


		SISTEMA DE GESTÃO DA QUALIDADE CERTIFICADO DA QUALIDADE CPMZ-40															
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO																	
FÁBRICA - ANANINDEUA																	01/24
Dia	Composição Química					Resistência a Compressão			Finura				Expansibilidade	Pega		Consist.	
	P. Fogo ≤ 8,5	RI ≤ 18,5	SO3 ≤ 4,5	CaO Livre	MgO -	03 Dias ≥ 15,0	07 Dias ≥ 25,0	28 Dias ≥ 40,0	Massa Espec.	Blaine -	# 325 -	# 200 ≤ 10,0	Quente ≤ 5	Início ≥ 60	Fim ≤ 600	Normal	
	%	%	%	%	%	MPa	MPa	MPa	g/cm ³	cm ² /g	%	%	mm	min	min	%	
01/01/24																	
02/01/24	3,12	9,45	3,41	1,54	3,11	26,0	33,0	42,0	3,03	4.984	0,80	0,1	0,5	150	200	29,00	
03/01/24	2,31	9,12	3,39	1,49	3,18	26,0	35,0	44,0	3,00	4.879	0,80	0,1	0,5	150	200	29,00	
04/01/24																	
05/01/24	2,74	8,78	3,74	1,45	3,14	27,0	34,0	44,0	3,03	4986	0,80	0,10	0,5	150	200	29,00	
06/01/24	2,47	7,12	3,78	1,61	3,41	27,0	33,0	43,0	3,03	4986	1,00	0,10	0,5	150	200	29,00	
07/01/24																	
08/01/24																	
09/01/24	3,11	9,31	3,81	1,31	3,64	29,0	35,0	45,0	3,03	4999	0,30	0,10	0,5	150	200	29,00	
10/01/24																	
11/01/24																	
12/01/24																	
13/01/24	2,41	8,10	3,88	1,38	3,74	30,0	34,0	44,0	3,03	4861	0,50	0,10	0,5	150	200	29,00	
14/01/24																	
15/01/24	2,13	8,89	4,10	1,41	3,10	29,0	35,0	44,0	3,03	4914	0,40	0,10	0,5	150	200	29,00	
16/01/24																	
17/01/24	2,38	9,41	4,10	1,28	3,51	28,0	35,0	45,0	3,03	4981	0,50	0,10	0,5	150	200	29,00	
18/01/24	2,67	9,71	3,91	1,28	3,78	28,0	36,0	47,0	3,03	4934	0,50	0,10	0,5	150	200	29,00	
19/01/24																	
20/01/24	3,13	9,12	3,88	1,34	3,91	28,0	36,0	44,0	3,03	4874	0,70	0,10	0,5	150	200	29,00	
21/01/24																	
22/01/24	3,17	9,15	3,12	1,55	3,23	27,0	35,0	44,0	3,03	4912	0,50	0,10	0,5	150	200	29,00	
23/01/24																	
24/01/24	3,18	9,18	3,61	1,73	3,14	28,0	36,0	45,0	3,03	4819	0,50	0,10	0,5	150	200	29,00	
25/01/24	3,89	9,21	3,81	1,31	3,18	28,0	36,0	45,0	3,03	4871	0,60	0,10	0,5	150	200	29,00	
26/01/24																	
27/01/24	1,59	8,14	3,22	1,45	3,10	28,0	35,0	44,0	3,03	4812	0,60	0,10	0,5	150	200	29,00	
28/01/24																	
29/01/24																	
30/01/24	1,75	8,74	3,10	1,55	3,11	27,0	35,1	44,0	3,03	4832	0,50	0,10	0,5	150	200	29,00	
31/01/24																	

	0,318775					R3	R7	R28									
MÉDIA	2,67	8,90	3,66	1,70		29,00	34,87	44,27	3,03	4.909,60	0,60	0,10	0,50	150,00	200,00	29,00	
DESVIO	0,61	0,66	0,33	0,03		0,57	0,99	0,00	0,01	65,86	0,19	0,00	0,00	0,00	0,00	0,00	
NBR 16697:2017	≤ 8,5	≤ 18,5	≤ 4,5	-	-	≥ 15,0	≥ 25,0	≥ 40,0	-	-	-	≤ 10,0	≤ 5,0	≥ 60	≤ 600	-	



Responsável Técnico
Eric Yueh Nim
CRQ: 14300278 Região XV

		SISTEMA DE GESTÃO DA QUALIDADE														
		CERTIFICADO DA QUALIDADE CPII-40														
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO																
FÁBRICA - ANANINDEUA															02/24	
Dia	Composição Química					Resistência a Compressão			Finura				Expansibilidade	Pega		Consist.
	P. Fogo ≤ 8,5	RI ≤ 18,5	SO3 ≤ 4,5	CaO Livre	MgO -	03 Dias ≥ 15,0	07 Dias ≥ 25,0	28 Dias ≥ 40,0	Massa Espec.	Blaine -	# 325 -	# 200 ≤ 10,0	Quente ≤ 5	Início ≥ 60	Fim ≤ 600	Normal
	%	%	%	%	%	MPa	MPa	MPa	g/cm ³	cm ² /g	%	%	mm	min	min	%
01/02/24	1,91	8,10	2,71	1,54	3,51	28,0	34,0	45,0	3,03	4.810	1,00	0,10	0,5	150	200	29,00
02/02/24	1,50	8,95	3,12	1,68	3,56	27,0	34,0	44,0	3,03	4.912	0,80	0,10	0,5	150	200	29,00
03/02/24																
04/02/24																
05/02/24	1,47	7,31	2,55	1,48	3,11	28,0	35,0	44,0	3,03	5035	0,70	0,10	0,5	150	200	29,00
06/02/24	1,95	8,11	3,01	1,28	3,58	28,0	35,0	44,0	3,03	5000	0,70	0,10	0,5	150	200	29,00
07/02/24	1,65	9,20	3,19	1,35	3,50	28,0	34,0	43,5	3,03	4819	0,60	0,10	0,5	140	200	29,00
08/02/24	2,41	9,10	3,11	1,35	3,12	27,0	34,0	43,5	3,03	5213	0,50	0,10	0,5	140	210	29,00
09/02/24	1,30	9,14	2,49	1,58	3,55	28,0	36,0	44,0	3,03	4881	0,50	0,10	0,5	140	210	29,00
10/02/24																
11/02/24																
12/02/24																
13/02/24																
14/02/24	1,91	8,51	4,33	1,54	3,96	26,0	34,0	45,0	3,03	4830	0,60	0,10	0,5	130	190	29,50
15/02/24	1,45	8,59	4,12	1,34	3,14	27,0	35,0	44,0	3,03	4800	0,50	0,10	0,5	140	190	29,50
16/02/24																
17/02/24																
18/02/24																
19/02/24	1,55	9,51	3,60	1,58	3,60	26,0	34,0	44,0	3,03	4881	0,70	0,10	0,5	140	220	29,00
20/02/24																
21/02/24																
22/02/24	1,67	7,77	2,56	1,30	2,56	25,0	34,0	44,0	3,03	5001	0,40	0,10	0,5	140	190	29,00
23/02/24																
24/02/24																
25/02/24	1,71	8,91	3,67	1,53	3,12	26,0	34,0	43,0	3,03	4894	0,60	0,10	0,5	140	190	29,00
26/02/24																
27/02/24	1,51	8,35	4,20	1,38	2,59	26,0	34,0	43,0	3,03	5134	0,40	0,10	0,5	130	185	29,00
28/02/24	1,73	7,72	3,93	1,66	3,61	26,0	34,0	43,0	3,03	5200	0,30	0,10	0,5	130	190	29,00
29/02/24	1,57	9,66	3,58	1,66	3,23	26,0	34,0	43,0	3,03	4914	1,00	0,10	0,5	140	190	29,00



						R3	R7	R28								
MÉDIA	1,69	8,60	3,34	1,70	3,46	29,00	34,33	43,80	3,03	4.954,93	0,62	0,10	0,50	140,67	197,67	29,07
DESVIO	0,27	0,69	0,63	0,03	0,32	0,57	0,62	0,51	0,00	137,98	0,20	0,00	0,00	7,04	9,80	0,18
NBR 16697:2017	≤ 8,5	≤ 18,5	≤ 4,5	-	-	≥ 15,0	≥ 25,0	≥ 40,0	-	-	-	≤ 10,0	≤ 5,0	≥ 60	≤ 600	-



Responsável Técnico

Eric Yueh Nim

CRQ: 14300278 Região XV

		SISTEMA DE GESTÃO DA QUALIDADE														
		CERTIFICADO DA QUALIDADE CPIIZ-40														
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO																
FÁBRICA - ANANINDEUA															03/24	
Dia	Composição Química					Resistência a Compressão			Finura			Expansibilidade	Pega		Consist.	
	P. Fogo ≤ 8,5	RI ≤ 18,5	SO3 ≤ 4,5	CaO Livre	MgO -	03 Dias ≥ 15,0	07 Dias ≥ 25,0	28 Dias ≥ 40,0	Massa Espec.	Blaine -	# 325 -	# 200 ≤ 10,0	Quente ≤ 5	Início ≥ 60	Fim ≤ 600	Normal
	%	%	%	%	%	MPa	MPa	MPa	g/cm ³	cm ² /g	%	%	mm	min	min	%
01/03/24	6,35	10,10	4,47	1,40	3,51	27,0	36,0	45,0	3,03	5.581	0,30	0,10	1,0	140	190	29,40
02/03/24	7,31	11,50	4,12	1,19	3,70	28,0	35,0	43,0	3,03	5.423	0,30	0,10	1,0	140	190	29,40
03/03/24	6,41	10,41	3,85	1,38	3,05	32,0	37,0	46,0	3,03	5.609	0,40	0,10	1,0	130	180	30,00
04/03/24	7,51	10,95	3,90	1,26	3,01	28,0	35,0	43,0	3,03	5515	0,60	0,10	1,0	130	180	30,00
05/03/24	6,40	10,51	3,04	1,58	3,51	27,0	34,0	45,0	3,03	5308	0,70	0,10	1,0	130	180	30,00
06/03/24	7,14	9,34	2,85	1,45	3,23	27,0	33,0	43,0	3,03	5196	0,80	0,10	1,0	130	180	30,00
07/03/24	5,95	10,66	3,59	1,40	3,11	28,0	34,0		3,03	5040	0,40	0,10	1,0	130	180	30,00
08/03/24	6,01	10,12	4,12	1,25	3,50	29,0	35,0		3,03	5630	0,50	0,10	1,0	130	180	30,00
09/03/24	6,32	9,41	3,40	1,48	3,54	27,0	35,0		3,03	5637	0,60	0,10	1,0	130	180	30,00
10/03/24	7,34	10,40	2,96	1,41	3,58	27,0	34,0		3,03	5012	0,50	0,10	1,0	130	180	30,00
11/03/24	6,12	11,51	3,59	1,40	3,50	27,0	36,0		3,03	4891	0,50	0,10	1,0	130	180	30,00
12/03/24	5,00	10,49	4,12	1,59	3,55	30,0	35,0		3,03	4983	0,50	0,10	1,0	130	180	30,00
13/03/24	6,43	11,10	4,50	1,44	3,85	29,0	35,0		3,03	5012	0,30	0,10	1,0	130	180	30,00
14/03/24	7,40	11,12	2,59	1,50	3,71	27,0	35,0		3,03	5117	0,40	0,10	1,0	130	180	30,00
15/03/24	5,96	10,40	3,01	1,29	3,54	31,0	37,0		3,03	4885	0,30	0,10	1,0	130	180	30,00
16/03/24	6,12	10,69	3,85	1,30	3,51	29,0	35,0		3,03	4844	0,40	0,10	1,0	130	180	30,00
17/03/24	6,98	10,22	3,58	1,58	2,59	29,0	34,0		3,03	4901	0,60	0,10	1,0	130	180	30,00
18/03/24	6,34	11,10	3,41	1,51	2,51	29,0	35,0		3,03	4891	0,50	0,10	1,0	130	180	30,00
19/03/24	7,32	10,46	3,59	1,48	3,59	28,0	35,0		3,03	4805	0,40	0,10	1,0	130	180	30,00
20/03/24	5,06	10,23	3,57	1,44	3,12	28,0	34,0		3,03	4851	0,50	0,10	1,0	130	180	30,00
21/03/24	7,41	11,95	4,10	1,30	3,10	30,0	36,0		3,03	4795	0,50	0,10	1,0	130	180	30,00
22/03/24	6,34	12,03	3,09	1,49	2,39	29,0	35,0		3,03	4971	0,60	0,10	1,0	130	180	30,00
23/03/24	5,12	11,23	2,90	1,28	3,58	28,0	35,0		3,03	4969	0,40	0,10	1,0	130	180	30,00
24/03/24	5,92	11,85	3,05	1,59	3,51	29,0	36,0		3,03	4865	0,30	0,10	1,0	130	180	30,00
25/03/24	5,88	9,58	4,12	1,60	3,21	28,0	35,0		3,03	4841	0,50	0,10	1,0	130	180	30,00
26/03/24	6,43	9,96	3,59	1,35	2,05	27,0	34,0		3,03	4969	0,60	0,10	1,0	130	180	30,00
27/03/24	6,02	10,12	3,51	1,39	3,57	28,0	35,0		3,03	5021	0,40	0,10	1,0	130	180	30,00
28/03/24	6,83	10,45	4,30	1,49	3,21	30,0	36,0		3,03	5055	0,40	0,10	1,0	130	180	30,00
29/03/24	7,00	10,51	4,12	1,28	2,40	29,0	36,0		3,03	4901	0,40	0,10	1,0	130	180	30,00

						R3	R7	R28								
MÉDIA	6,43	10,63	3,62	1,70	3,46	29,00	35,07	44,17	3,03	5.086,83	0,47	0,10	1,00	130,69	180,69	29,96
DESVIO	0,71	0,71	0,52	0,03	0,32	0,57	0,92	1,17	0,00	275,08	0,13	0,00	0,00	2,58	2,58	0,15
NBR 16697:2017	≤ 8,5	≤ 18,5	≤ 4,5	-	-	≥ 15,0	≥ 25,0	≥ 40,0	-	-	-	≤ 10,0	≤ 5,0	≥ 60	≤ 600	-



Responsável Técnico

Eric Yueh Nim

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