

CERTIFICADO DA QUALIDADE

ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP III 40 RS GRANEL

Dez/2025

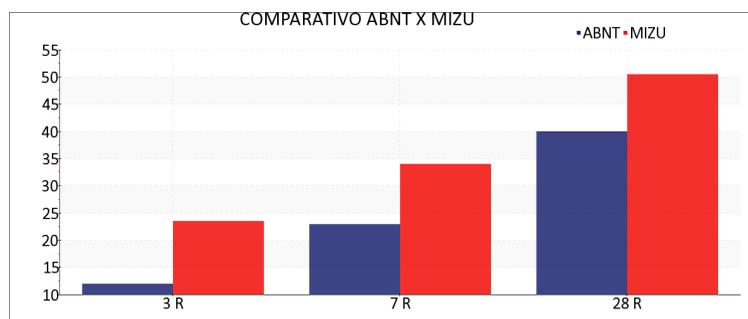
DATA	COMPOSIÇÃO QUÍMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO	3 DIAS	7 DIAS	28 DIA	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	ESPECÍFICA	cm ² /g	%	%	mm	>60	<720	
	%	%	%	%	MPa	MPa	MPa	g/cm ³					min	min	%
01/12/2025	1.58	0.52	1.42	1.13	23.7	32.9	48.4	2.99	4964	1.1	0.1	0.0	182	227	34.2
02/12/2025	1.68	0.51	1.36	1.19	22.5	32.9	50.6	2.99	4853	1.6	0.1	0.0	173	220	34.3
03/12/2025	1.73	0.52	1.44	1.21	23.5	35.4	50.7	2.99	5025	1.0	0.1	0.0	170	219	34.3
04/12/2025	1.71	0.42	1.47	1.21	23.9	34.1	50.7	2.99	4930	1.0	0.1	0.0	171	219	34.4
05/12/2025	1.78	0.95	1.50	1.24	24.7	34.5	50.2	2.99	4739	1.6	0.1	0.0	187	244	34.3
06/12/2025	1.57	0.53	1.49	1.05	24.0	33.7	50.0	2.99	4735	1.1	0.1	0.0	183	229	34.3
08/12/2025	1.77	1.24	1.71	1.19	23.5	33.6	50.9	2.99	4722	1.1	0.1	0.0	170	218	34.2
09/12/2025	1.70	0.69	1.44	1.21	22.6	33.2	50.0	2.99	4840	1.1	0.2	0.0	181	224	34.1
10/12/2025	1.94	0.87	1.69	1.13	23.4	33.6	50.4	2.99	4821	1.2	0.2	0.0	176	228	33.9
11/12/2025	2.11	0.61	1.48	1.00	24.9	34.9	49.0	2.99	4748	1.7	0.2	0.0	182	237	34.0
12/12/2025	2.01	0.71	1.22	0.97	22.6	33.8	48.8	2.99	4831	1.6	0.2	0.0	183	238	34.0
13/12/2025	2.06	0.48	1.49	0.81	24.2	35.9	50.6	2.99	4831	1.2	0.1	0.0	181	234	34.0
15/12/2025	1.89	0.74	1.44	0.86	22.9	33.2	49.7	2.99	4797	1.6	0.2	0.0	173	215	33.7
16/12/2025	1.97	0.69	1.38	1.46	22.3	32.5	50.2	2.99	4886	1.1	0.1	0.0	173	223	33.7
17/12/2025	2.07	0.53	1.29	1.24	23.3	33.6	50.2	2.99	4863	1.2	0.1	0.0	174	227	33.7
18/12/2025	1.88	0.63	1.30	1.02	24.5	33.5	51.6	2.99	4962	1.2	0.1	0.0	172	229	33.7
19/12/2025	1.96	0.58	1.25	0.97	23.4	34.6	51.7	2.99	4964	1.0	0.1	0.0	170	224	34.1
20/12/2025	1.65	0.55	1.53	0.97	21.9	33.0	51.5	2.99	4969	0.4	0.1	0.0	169	224	34.1
22/12/2025	1.71	0.52	1.55	1.08	22.5	34.0	52.3	2.99	4820	0.7	0.2	0.0	171	224	34.2
23/12/2025	1.59	0.46	1.46	1.16	23.5	34.2	53.0	2.99	4878	1.4	0.1	0.0	181	232	33.8
24/12/2025	2.04	0.55	1.23	1.16	23.5	35.2	52.7	2.99	4852	1.3	0.2	0.0	181	226	33.7
26/12/2025	2.08	0.59	1.19	1.05	23.6	35.0	50.5	2.99	4703	1.7	0.2	0.0	181	236	33.8
29/12/2025	2.07	0.76	1.24	1.00	23.5	35.7	48.7	2.99	4854	1.4	0.2	0.0	189	244	33.8
30/12/2025	2.10	0.71	1.18	1.05	24.7	34.5	49.2	2.99	4939	1.9	0.2	0.0	174	222	33.8
31/12/2025	2.06	0.77	1.15	1.08	23.7	35.9	50.5	2.99	4884	1.2	0.2	0.0	172	219	34.4

Controle Estatístico

					R3	R7	R28								
Média	1.87	0.65	1.40	1.10	23.5	34.1	50.5	2.99	4856	1.3	0.1	0.0	177	227	34.0
Desvio	0.19	0.18	0.15	0.14	0.8	1.0	1.2	0.00	86	0.3	0.1	0.0	6	8	0.2
NBR 16697:2018	<6,5	<5,0	<4,5	-	>12,0	>23,0	>40,0	-	-	-	<8,0	<5,0	>60	<720	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R3	12	23.5
R7	23	34.1
R28	40	50.5



Kênia gomes aires

Responsável Técnico

Kênia Gomes Aires

CRQ: 21.3.00318

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Jan/2026

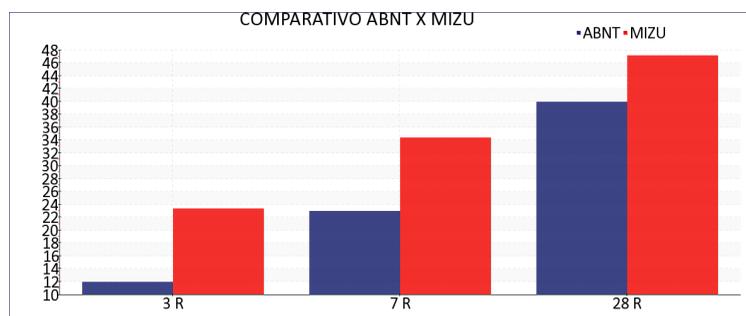
DATA	COMPOSIÇÃO QUÍMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO	3 DIAS	7 DIAS	28 DIA	MASSA ESPECÍFICA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	g/cm³	cm²/g	%	%	mm	>60	<720	
	%	%	%	%	MPa	MPa	MPa								%
02/01/2026	2.21	0.73	1.10	0.97	24.6	36.3	48.7	2.99	4915	1.1	0.1	0.0	164	218	33.9
03/01/2026	2.12	0.73	1.12	1.08	24.8	35.1	48.4	2.99	4902	1.3	0.1	0.0	159	208	33.9
05/01/2026	1.85	0.80	1.05	1.05	24.1	34.2	48.6	2.99	4925	1.3	0.2	0.0	174	232	33.9
06/01/2026	2.09	0.71	1.36	1.32		33.8	47.2	2.99	4766	1.9	0.2	0.0	187	237	33.9
07/01/2026	1.95	0.60	1.23	1.32	23.5	34.8	47.6	2.99	4943	1.8	0.2	0.0	181	238	34.3
08/01/2026	1.98	0.61	1.27	1.24	24.6	36.1	46.4	2.99	4983	1.3	0.1	0.0	180	216	34.3
09/01/2026	1.88	0.58	1.30	1.46	24.2	35.4	45.9	2.99	4822	1.5	0.2	0.0	175	225	34.3
10/01/2026	2.23	0.55	1.49	1.16	24.4	36.5	45.1	2.99	4800	0.9	0.1	0.0	169	219	34.3
12/01/2026	1.64	0.63	1.42	1.73	23.6	35.6	48.1	2.99	4788	1.3	0.1	0.0	171	225	34.4
13/01/2026	1.77	0.53	1.35	1.35	22.2	35.9	48.9	2.99	4929	1.3	0.1	0.0	174	224	34.3
14/01/2026	1.92	0.61	1.23	1.40	20.3	35.6	47.7	2.99	4823	1.3	0.1	0.0	190	240	34.1
15/01/2026	2.05	0.62	1.23	1.62	24.1	35.6	46.7	2.99	4763	1.2	0.1	0.0	173	226	34.3
16/01/2026	1.81	0.83	1.17	1.48	24.4	33.6	45.3	2.99	4964	1.4	0.1	0.0	179	232	34.1
17/01/2026	2.03	0.70	1.23	1.51	22.2	32.7		2.99	4948	1.1	0.1	0.0	170	219	34.2
19/01/2026	1.79	0.61	1.07	1.43	22.8	33.9	46.6	2.99	4674	1.2	0.1	0.0	179	229	34.5
20/01/2026	1.94	0.64	1.16	1.16	21.6	32.0		2.99	4639	1.4	0.1	0.0	177	228	34.5
21/01/2026	1.82	0.41	1.23	1.19	23.3	32.0	45.6	2.99	4718	1.1	0.1	0.0	171	219	34.0
22/01/2026	2.26	0.62	1.04	1.48	22.8			2.99	4693	1.1	0.2	0.0	191	241	32.8
23/01/2026	1.95	0.48	1.21	1.02	23.9	33.0	47.2	2.99	4926	1.3	0.1	0.0	170	215	32.8
24/01/2026	1.91	0.24	1.16	1.02	23.4	32.8	46.5	2.99	4698	1.1	0.1	0.0	173	219	32.9
26/01/2026	2.06	0.51	1.16	1.13	23.5	34.2	48.2	2.99	4772	1.1	0.1	0.0	180	229	32.8
27/01/2026	2.38	0.53	1.19	0.94	22.6	34.0	47.2	2.99	4946	1.1	0.1	0.0	177	230	32.8
28/01/2026	1.83	0.46	1.40	1.02	23.5	33.9	48.1	2.99	4743	1.3	0.1	0.0	172	222	33.3
29/01/2026	1.58	0.26	1.38	1.11	23.9	34.1	46.0	2.99	4787	1.3	0.1	0.0	170	223	33.5
30/01/2026	1.94	0.59	1.11	0.86	22.8	33.9	47.4	2.99	4710	1.3	0.1	0.0	174	224	33.4
31/01/2026	2.36	0.71	1.18	1.62	23.6	34.8		2.99	4760	1.2	0.1	0.0	167	215	33.4

Controle Estatístico

	PF	RI	SO3	CaO	R3	R7	R28	MASSA ESPECÍFICA	BLAINE	#P325	#200	EXP. QUENTE	INICIO	FIM	CONSIST. NORMAL
Média	1.98	0.59	1.22	1.26	23.4	34.4	47.2	2.99	4821	1.3	0.1	0.0	175	225	33.8
Desvio	0.20	0.14	0.12	0.24	1.1	1.3	1.1	0.00	104	0.2	0.0	0.0	7	8	0.6
NBR 16697:2018	<6,5	<5,0	<4,5	-	>12,0	>23,0	>40,0	-	-	-	<8,0	<5,0	>60	<720	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R3	12	23.4
R7	23	34.4
R28	40	47.2



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Fev/2026

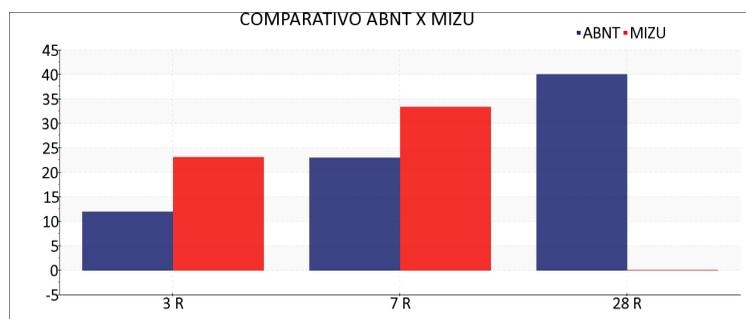
DATA	COMPOSIÇÃO QUÍMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO	3 DIAS	7 DIAS	28 DIA	MASSA ESPECÍFICA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	g/cm³	cm²/g	%	%	mm	>60	<720	
	%	%	%	%	MPa	MPa	MPa						min	min	%
02/02/2026	1.32	0.56	1.09	1.02	24.0			2.99	4695	0.9	0.1	0.0	176	223	34.2
03/02/2026	1.80	0.60	1.16	1.38	24.3	35.5		2.99	4653	0.8	0.1	0.0	165	213	33.7
04/02/2026	1.81	0.58	1.10	1.27	24.4	33.4		2.99	4828	0.7	0.1	0.0	165	210	33.6
05/02/2026	2.23	0.40	1.07	1.16	22.6	33.1		2.99	4713	0.7	0.1	0.0	161	210	33.7
06/02/2026	2.61	0.30	1.02	1.19	23.0	32.1		2.99	4759	0.8	0.1	0.0	171	221	33.7
07/02/2026	1.87	0.87	1.16	1.08	22.8	32.2		2.99	4867	1.0	0.1	0.0	184	228	33.7
09/02/2026	1.00	0.59	1.76	1.13	23.1	33.3		2.99	4698	0.8	0.1	0.0	170	218	33.7
10/02/2026	1.03	0.80	1.81	1.08	22.3	32.2		2.99	4707	0.9	0.2	0.0	162	212	33.7
11/02/2026	1.22	0.76	2.07	1.02		35.3		2.99	4566	1.2	0.2	0.0	160	204	33.7
12/02/2026	1.48	0.75	1.92	0.81	22.4	33.2		2.99	4874	1.0	0.2	0.0	148	191	33.7
13/02/2026	1.89	0.67	1.48	0.94	23.7	33.6		2.99	4639	1.1	0.1	0.0	159	202	33.7
16/02/2026	1.58	0.66	1.72	1.05	23.1	33.7		2.99	4733	1.2	0.1	0.0	153	198	33.6
18/02/2026	1.86	0.73	1.30	1.21	23.1	32.8		2.99	4647	1.4	0.2	0.0	152	199	33.6
19/02/2026	1.93	0.34	1.46	1.16	23.0	33.5		2.99	4703	1.4	0.2	0.0	150	184	33.6
20/02/2026	1.71	0.46	1.59	1.13	22.1	34.1		2.99	4625	1.5	0.2	0.0	162	208	33.6
21/02/2026	1.79	0.72	1.62	1.11	23.0			2.99	4621	1.2	0.1	0.0	150	190	33.2
23/02/2026	1.34	0.75	1.81	1.11	23.0			2.99	4624	1.2	0.3	0.0	169	217	33.4
24/02/2026	1.30	0.65	1.86	1.05	22.7			2.99	4775	1.3	0.2	0.0	153	201	33.4
25/02/2026	1.99	0.46	1.36	1.40	23.4			2.99	4666	1.1	0.1	0.0	150	191	33.2
26/02/2026	1.89	0.62	1.38	1.08				2.99	4781	1.0	0.2	0.0	159	203	33.1

Controle Estatístico

					R3	R7	R28								
Média	1.68	0.61	1.49	1.12	23.1	33.4		2.99	4709	1.1	0.2	0.0	161	206	33.6
Desvio	0.40	0.16	0.33	0.14	0.6	1.0		0.00	84	0.2	0.1	0.0	10	12	0.2
NBR 16697:2018	<6,5	<5,0	<4,5	-	>12,0	>23,0	>40,0	-	-	-	<8,0	<5,0	>60	<720	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R3	12	23.1
R7	23	33.4
R28	40	



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