	0.0	190	240	29.8
03/08/2026	3.99	1.60	1.72	23.6	35.9	51.8	4400	1.1	0.2	0.0	180	230	29.6
04/08/2026	3.92	1.90	1.78	23.4	35.6	50.9	4420	1.0	0.1	0.0	180	230	29.6
05/08/2026	3.76	1.90	1.80	24.5	35.7	53.0	4525	1.4	0.2	0.0	180	230	29.6
06/08/2026	3.73	2.00	1.75	24.5	35.7	53.0	4470	1.4	0.1	0.0	180	225	29.6
07/08/2026	3.78	1.70	1.96	23.2	36.0	49.3	4568	1.1	0.1	0.0	190	235	29.6
08/08/2026	3.95	1.80	1.70	23.3	34.4	49.9	4627	1.0	0.2	0.0	180	220	29.6
10/08/2026	3.64	1.70	1.99	23.1	34.6	51.5	4526	1.0	0.2	0.0	190	230	29.6
11/08/2026	4.00	1.90	1.75	23.3	35.7	50.0	4689	1.4	0.2	0.0	200	250	29.8
12/08/2026	4.43	1.80	2.02	23.2	36.3	50.1	4668	1.8	0.2	0.0	185	230	29.6
13/08/2026	4.51	2.00	2.23	23.2	36.3	50.1	4829	1.4	0.2	0.0	180	220	29.6
14/08/2026	4.59	2.20	2.02	23.1	35.3	50.2	4833	1.4	0.1	0.0	190	255	29.6
15/08/2026	4.90	2.50	2.06	23.5	34.0	49.8	4872	1.6	0.2	0.0	195	240	29.6
17/08/2026	3.61	2.10	1.89	23.8	34.5	49.7	4867	1.6	0.2	0.0	180	220	29.6
18/08/2026	4.68	2.00	1.96	24.0	35.5	50.1	4859	1.5	0.2	0.0	180	220	29.4
19/08/2026	4.60	1.80	1.96	23.5	35.0	49.8	4816	1.8	0.2	0.0	180	220	29.6
20/08/2026	4.97	1.80	1.82	23.5	35.0	49.8	4772	1.7	0.2	0.0	190	230	29.6
21/08/2026	4.62	1.80	1.92	23.4	34.8	49.7	4672	1.6	0.1	0.0	185	225	29.6
22/08/2026	4.68	2.20	1.89	23.4	34.0	49.6	4772	1.8	0.2	0.0	200	240	29.4
24/08/2026	4.61	1.70	1.96	23.5	35.4	50.3	4770	1.4	0.1	0.0	190	230	29.6
25/08/2026	4.20	1.60	1.68	23.2	35.5	49.7	4819	1.8	0.1	0.0	180	230	29.4
26/08/2026	4.66	1.80	1.99	23.3	34.4	49.6	4711	1.2	0.2	0.0	185	225	29.4
27/08/2026	4.46	2.00	2.02	23.3	34.4	49.6	4814	1.1	0.1	0.0	205	250	29.8
28/08/2026	4.00	1.90	1.96	23.8	36.5		4842	1.5	0.1	0.0	180	235	29.8
29/08/2026	4.68	1.60	1.89	23.2	34.9		4785	1.7	0.1	0.0	200	240	29.8
31/08/2026	4.76	1.80	1.89	23.2	34.9		4919	1.3	0.2	0.0	185	220	29.8
MÉDIA	4.27	1.88	1.90	23.5	35.2	50.4	4705	1.4	0.2	0.0	187	232	29.6
MÁXIMO	4.97	2.50	2.23	24.5	36.5	53.0	4919	1.8	0.2	0.0	205	255	29.8
MÍNIMO	3.41	1.60	1.68	23.1	34.0	49.3	4400	0.9	0.1	0.0	180	220	29.4

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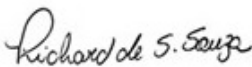
CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO



TIPO/CLASSE: **CPIII-40 RS**
FÁBRICA: **FMO - FÁBRICA DE MOGI DAS CRUZES - SP**
MÊS/ANO: **SETEMBRO/2026**



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIOXIDO DE	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO (PF)	INSOLÚVEL (RI)	ENXÓFRE (SO3)	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
UNIDADE	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(cm²/g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	≤ 5,0	≤ 4,5	≥ 12,0	≥ 23,0	≥ 40,0	–	–	≤ 8,0	≤ 5	≥ 60	≤ 720	–
01/09/2026	4.86	1.50	1.89	23.4	35.0		4840	1.7	0.2	0.0	180	225	29.8
02/09/2026	4.55	1.70	1.85	23.6	35.2		4823	1.9	0.2	0.0	185	230	29.8
03/09/2026	4.90	2.00	1.99	23.6	35.2		4961	1.2	0.1	0.0	200	250	29.8
04/09/2026	4.82	2.00	1.55	23.5	34.8		4882	1.8	0.1	0.0	185	220	29.8
05/09/2026	4.90	1.40	1.85	23.3	35.2		4927	1.2	0.1	0.0	210	250	29.8
08/09/2026	4.65	2.20	2.02	23.0	34.8		4096	1.9	0.2	0.0	180	235	30.0
09/09/2026	5.00	1.90	1.96	23.2	34.2		4906	1.8	0.2	0.0	180	240	30.0
10/09/2026	5.00	2.30	1.44	23.2	34.2		4856	1.8	0.1	0.0	180	230	30.0
11/09/2026	4.89	2.10	1.78	23.1	33.9		4904	1.7	0.2	0.0	180	230	30.0
12/09/2026	5.00	1.90	1.89	23.0			4937	1.8	0.2	0.0	180	230	30.2
14/09/2026	4.81	1.60	1.75	23.2			4880	1.3	0.2	0.0	180	230	30.0
15/09/2026	4.31	1.70	1.75				5017	1.7	0.2	0.0	180	230	29.6
16/09/2026	4.99	1.80	1.78				4822	1.6	0.2	0.0	170	220	28.6
17/09/2026	4.80	1.70	1.75				5192	1.8	0.1	0.0	170	215	29.0
18/09/2026	4.90	1.70	1.82				4922	1.6	0.2	0.0	185	235	29.4
19/09/2026	4.80	2.10	1.85	23.1	34.4		4828	1.3	0.2	0.0	180	230	29.6
21/09/2026	4.66	2.20	1.78	23.2	34.2		4834	1.7	0.2	0.0	180	220	29.6
22/09/2026	4.84	2.10	1.68	23.4			4770	0.8	0.1	0.0	180	220	30.0
23/09/2026	4.92	2.10	1.96	23.1			4807	1.1	0.2	0.0	185	240	30.0
24/09/2026	4.92	1.70	1.92	23.1			4559	1.1	0.2	0.0	185	230	30.0
25/09/2026	4.90	2.40	1.96				4262	1.5	0.2	0.0	200	230	30.0
26/09/2026	4.55	2.10	1.96				4389	1.4	0.2	0.0	180	235	30.2
27/09/2026		1.80					4495	1.6	0.2	0.0	180	235	30.2
MÉDIA	4.82	1.91	1.83	23.3	34.6		4779	1.5	0.2	0.0	183	231	29.8
MÁXIMO	5.00	2.40	2.02	23.6	35.2		5192	1.9	0.2	0.0	210	250	30.2
MÍNIMO	4.31	1.40	1.44	23.0	33.9		4096	0.8	0.1	0.0	170	215	28.6



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