



CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO


TIPO/CLASSE: CPV ARI RS

FÁBRICA: FPA - FÁBRICA DE PACATUBA - SE

MÊS/ANO: MARÇO/2026



ENSAIOS QUÍMICOS					ENSAIOS FÍSICOS E MECÂNICOS										
ENSAIOS	PERDA AO	RESIDUO	ÓXIDO DE	TRIÓXIDO	RESISTÊNCIA À COMPRESSÃO				FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO	INSOLÚVEL	MAGNÉSIO	DE ENXOFRE	1 DIA	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
	(PF)	(RI)	(MgO)	(SO ₃)											
UNIDADE	(%)	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(MPa)	(cm ² /g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	-	-	≤ 4,5	≥ 14,0	≥ 24,0	≥ 34,0	-	-	-	≤ 6,0	≤ 5	≥ 60	≤ 600	-
01/03/2026	5.98	2.48	4.436	3.45	22.20	32.5	36.3	41.1	4440	1.3	0.1	1.0	160	200	29.6
03/03/2026	5.83	2.57	4.125	3.44	23.50	33.2	36.5	42.4	4790	1.0	0.1	1.0	170	210	29.6
04/03/2026	4.88	2.57	4.228	3.23	21.50	30.2	36.5	42.4	4156	1.6	0.1	1.0	170	210	29.6
05/03/2026	5.17	2.54	4.034	3.34	22.30	32.6	38.2	42.8	4245	1.4	0.1	1.0	170	210	29.8
06/03/2026	5.26	2.46	3.974	3.45	22.70	34.9	37.0	43.7	4185	1.5	0.1	1.0	170	210	29.4
07/03/2026	4.97	2.46	4.037	3.45	22.70	34.9	37.0	43.7	4115	1.4	0.1	1.0	170	210	29.4
08/03/2026	5.00	2.46	3.823	3.48	22.70	34.9	37.0	43.7	4330	1.3	0.1	1.0	170	210	29.4
09/03/2026	5.21	2.38	3.490	3.37	21.00	34.2	39.1	42.0	4291	1.5	0.1	1.0	165	215	29.0
10/03/2026	4.93	3.15	3.856	3.55	21.70	34.7	39.9	41.4	4210	1.4	0.1	1.0	180	225	28.2
11/03/2026	5.13	3.13	3.304	3.56	24.00	32.6	38.7	44.9	4261	1.4	0.1	1.0	160	205	29.4
12/03/2026	5.19	3.00	3.668	3.37	20.60	33.9	37.2	42.2	4185	1.5	0.1	1.0	165	210	29.0
13/03/2026	5.19	3.30	3.650	3.37	22.00	33.1	35.4	41.7	4355	1.2	0.1	1.0	165	215	29.6
14/03/2026	5.16	3.30	3.764	3.29	22.00	33.1	35.4	41.7	4100	1.6	0.1	1.0	165	215	29.6
15/03/2026	5.09	3.30	4.092	3.22	22.00	33.1	35.4	41.7	4081	1.5	0.1	1.0	165	215	29.6
16/03/2026	5.18	2.87	3.897	3.27	20.10	32.0	38.1	43.3	4125	1.4	0.1	1.0	175	225	29.4
17/03/2026	5.50	3.34	3.848	3.44	22.70	33.4	36.5	44.2	4265	1.4	0.1	1.0	160	205	29.4
18/03/2026	5.30	3.10	3.888	3.37	21.00	31.2	36.2	42.5	4165	1.6	0.1	1.0	160	215	29.4
19/03/2026	5.22	3.56	3.536	3.49	22.40	34.0	36.7	44.3	4230	1.5	0.1	1.0	160	215	28.4
20/03/2026	5.25	3.25	3.833	3.44	22.60	32.8	36.8	43.0	4265	1.5	0.1	1.0	155	195	29.6
21/03/2026	5.30	3.25	4.016	3.58	22.60	32.8	36.8	43.0	4240	1.6	0.1	1.0	155	195	29.6
22/03/2026	5.56	3.25	4.213	3.67	22.60	32.8	36.8	43.0	4320	1.5	0.1	1.0	155	195	29.6
23/03/2026	4.95	3.33	4.408	3.53	24.30	33.4	38.3	46.1	4190	1.4	0.1	1.0	150	200	30.6
24/03/2026	4.97	3.15	4.225	3.55	21.60	35.3	37.3	45.4	4176	1.4	0.1	1.0	150	205	30.0
25/03/2026	5.24	3.17	4.230	3.35	22.70	31.6	34.7	43.4	4090	1.2	0.1	1.0	150	195	30.0
26/03/2026	5.27	3.46	3.612	3.62	19.60	31.2	36.5	43.2	4035	1.4	0.1	1.0	160	220	29.2
27/03/2026	4.90	3.31	3.475	3.54	21.40	32.0	34.2	43.4	3925	1.6	0.1	1.0	165	215	29.4
28/03/2026	5.56	3.31	3.440	3.41	21.40	32.0	34.2	43.4	4015	1.4	0.1	1.0	165	210	29.4
30/03/2026	5.21	5.21	3.620	3.70	22.90	34.0	37.3	41.7	4130	1.4	0.1	1.0	160	205	29.8
31/03/2026	6.02	4.66	3.560	3.44	21.50	31.5	35.3	40.3	4160	1.4	0.1	1.0	155	205	29.8
MÉDIA	5.25	3.15	3.870	3.45	22.08	33.0	36.7	43.0	4209	1.4	0.1	1.0	163	209	29.5
DESVIO PADRÃO	0.30	0.62	0.300	0.12	1.05	1.3	1.4	1.3	156	0.1	0.0	0.0	8	8	0.5
MÍNIMO	4.88	2.38	3.300	3.22	19.60	30.2	34.2	40.3	3925	1.0	0.1	1.0	150	195	28.2
MÁXIMO	6.02	5.21	4.440	3.70	24.30	35.3	39.9	46.1	4790	1.6	0.1	1.0	180	225	30.6


Responsável Técnico
JONAS MEDEIROS DE PAIVA
CRQ: 153000627 - XV Região



CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO


TIPO/CLASSE: CPV ARI RS



FÁBRICA: FPA - FÁBRICA DE PACATUBA - SE

MÊS/ANO: ABRIL/2026

ENSAIOS QUÍMICOS					ENSAIOS FÍSICOS E MECÂNICOS										
ENSAIOS	PERDA AO	RESIDUO	ÓXIDO DE	TRIÓXIDO	RESISTÊNCIA À COMPRESSÃO				FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO	INSOLÚVEL	MAGNÉSIO	DE ENXOFRE	1 DIA	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
	(PF)	(RI)	(MgO)	(SO ₃)											
UNIDADE	(%)	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(MPa)	(cm ² /g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	-	-	≤ 4,5	≥ 14,0	≥ 24,0	≥ 34,0	-	-	-	≤ 6,0	≤ 5	≥ 60	≤ 600	-
01/04/2026	5.51	3.73	3.580	3.36	20.80	31.7	37.5	44.4	4300	1.3	0.1	1.0	160	210	30.0
02/04/2026	5.46	2.91	3.640	3.52	20.90	32.0	36.6	43.9	4260	1.6	0.1	1.0	155	215	29.8
03/04/2026	5.95	2.64	3.990	3.64	23.20	35.5	36.4	44.2	4370	1.5	0.1	1.0	165	210	29.6
04/04/2026	5.95	2.64	3.990	3.64	23.20	35.5	36.4	44.2	4370	1.5	0.1	1.0	165	210	29.6
06/04/2026	5.69	2.70	4.070	3.88	21.10	33.7	37.4	44.0	4390	1.5	0.1	1.0	160	210	29.4
07/04/2026	5.46	2.71	4.120	3.79	22.40	33.8	38.0	45.9	4370	1.4	0.1	1.0	155	215	29.8
08/04/2026	5.42	2.63	4.070	3.12	21.20	32.2	35.8	42.0	4400	1.2	0.1	1.0	160	220	29.6
09/04/2026	5.84	2.69	3.920	3.44	24.00	35.2	39.1	45.1	4430	1.3	0.1	1.0	165	225	29.8
10/04/2026	6.30	2.67	3.710	3.69	22.30	31.4	37.2	43.6	4260	1.3	0.1	1.0	165	215	29.8
11/04/2026	6.30	2.67	3.710	3.69	22.30	31.4	37.2	43.6	4260	1.3	0.1	1.0	165	215	29.8
13/04/2026	6.22	3.00	3.700	3.60	21.80	32.9	35.2	40.5	4310	1.4	0.1	1.0	165	215	29.6
14/04/2026	5.74	2.76	3.630	3.56	21.50	33.8	39.6	43.1	4390	1.1	0.1	1.0	160	210	30.0
15/04/2026	5.31	2.66	3.340	3.75	21.30	34.5	38.8	43.0	4440	1.4	0.1	1.0	170	215	29.6
16/04/2026	5.41	2.08	3.100	3.37	20.40	34.4	38.9	44.8	4240	1.3	0.1	1.0	175	220	29.6
17/04/2026	5.40	2.22	2.920	3.43	19.30	33.8	37.3	42.4	4130	1.2	0.1	1.0	180	225	29.0
18/04/2026	5.40	2.22	2.920	3.43	19.30	33.8	37.3	42.4	4130	1.2	0.1	1.0	180	225	29.0
19/04/2026	5.40	2.22	2.920	3.43	19.30	33.8	37.3	42.4	4130	1.2	0.1	1.0	180	225	29.0
20/04/2026	5.41	2.60	3.260	3.42	21.10	32.4	37.4	44.4	4210	1.5	0.1	1.0	170	215	29.6
21/04/2026	5.41	2.68	3.260	3.42	21.10	32.4	37.4	44.4	4210	1.5	0.1	1.0	170	215	29.6
22/04/2026	5.93	2.68	3.870	3.87	20.60	32.1	37.3	44.9	4290	1.2	0.1	1.0	175	220	29.8
23/04/2026	6.08	2.65	3.090	3.55	20.20	31.8	37.8	43.1	4300	1.3	0.1	1.0	175	210	29.6
24/04/2026	6.00	3.34	3.390	3.52	20.70	33.3	37.9	45.2	4340	1.3	0.1	1.0	175	215	29.6
25/04/2026	6.00	3.34	3.390	3.52	20.70	33.3	37.9	45.2	4340	1.3	0.1	1.0	175	215	29.6
27/04/2026	5.62	3.56	3.840	3.38	20.70	33.4	37.3	44.7	4380	1.6	0.1	1.0	175	215	29.4
28/04/2026	5.02	3.70	3.790	3.41	22.10	34.1	36.8	45.1	4210	1.5	0.1	1.0	175	205	29.6
29/04/2026	5.80	3.40	3.490	3.28	20.70	33.1	36.7	43.2	4390	1.6	0.1	1.0	180	225	29.8
MÉDIA	5.69	2.81	3.570	3.53	21.24	33.3	37.4	43.8	4302	1.4	0.1	1.0	169	216	29.6
DESVIO PADRÃO	0.34	0.45	0.380	0.18	1.18	1.2	1.0	1.2	93	0.1	0.0	0.0	8	6	0.3
MÍNIMO	5.02	2.08	2.920	3.12	19.30	31.4	35.2	40.5	4130	1.1	0.1	1.0	155	205	29.0
MÁXIMO	6.30	3.73	4.120	3.88	24.00	35.5	39.6	45.9	4440	1.6	0.1	1.0	180	225	30.0


Responsável Técnico
JONAS MEDEIROS DE PAIVA
CRQ: 153000627 - XV Região



CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

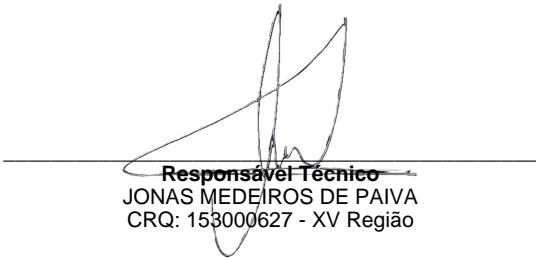
TIPO/CLASSE: CPV ARI RS



FÁBRICA: FPA - FÁBRICA DE PACATUBA - SE

MÊS/ANO: MAIO/2026

ENSAIOS QUÍMICOS					ENSAIOS FÍSICOS E MECÂNICOS										
ENSAIOS	PERDA AO	RESIDUO	ÓXIDO DE	TRIÓXIDO	RESISTÊNCIA À COMPRESSÃO				FINURA			EXPANSIB.	TEMPO DE PEGA		CONSIST. NORMAL
	FOGO	INSOLÚVEL	MAGNÉSIO	DE ENXOFRE	1 DIA	3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200	A QUENTE	INÍCIO	FIM	
	(PF)	(RI)	(MgO)	(SO ₃)											
UNIDADE	(%)	(%)	(%)	(%)	(MPa)	(MPa)	(MPa)	(MPa)	(cm ² /g)	(%)	(%)	(mm)	(min)	(min)	(%)
LIMITE NORMATIVO (ABNT NBR 16697:2018)	≤ 6,5	-	-	≤ 4,5	≥ 14,0	≥ 24,0	≥ 34,0	-	-	-	≤ 6,0	≤ 5	≥ 60	≤ 600	-
02/05/2026	5.23	3.00	4.300	3.60	20.20	32.4	37.8		4300	1.7	0.1	1.0	170	220	29.8
04/05/2026	5.22	2.95	4.460	3.69	19.10	32.3	35.8		4310	1.6	0.1	1.0	165	200	29.8
05/05/2026	5.77	2.90	4.480	3.56	20.00	33.3	37.7		4390	1.5	0.1	1.0	150	185	29.4
06/05/2026	5.04	2.62	4.080	3.64	19.80	31.4	37.6		4490	1.5	0.1	1.0	165	205	29.8
07/05/2026	5.66	2.47	2.510	3.45	17.70	28.3	35.8		5010	0.8	0.1	1.0	165	200	29.8
08/05/2026	5.66	2.38	3.010	3.65	17.20	28.1	37.0		5000	0.7	0.1	1.0	165	200	30.2
09/05/2026	5.66	2.38	3.010	3.65	17.20	28.1	37.0		5000	0.7	0.1	1.0	165	200	30.2
11/05/2026	5.40	2.59	3.520	3.59	18.40	29.2	37.4		5030	0.9	0.1	1.0	155	200	30.0
12/05/2026	6.28	2.73	2.550	3.54	15.70	27.7	34.5		5050	0.6	0.1	0.5	170	210	30.6
13/05/2026	6.10	2.78	2.510	3.41	14.70	25.5	34.5		5280	0.6	0.1	1.0	170	215	31.8
14/05/2026	6.00	2.77	2.720	3.47	15.90	25.3	34.8		5100	0.8	0.1	1.0	165	210	30.8
15/05/2026	6.07	2.58	2.540	3.36	16.20	25.4	34.8		5370	0.5	0.1	1.0	170	205	31.0
16/05/2026	6.07	2.58	2.540	3.36	16.20	25.4	34.8		5370	0.5	0.1	1.0	170	205	31.0
19/05/2026	5.31	2.57	2.400	3.46	17.40	27.8	34.1		5300	0.5	0.1	1.0	165	205	31.0
20/05/2026	5.12	2.12	2.540	3.59	17.40	28.8	34.4		5210	0.5	0.1	1.0	160	195	30.8
21/05/2026	6.28	2.19	2.510	3.49	17.40	28.1	35.1		5260	0.5	0.1	1.0	175	215	30.8
22/05/2026	6.10	2.20	2.680	3.44	16.50	26.5			5210	0.6	0.1	1.0	180	220	31.0
23/05/2026	6.10	2.20	2.680	3.44	16.50	26.5			5210	0.6	0.1	1.0	180	220	31.0
25/05/2026	6.06	2.36	2.590	3.39	16.10	26.4			5330	0.8	0.1	1.0	180	220	31.0
26/05/2026	5.23	2.18	2.710	3.47	17.10	27.9			5240	0.8	0.1	1.0	170	215	30.0
27/05/2026	5.61		2.580	3.42	16.50	27.1			4320	0.7	0.1	1.0	165	215	30.6
28/05/2026	5.41		2.610	3.37	16.30				4540	1.6	0.1	1.0	175	225	30.8
MÉDIA	5.70	2.53	2.980	3.50	17.25	28.2	35.8		4969	0.9	0.1	1.0	168	208	30.5
DESVIO PADRÃO	0.40	0.27	0.700	0.10	1.46	2.4	1.4		383	0.4	0.0	0.1	8	10	0.6
MÍNIMO	5.04	2.12	2.400	3.36	14.70	25.3	34.1		4300	0.5	0.1	0.5	150	185	29.4
MÁXIMO	6.28	3.00	4.480	3.69	20.20	33.3	37.8		5370	1.7	0.1	1.0	180	225	31.8


Responsável Técnico
JONAS MEDEIROS DE PAIVA
CRQ: 153000627 - XV Região