



CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

TIPO/CLASSE: CPM-40 RS GRANEL

FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES

MÊS/ANO: JULHO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIOXIDO DE ENXÓFRE (SO3)	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB. A QUENTE	TEMPO DE PEGA		CONSIST. NORMAL
				3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200		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	1.34	0.67	1.93	25.0	35.9	47.4	4704	1.1	0.2	0.0	185	235	32.5
02/07/2026	1.42	0.63	1.77	26.6	36.1	48.9	4781	0.8	0.2	0.0	175	230	32.5
03/07/2026	1.98	0.55	1.80	25.0		48.3	4819	0.8	0.2	0.0	185	238	32.6
04/07/2026	1.66	0.56	1.80	25.0	35.4	48.1	4769	0.8	0.2	0.0	185	240	32.6
06/07/2026	1.56		1.74	24.3	34.0	46.4	4786	1.0	0.2	0.0	175	225	32.5
07/07/2026	1.27		1.88	24.0	33.0	47.4	4757	0.9	0.2	0.0	185	235	32.5
08/07/2026	1.63		1.83	25.3	33.7	47.3	4772	1.3	0.1	0.0	180	232	32.5
09/07/2026	1.50		1.76	24.4	34.9	48.7	4672	1.1	0.2	0.0	180	230	32.5
10/07/2026	1.95		1.82	26.7	35.8	47.2	4787	1.0	0.2	0.0	175	230	32.5
11/07/2026	2.00		1.94	24.2	34.4	46.6	4727	1.3	0.2	0.0	175	225	32.5
13/07/2026	1.87		1.82	24.1	34.7	47.5	4850	1.1	0.1	0.0	170	220	32.4
14/07/2026	2.09		1.93	23.5	34.8	47.7	4886	1.1	0.2	0.0	185	238	32.4
15/07/2026	2.01		1.91	24.5	35.5	48.0	4788	1.0	0.1	0.0	175	235	32.4
16/07/2026	1.75		1.99	24.5	35.5	47.9	4831	1.0	0.2	0.0	175	225	33.3
17/07/2026	1.78		1.98	25.6	36.9	47.3	4919	1.0	0.1	0.0	175	225	32.1
18/07/2026	2.02		1.92	26.0	36.5	47.1	4969	1.0	0.1	0.0	180	230	32.3
20/07/2026	2.01		1.99	25.3	33.9	47.7	4912	0.9	0.2	0.0	190	250	32.2
21/07/2026	1.49		1.93	27.2	35.2	48.9	4714	1.1	0.2	0.0	175	220	32.2
22/07/2026	1.47		2.02	25.2	35.6	48.4	4658	1.5	0.3	0.0	175	220	32.0
23/07/2026	1.92		2.11	25.6	33.9	49.8	4719	1.3	0.2	0.0	190	240	32.1
24/07/2026	1.37		2.21	26.5	35.9	49.8	4768	1.1	0.2	0.0	170	220	32.0
25/07/2026	1.40		2.18	24.9	35.9	47.1	4692	1.1	0.1	0.0	185	245	32.5
27/07/2026	1.04		2.16	23.1	34.8	49.5	4771	1.2	0.2	0.0	170	220	32.0
28/07/2026	1.17		2.34	25.8	35.9	47.2	4766	1.2	0.1	0.0	180	230	31.6
29/07/2026	0.95		2.50	22.8	34.6	51.5	4779	1.3	0.1	0.0	160	210	32.1
31/07/2026	1.05		2.25	22.3	33.4	50.3	4663	1.5	0.2	0.0	170	210	31.1
MÉDIA	1.60	0.60	1.98	24.9	35.1	48.2	4779	1.1	0.2	0.0	178	229	32.3
DESVIO PADRÃO	0.35	0.06	0.19	1.2	1.0	1.2	80	0.2	0.1	0.0	7	10	0.4
MÍNIMO	0.95	0.55	1.74	22.3	33.0	46.4	4658	0.8	0.1	0.0	160	210	31.1
MÁXIMO	2.09	0.67	2.50	27.2	36.9	51.5	4969	1.5	0.3	0.0	190	250	33.3

Kênia gomes Aires

Responsável Técnico

KÊNIA GOMES AIRES

CRQ: 21.3.00318 - V Região



CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

TIPO/CLASSE: CPM-40 RS GRANEL

FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES

MÊS/ANO: AGOSTO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIOXIDO DE ENXÓFRE (SO3)	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB. A QUENTE	TEMPO DE PEGA		CONSIST. NORMAL
				3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200		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	1.26	0.72	2.53	23.4	35.3	52.0	4865	0.9	0.1	0.0	170	220	31.5
03/08/2026	1.38	0.85	2.65	24.0	35.3	50.0	4712	1.1	0.2	0.0	160	210	31.4
04/08/2026	1.54	0.73	2.35	23.3	33.8	52.4	4682	1.5	0.3	0.0	165	210	30.9
05/08/2026	1.22	0.83	2.43	22.5	33.8	49.1	4613	1.1	0.3	0.0	160	210	30.9
06/08/2026	1.36	0.56	2.23	24.7	34.2	52.5	4762	1.1	0.2	0.0	180	235	31.7
07/08/2026	1.54	0.77	2.35	23.4	35.2	50.0	4639	1.0	0.2	0.0	155	210	31.3
08/08/2026	1.33	0.66	2.39	22.0	33.0	50.0	4698	1.3	0.2	0.0	150	200	31.2
10/08/2026	1.82	0.72	2.20	22.5	33.6	52.7	4679	1.6	0.3	0.0	165	205	31.0
11/08/2026	1.52		2.41	22.1	32.3		4645	1.5	0.3	0.0	155	195	31.3
12/08/2026	1.61		2.22	20.9			4719	1.0	0.2	0.0	160	210	31.3
13/08/2026	1.72	0.62	1.97	24.3	32.2		4829	1.2	0.2	0.0	165	215	31.5
14/08/2026	1.51	0.51	1.71	21.6	33.0	51.2	4819	1.0	0.2	0.0	165	210	31.6
15/08/2026	1.49	0.47	1.72	22.3	32.1	52.5	4980	1.1	0.2	0.0	165	205	31.6
17/08/2026	1.44	0.57	1.97	21.6	34.6	52.3	4660	1.4	0.2	0.0	150	195	31.1
18/08/2026	1.67		1.95	22.5	33.8	51.8	4685	1.4	0.2	0.0	165	205	31.0
19/08/2026	1.56		1.95	22.5	32.3	51.6	4688	1.1	0.2	0.0	165	215	30.9
20/08/2026	2.17		1.88	21.6	33.1	51.7	4819	1.3	0.2	0.0	155	200	31.0
21/08/2026	2.01		2.06	22.5	34.4	51.4	4712	1.3	0.2	0.0	170	220	31.0
22/08/2026	2.19		1.88	22.0	33.1		4662	1.1	0.2	0.0	165	215	32.2
24/08/2026	1.92		1.95	22.0	34.1	51.7	4769	1.1	0.2	0.0	150	195	31.6
25/08/2026	1.32		1.85		32.5	51.5	4647	1.3	0.2	0.0	150	190	31.7
26/08/2026	1.94		1.92	22.0	32.5	51.2	4713	1.2	0.2	0.0	145	190	31.7
27/08/2026	2.04		2.04	23.1	34.1	51.8	4712	1.1	0.1	0.0	150	195	31.8
28/08/2026	2.20		1.69	22.8	32.2	52.8	4686	1.1	0.2	0.0	160	210	31.7
30/08/2026	2.02		1.61	19.0	30.4		4689	1.2	0.2	0.0	165	215	31.8
31/08/2026	1.64		2.10	21.1	33.4		4675	0.9	0.1	0.0	150	190	31.1
MÉDIA	1.67	0.67	2.08	22.4	33.4	51.5	4722	1.2	0.2	0.0	160	207	31.4
DESVIO PADRÃO	0.30	0.12	0.28	1.2	1.2	1.0	83	0.2	0.1	0.0	8	11	0.4
MÍNIMO	1.22	0.47	1.61	19.0	30.4	49.1	4613	0.9	0.1	0.0	145	190	30.9
MÁXIMO	2.20	0.85	2.65	24.7	35.3	52.8	4980	1.6	0.3	0.0	180	235	32.2

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TIPO/CLASSE: CPM-40 RS GRANEL

FÁBRICA: FVI - FÁBRICA DE VITÓRIA - ES

MÊS/ANO: SETEMBRO/2026



ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIOXIDO DE ENXÓFRE (SO3)	RESISTÊNCIA À COMPRESSÃO			FINURA			EXPANSIB. A QUENTE	TEMPO DE PEGA		CONSIST. NORMAL
				3 DIAS	7 DIAS	28 DIAS	BLAINE	#325	#200		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	1.55		1.94	20.2	32.3		4608	1.0	0.2	0.0	155	205	31.1
02/09/2026	1.54		2.06	20.1	33.4		4708	1.0	0.3	0.0	150	195	31.0
03/09/2026	1.32		2.00	20.1	33.8		4772	1.2	0.3	0.0	160	205	31.0
04/09/2026	1.46		2.18	21.1	34.4		4715	1.3	0.3	0.0	165	210	31.3
05/09/2026	1.48		2.20	20.6	32.9		4652	1.2	0.2	0.0	155	201	31.4
08/09/2026	1.49		1.99	19.2			4796	1.3	0.2	0.0	145	195	31.4
09/09/2026	1.54		1.97	20.3	31.2		4825	1.3	0.2	0.0	150	195	31.3
10/09/2026	1.51		2.02	19.5	30.7		4789	1.2	0.2	0.0	160	210	31.5
11/09/2026	1.74		2.29	18.4	29.9		4990	1.3	0.2	0.0	145	195	31.2
12/09/2026	1.58		1.92				4738	1.5	0.3	0.0	155	203	31.5
14/09/2026	1.58		1.81	19.6	30.7		4720	4.6	0.7	0.0	160	205	31.3
15/09/2026	1.38		1.81	20.3	31.8		4727	1.4	0.3	0.0	160	210	31.6
16/09/2026	1.59		1.72	19.0	30.3		4684	1.6	0.3	0.0	180	230	32.4
17/09/2026	1.37		1.82	18.9	30.7		4640	1.4	0.3	0.0	180	230	32.3
18/09/2026	1.35		1.99	20.8	32.5		4838	1.1	0.1	0.0	160	205	32.3
19/09/2026	1.72		1.76	20.0			4765	2.0	0.2	0.0	165	215	32.6
21/09/2026	1.79		2.02	19.9			4653	1.0	0.2	0.0	170	220	32.4
22/09/2026	1.65		1.89	21.5			4729	1.3	0.2	0.0	160	205	32.3
23/09/2026	1.41		1.91	20.5			4667	1.2	0.2	0.0	160	210	31.8
24/09/2026	1.49		1.93	21.3			4607	1.3	0.2	0.0	170	215	31.4
25/09/2026	1.73		1.97				4942	1.2	0.1	0.0	155	200	31.4
26/09/2026	1.76		1.95				4682	1.3	0.2	0.0	160	205	31.4
MÉDIA	1.55		1.96	20.1	31.9		4739	1.4	0.3	0.0	160	207	31.6
DESVIO PADRÃO	0.14		0.14	0.8	1.4		98	0.7	0.1	0.0	9	10	0.5
MÍNIMO	1.32		1.72	18.4	29.9		4607	1.0	0.1	0.0	145	195	31.0
MÁXIMO	1.79		2.29	21.5	34.4		4990	4.6	0.7	0.0	180	230	32.6

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