

CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO



TIPO/CLASSE: CPM-40 RS ENSACADO
FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES
MÊS/ANO: MAIO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIÓXIDO 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	–
01/05/2026	0.73	0.66	1.22	22.3	30.2	42.0	4533	1.1	0.1	0.0	230	294	34.2
02/05/2026	0.72	0.46	1.11	21.6	31.9	40.9	4703	1.1	0.1	0.0	220	285	34.1
04/05/2026	0.83	0.70	1.21	18.7	30.9	41.6	4575	1.3	0.1	0.0	232	295	33.4
05/05/2026	0.70	0.64	1.16	19.6	30.5	41.8	4807	1.1	0.1	0.0	222	285	33.4
06/05/2026	0.81		1.08	18.1		43.8	4531	1.0	0.1	0.0	227	292	33.4
07/05/2026	0.72		1.06	18.5	28.1	41.1	4946	1.2	0.2	0.0	244	314	33.4
08/05/2026	0.65		1.11	21.4	30.7	42.0	4560	1.5	0.2	0.0	239	302	33.8
09/05/2026	0.66	0.30	1.09	20.7	30.2	40.8	4593	1.1	0.2	0.0	234	298	32.7
11/05/2026	0.73	0.54	0.81	19.6	29.0	40.4	4597	1.1	0.2	0.0	234	289	32.9
12/05/2026	0.59	0.68	1.02	18.1	28.8	42.6	4605	1.1	0.1	0.0	233	302	33.0
13/05/2026	0.64	0.36	1.10	19.2			4554	1.3	0.1	0.0	224	293	32.9
14/05/2026	0.77	0.61	1.14	18.1	29.3	40.0	4672	1.1	0.1	0.0	225	297	33.1
15/05/2026	0.88	0.56	1.15	19.3	29.3	42.1	4540	0.9	0.1	0.0	238	310	33.2
16/05/2026	0.84	0.60	1.08	19.6	29.8	42.4	4643	1.1	0.1	0.0	240	309	33.2
18/05/2026	0.57	0.58	1.10	18.5	29.3	41.5	4550	1.2	0.1	0.0	229	294	33.2
19/05/2026	0.44	0.54	1.11	18.2		40.9	4580	1.2	0.2	0.0	239	310	32.9
20/05/2026	0.88	0.59	1.01	19.1		43.0	4486	1.3	0.2	0.0	231	291	33.0
21/05/2026	1.04	0.57	1.04	19.1	30.7		4563	1.4	0.1	0.0	229	295	31.9
22/05/2026	0.76	0.52	1.12	18.1	28.1	42.7	4607	1.3	0.2	0.0	229	295	32.0
25/05/2026	0.88	0.56	1.07	18.9	30.5	42.7	4619	1.3	0.1	0.0	238	298	32.1
26/05/2026	0.70	0.41	1.11	17.8	28.3		4685	1.2	0.1	0.0	230	285	32.1
29/05/2026	0.77	0.62	1.00	17.3		41.2	4650	1.2	0.2	0.0	245	300	32.1
30/05/2026	0.88	0.54	1.10	18.0	30.2	41.7	4584	1.2	0.2	0.0	225	285	32.0
MÉDIA	0.75	0.55	1.09	19.1	29.8	41.8	4617	1.2	0.1	0.0	232	296	33.0
DESVIO PADRÃO	0.13	0.10	0.08	1.3	1.1	1.0	100	0.1	0.1	0.0	7	8	0.7
MÍNIMO	0.44	0.30	0.81	17.3	28.1	40.0	4486	0.9	0.1	0.0	220	285	31.9
MÁXIMO	1.04	0.70	1.22	22.3	31.9	43.8	4946	1.5	0.2	0.0	245	314	34.2

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KÊNIA GOMES AIRES
CRQ: 21.3.00318 - V Região

CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO



TIPO/CLASSE: CPM-40 RS ENSACADO
FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES
MÊS/ANO: JUNHO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIÓXIDO 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	–
01/06/2026	0.72	0.63	1.05	17.1	27.3	40.1	4575	1.3	0.1	0.0	225	275	32.0
02/06/2026	0.86	0.49	1.02	17.7	27.4	40.3	4675	1.2	0.2	0.0	235	300	32.1
03/06/2026	0.63	0.52	1.00	16.5			4556	1.1	0.1	0.0	260	324	31.9
04/06/2026	0.74	0.54	0.95	17.4			4572	1.1	0.2	0.0	240	314	31.9
05/06/2026	0.81	0.57	0.96	17.4	27.9	40.9	4539	1.3	0.1	0.0	250	310	31.9
06/06/2026	0.96	0.59	0.92	17.5	27.6	42.4	4779	1.4	0.2	0.0	245	305	31.8
08/06/2026	1.23		0.92	17.2	26.5		4674	1.1	0.1	0.0	240	310	32.2
09/06/2026	0.71	0.26	0.92	17.6	26.0		4824	1.0	0.1	0.0	245	310	31.9
10/06/2026	0.91	0.40	0.98	17.3	27.5		4621	1.1	0.2	0.0	235	320	32.3
11/06/2026	0.66	0.37	0.93	17.1	26.7	41.0	4589	1.1	0.1	0.0	235	320	32.2
12/06/2026	0.81	0.42	0.97	17.5	27.0		4661	1.1	0.2	0.0	240	310	32.2
13/06/2026	0.76	0.57	1.00	17.0	28.1	40.0	4738	1.2	0.1	0.0	235	300	32.3
15/06/2026	1.00	0.50	0.90	16.5			4645	1.1	0.1	0.0	235	300	32.4
16/06/2026	0.71	0.38	1.03	15.0	25.5		4756	1.2	0.2	0.0	225	285	32.4
17/06/2026	0.68	0.29	1.00	17.0			4635	1.1	0.2	0.0	235	290	32.4
18/06/2026	0.76	0.34	1.01	15.6			4581	1.2	0.2	0.0	235	300	32.4
20/06/2026	0.70	0.20	1.05	17.3	25.5		4807	1.2	0.2	0.0	215	275	32.4
22/06/2026	0.60	0.15	1.03	15.8	26.7		4773	1.3	0.2	0.0	230	295	32.4
23/06/2026	0.69		1.39	17.3			4834	1.3	0.3	0.0	225	290	32.4
24/06/2026	1.04	0.67	1.10	16.8	25.1		4787	1.2	0.2	0.0	220	290	32.4
25/06/2026	1.15	0.80	1.02	15.0			4771	1.2	0.2	0.0	225	290	32.3
26/06/2026	1.02	0.74	1.04	15.0			4771	0.6	0.1	0.0	220	290	32.3
27/06/2026	0.98		1.00	15.0	25.3		4661	1.0	0.2	0.0	230	290	32.3
29/06/2026	0.82		1.03	16.4	28.8		4779	1.3	0.2	0.0	235	305	32.3
30/06/2026	0.80	0.68	1.00	16.8	28.6		4681	1.2	0.2	0.0	225	295	32.2
MÉDIA	0.83	0.48	1.01	16.7	26.9	40.8	4691	1.2	0.2	0.0	234	300	32.2
DESVIO PADRÃO	0.17	0.18	0.09	0.9	1.2	0.9	93	0.2	0.1	0.0	10	13	0.2
MÍNIMO	0.60	0.15	0.90	15.0	25.1	40.0	4539	0.6	0.1	0.0	215	275	31.8
MÁXIMO	1.23	0.80	1.39	17.7	28.8	42.4	4834	1.4	0.3	0.0	260	324	32.4

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FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES
MÊS/ANO: JULHO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO	RESIDUO	TRIÓXIDO 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	0.67		1.12	18.2	27.6		4733	1.2	0.3	0.0	240	305	32.3
02/07/2026	0.53		1.16	16.3	28.1		4713	1.1	0.3	0.0	230	295	32.1
03/07/2026	0.69		1.25	17.3	28.7		4728	1.0	0.2	0.0	225	295	32.3
04/07/2026	1.06		1.10	17.7	27.9		4682	1.2	0.2	0.0	225	290	32.2
06/07/2026	0.89		1.10	17.9	27.0		4654	1.2	0.2	0.0	230	290	32.1
07/07/2026	1.04		1.07	17.8	26.4		4583	1.3	0.2	0.0	225	290	32.0
08/07/2026	0.78		1.12	17.6			4750	1.2	0.2	0.0	225	285	31.9
09/07/2026	0.71		1.10	17.8	27.8		4675	1.2	0.3	0.0	230	305	31.9
10/07/2026	1.08		1.32	16.4	26.0		4642	1.4	0.2	0.0	225	290	32.0
11/07/2026	1.15		1.16	15.4			4585	1.4	0.2	0.0	220	285	32.3
13/07/2026	1.08		1.14		26.2		4680	1.4	0.2	0.0	225	289	32.2
14/07/2026	1.28		1.26	15.2	27.2		4747	1.2	0.3	0.0	225	290	32.2
15/07/2026	1.15		1.33	15.7	27.3		4743	1.3	0.2	0.0	225	292	32.3
16/07/2026	0.90		1.25	16.4	26.8		4799	1.2	0.2	0.0	220	285	32.3
17/07/2026	0.84		1.21	19.7			4673	1.3	0.2	0.0	235	300	32.4
20/07/2026	0.99		1.17	19.6			4712	1.3	0.2	0.0	215	280	32.5
21/07/2026			1.10				4709	1.4	0.2	0.0	225	275	32.4
22/07/2026	0.99		1.20	19.5			4627	1.6	0.1	0.0	220	285	32.3
23/07/2026	0.87		1.26				4525	1.5	0.2	0.0	205	265	32.2
MÉDIA	0.93		1.18	17.4	27.3		4682	1.3	0.2	0.0	225	289	32.2
DESVIO PADRÃO	0.20		0.08	1.4	0.8		68	0.1	0.1	0.0	7	10	0.2
MÍNIMO	0.53		1.07	15.2	26.0		4525	1.0	0.1	0.0	205	265	31.9
MÁXIMO	1.28		1.33	19.7	28.7		4799	1.6	0.3	0.0	240	305	32.5

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