CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

MIZU CIMENTOS

TIPO/CLASSE: CPII-Z 40

FÁBRICA: **FBE – FÁBRICA DE ANANINDEUA – PA**

MÊS/ANO: **AGOSTO/2026**

POLIMIX AGLOMERANTE

ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIÓXIDO DE ENXOFRE (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)	≤ 8,5	≤ 18,5	≤ 4,5	≥ 15,0	≥ 25,0	≥ 40,0	–	–	≤ 10,0	≤ 5	≥ 60	≤ 600	–
01/08/2026	2.33	16.40	3.95	27.4	33.6	43.3	5112	2.0	0.1	0.1	120	190	30.1
03/08/2026	2.31	10.22	3.24	26.9	33.0	42.8	5192	2.3	0.1	0.1	110	180	30.0
04/08/2026	2.09	10.22	3.10	27.5	33.6	43.3	5127	2.1	0.1	0.1	110	180	30.0
05/08/2026	2.39	10.60	3.72	27.1	33.2	42.9	5143	2.1	0.1	0.1	120	190	30.2
06/08/2026	2.59	10.63	3.70	26.9	32.8	42.6	5111	2.3	0.1	0.1	120	190	30.3
07/08/2026	2.29	10.09	3.10	27.3	32.9	42.4	5214	2.4	0.1	0.1	110	180	30.2
08/08/2026	2.10	10.22	3.56	26.8	32.7	41.9	5243	2.4	0.1	0.1	120	190	30.1
09/08/2026	2.11	10.07	3.56	27.1	33.0	43.0	5215	2.2	0.1	0.1	110	180	30.1
10/08/2026	2.30	10.11	3.95	26.9	32.8	41.7	4971	2.4	0.1	0.1	110	180	30.2
11/08/2026	2.69	10.56	3.95	27.6	33.7	43.2	5021	1.8	0.1	0.1	120	190	30.2
12/08/2026	3.03	10.36	3.44	27.7	33.8	43.6	5016	2.0	0.1	0.1	120	190	30.4
13/08/2026	2.18	10.22	3.67	28.0	34.1	44.1	4903	1.7	0.1	0.1	120	190	30.4
14/08/2026	2.36	10.11	3.40	28.1	34.1	44.0	4890	1.8	0.1	0.1	120	190	30.2
15/08/2026	2.01	10.38	3.64	27.7	33.8	43.3	4739	2.0	0.1	0.1	120	190	30.2
17/08/2026	2.93	11.32	4.57	26.8	32.8	42.7	5127	2.6	0.1	0.1	125	190	30.2
18/08/2026	3.07	9.48	3.79	27.8	33.8	43.6	5187	2.0	0.1	0.1	125	190	30.1
19/08/2026	2.37	8.37	3.64	27.9	33.9	43.7	5278	2.0	0.1	0.1	125	190	30.4
20/08/2026	2.92	12.21	3.98	27.8	33.9	43.2	5214	2.1	0.1	0.1	125	190	30.4
21/08/2026	2.77	8.51	3.72	28.2	33.7	43.9	5242	2.0	0.1	0.1	125	190	30.1
22/08/2026	3.03	9.48	3.72	27.8	33.5	43.7	5278	2.0	0.1	0.1	125	190	30.4
24/08/2026	2.93	8.27	3.27	26.9	33.2	43.0	5149	2.2	0.1	0.1	110	180	30.0
25/08/2026	3.20	8.07	3.27	25.9	31.2	41.5	5208	2.5	0.1	0.1	110	180	30.0
26/08/2026	3.07	9.48	3.72	27.5	33.8	43.7	5016	2.0	0.1	0.1	110	180	30.0
27/08/2026	3.20	8.51	3.79	27.2	33.5	43.4	5214	2.1	0.1	0.1	110	180	30.0
28/08/2026	2.59	10.22	3.24	28.1	33.7	43.7	5105	2.0	0.1	0.1	110	180	30.0
29/08/2026	2.59	10.63	3.10	27.3	33.2	43.1	5225	2.2	0.1	0.1	110	180	30.0
MÉDIA	2.59	10.18	3.61	27.4	33.4	43.1	5121	2.1	0.1	0.1	117	186	30.2
DESVIO PADRÃO	0.38	1.59	0.34	0.5	0.6	0.7	133	0.2	0.0	0.0	6	5	0.2
MÁXIMO	3.20	16.40	4.57	28.2	34.1	44.1	5278	2.6	0.1	0.1	125	190	30.4
MÍNIMO	2.01	8.07	3.10	25.9	31.2	41.5	4739	1.7	0.1	0.1	110	180	30.0

Responsável Técnico
ERIC YUEH NIM
CRQ: 14300278 - Região XV

CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

MIZU CIMENTOS

TIPO/CLASSE: CPII-Z 40

FÁBRICA: **FBE – FÁBRICA DE ANANINDEUA – PA**

MÊS/ANO: **SETEMBRO/2026**

POLIMIX AGLOMERANTE

ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIÓXIDO DE ENXOFRE (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)	≤ 8,5	≤ 18,5	≤ 4,5	≥ 15,0	≥ 25,0	≥ 40,0	–	–	≤ 10,0	≤ 5	≥ 60	≤ 600	–
01/09/2026	2.59	10.09	3.40	26.8	32.8	42.7	5213	2.4	0.1	0.1	110	180	30.0
02/09/2026	2.11	10.09	3.40	28.0	34.1	43.9	5204	2.2	0.1	0.1	110	180	30.0
03/09/2026	2.11	10.63	3.10	27.5	33.7	43.6	5042	2.5	0.1	0.1	110	180	30.0
04/09/2026	2.09	10.63	3.40	27.3	33.3	43.3	5214	2.1	0.1	0.1	110	180	30.0
05/09/2026	2.09	10.39	3.10	26.9	32.9	42.9	5149	2.3	0.1	0.1	110	180	30.0
07/09/2026	2.39	9.83	4.10	26.6	32.8	42.6	5387	2.4	0.1	0.1	115	180	30.2
08/09/2026	2.28	10.26	3.75	26.8	32.9	42.8	5412	2.3	0.1	0.1	115	180	30.2
09/09/2026	2.31	10.63	3.56	27.1	33.1	43.1	5278	2.2	0.1	0.1	115	180	30.2
10/09/2026	2.11	10.63	3.70	27.0	32.9	42.8	5387	2.3	0.1	0.1	115	180	30.2
11/09/2026	3.11	11.09	3.40	26.2	32.6	41.7	5313	2.5	0.1	0.1	115	180	30.2
12/09/2026	2.79	10.73	3.64	26.7	32.9	42.7	5305	2.5	0.1	0.1	115	180	30.2
14/09/2026	2.11	10.09	3.24	26.3	32.6	41.5	5238	2.5	0.1	0.1	120	190	30.4
15/09/2026	2.10	10.25	3.25	27.3	33.3	43.1	5278	2.2	0.1	0.1	120	190	30.4
16/09/2026	2.26	10.63	3.70	26.4	32.7	41.9	5444	2.7	0.1	0.1	120	190	30.4
17/09/2026	2.31	10.32	3.55	26.3	32.6	41.5	5313	2.5	0.1	0.1	120	190	30.4
18/09/2026	2.12	10.15	3.60	27.7	33.7	43.2	5305	2.5	0.1	0.1	120	190	30.4
19/09/2026	2.88	9.88	3.10	27.3	33.5	42.9	5278	2.2	0.1	0.1	120	190	30.4
21/09/2026	2.66	10.22	3.24	27.9	33.8	43.6	5423	2.3	0.1	0.1	110	180	30.0
22/09/2026	3.11	11.05	3.11	26.3	32.6	40.9	5313	2.5	0.1	0.1	110	180	30.0
23/09/2026	2.59	10.58	3.46	27.2	33.5	43.2	5395	2.1	0.1	0.1	110	180	30.0
24/09/2026	2.35	10.58	3.52	27.5	33.7	43.3	5363	2.1	0.1	0.1	110	180	30.0
25/09/2026	2.71	10.54	3.44	27.4	33.7	43.7	5386	2.1	0.1	0.1	110	180	30.0
26/09/2026	2.39	10.32	3.48	27.9	34.0	44.3	5174	2.0	0.1	0.1	110	180	30.0
28/09/2026	2.11	10.63	3.24	27.1	33.4	43.2	5313	2.2	0.1	0.1	110	180	30.0
29/09/2026	2.59	10.09	3.40	26.8	32.9	42.8	5238	2.3	0.1	0.1	110	180	30.0
30/09/2026	2.11	10.22	3.10	27.3	33.7	43.6	5313	2.1	0.1	0.1	110	180	30.0
MÉDIA	2.40	10.41	3.42	27.1	33.2	42.9	5295	2.3	0.1	0.1	113	182	30.1
DESVIO PADRÃO	0.32	0.32	0.24	0.5	0.5	0.8	94	0.2	0.0	0.0	4	4	0.2
MÁXIMO	3.11	11.09	4.10	28.0	34.1	44.3	5444	2.7	0.1	0.1	120	190	30.4
MÍNIMO	2.09	9.83	3.10	26.2	32.6	40.9	5042	2.0	0.1	0.1	110	180	30.0

Responsável Técnico
ERIC YUEH NIM
CRQ: 14300278 - Região XV

CERTIFICADO DE CONTROLE DA QUALIDADE DO CIMENTO

MIZU CIMENTOS

TIPO/CLASSE: CPII-Z 40

FÁBRICA: **FBE – FÁBRICA DE ANANINDEUA – PA**

MÊS/ANO: **OUTUBRO/2026**

POLIMIX AGLOMERANTE

ENSAIOS QUÍMICOS				ENSAIOS FÍSICOS E MECÂNICOS									
ENSAIOS	PERDA AO FOGO (PF)	RESIDUO INSOLÚVEL (RI)	TRIÓXIDO DE ENXOFRE (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)	≤ 8,5	≤ 18,5	≤ 4,5	≥ 15,0	≥ 25,0	≥ 40,0	–	–	≤ 10,0	≤ 5	≥ 60	≤ 600	–
01/10/2026	2.59	10.63	3.56	27.8	33.8	44.2	5238	2.1	0.1	0.1	115	180	30.0
02/10/2026	2.59	10.63	3.56	27.3	33.6	43.2	5337	1.8	0.1	0.1	115	180	30.0
03/10/2026	2.31	10.22	3.70	28.0	33.9	44.3	5354	1.9	0.1	0.1	115	180	30.0
05/10/2026	2.59	10.22	3.40	27.9	34.0	44.7	5338	2.2	0.1	0.1	120	190	30.2
06/10/2026	2.59	10.22	3.10	27.1	33.4	43.6	5313	2.0	0.1	0.1	120	190	30.2
07/10/2026	2.59	10.63	3.10	27.7	33.7		5134	2.1	0.1	0.1	120	190	30.2
08/10/2026	2.26	10.22	3.56	28.1	33.9		5182	1.9	0.1	0.1	120	190	30.2
09/10/2026	2.59	10.63	3.10	27.0	32.7		5215	1.9	0.1	0.1	120	190	30.2
10/10/2026	2.09	10.22	3.56	27.2	33.1		5188	2.2	0.1	0.1	120	190	30.2
12/10/2026	2.11	10.63	3.40	27.9	34.1		5085	2.0	0.1	0.1	120	190	30.2
13/10/2026	2.09	10.09	3.24	27.5	33.7		5113	2.1	0.1	0.1	120	190	30.2
14/10/2026	2.09	10.09	3.24	26.8	32.8		5137	2.3	0.1	0.1	120	190	30.2
15/10/2026	2.59	10.63	3.10	28.2	35.4		5085	1.8	0.1	0.1	120	190	30.2
16/10/2026	2.11	10.22	3.40	27.3	34.0		5215	2.2	0.1	0.1	120	190	30.2
17/10/2026	2.09	10.09	3.24	27.2	33.7		5145	1.9	0.1	0.1	120	190	30.2
19/10/2026	2.59	10.22	3.56	26.3	32.3		5050	2.6	0.1	0.1	110	180	30.0
20/10/2026	2.59	10.22	3.56	30.1	35.8		5111	2.0	0.1	0.1	110	180	30.0
21/10/2026	2.59	10.09	3.56	27.1	32.8		5050	2.6	0.1	0.1	110	180	30.0
22/10/2026	2.09	10.63	3.24	27.5	33.7		5113	2.1	0.1	0.1	110	180	30.0
23/10/2026	2.09	10.54	3.24	27.3	33.3		5215	2.2	0.1	0.1	110	180	30.0
24/10/2026	2.09	10.63	3.24	28.2	34.6		5269	2.5	0.1	0.1	110	180	30.0
26/10/2026	2.31	10.63	3.70	26.7	32.7		5137	2.3	0.1	0.1	110	180	30.0
27/10/2026	2.09	10.63	3.24	26.6	32.8		5188	2.3	0.1	0.1	110	180	30.0
28/10/2026	2.11	10.09	3.56	26.9			5137	2.5	0.1	0.1	110	180	30.0
MÉDIA	2.33	10.38	3.38	27.5	33.6	44.0	5181	2.1	0.1	0.1	116	185	30.1
DESVIO PADRÃO	0.24	0.24	0.20	0.8	0.8	0.6	90	0.2	0.0	0.0	5	5	0.1
MÁXIMO	2.59	10.63	3.70	30.1	35.8	44.7	5354	2.6	0.1	0.1	120	190	30.2
MÍNIMO	2.09	10.09	3.10	26.3	32.3	43.2	5050	1.8	0.1	0.1	110	180	30.0

Responsável Técnico
ERIC YUEH NIM
CRQ: 14300278 - Região XV