

CERTIFICADO DA QUALIDADE

ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP III 40 RS ENSACADO

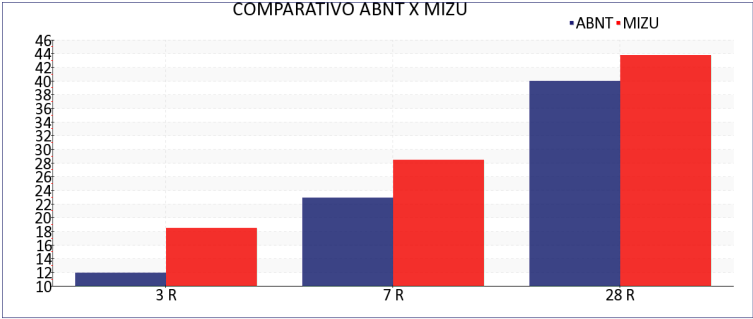
Mar/2025

DATA	COMPOSIÇÃO QUIMÍCA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF <6,5	RI <5,0	SO3 <4,5	CaO. Livre	3 DIAS >12,0	7 DIA >23,0	28 DIAS >40,0	MASSA ESPECIFICA	BLAINE	#P325	#200 <8,0	QUENTE	INICIO >60	FIM <720	
	%	%	%	%	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	
01/03/2025	1.32	0.74	1.21	0.76	15.26	26.16	40.30	2.95	4875	1.12	0.16	0.00	202	260	32.90
03/03/2025	0.71	0.46	1.72	0.85	15.53	24.76	46.96	2.95	4797	0.89	0.14	0.00	185	241	32.90
05/03/2025	1.30	0.50	0.99	0.79	13.66	28.96	43.07	2.95	4849	1.27	0.01	0.00	217	275	32.88
06/03/2025	1.19	0.44	1.12	0.85	15.80	28.66		2.95	4717	1.23	0.12	0.00	213	271	32.92
07/03/2025	1.16	0.72	1.23	0.85	18.20	28.10	45.85	2.95	4823	1.08	0.14	0.00	200	258	32.84
10/03/2025	1.35	0.74	1.47	0.85	18.83	29.86	44.20	2.95	4952	1.37	0.13	0.00	183	240	32.80
11/03/2025	1.39	0.67	1.42	0.79	17.10	29.20	45.72	2.96	4985	0.77	0.11	0.00	183	241	32.86
12/03/2025	1.27	0.26	1.20	1.07	17.47	29.10	44.85	2.95	4921	1.37	0.26	0.00	187	244	32.82
13/03/2025	1.16	0.17	1.20	1.13	18.60	27.90	43.15	2.95	4893	0.99	0.09	0.00	195	253	33.20
14/03/2025	1.10	1.01	1.75	0.85	21.20	30.33	45.02	2.99	4744	0.92	0.08	0.00	168	214	33.04
16/03/2025	1.51	0.74	1.78	0.88	20.63	29.20	43.45	2.99	4722	0.83	0.08	0.00	174	222	32.68
17/03/2025	1.40	0.78	1.80	1.83	19.03	28.60	43.97	2.99	4770	0.78	0.08	0.00	182	241	32.78
18/03/2025	1.30	0.64	1.24	0.92	16.56	30.23	44.20	2.95	4838	0.96	0.08	0.00	213	272	33.96
19/03/2025	1.69	0.56	1.08	0.94	16.96	26.00	43.45	2.99	4817	0.69	0.09	0.00	204	263	33.06
20/03/2025	1.16	0.57	2.22	1.31	20.40	28.70	41.42	2.99	4840	0.92	0.09	0.00	195	249	33.48
21/03/2025	1.68	0.51	1.87	0.94	19.60	26.23		2.95	4770	1.05	0.10	0.00	192	243	33.66
22/03/2025	1.98	0.64	1.92	0.68	20.43	28.66	46.12	2.99	4650	0.63	0.11	0.00	178	227	33.74
23/03/2025	1.27	0.65	2.02	1.12	22.16	28.63	43.90	2.99	4688	1.18	0.08	0.00	178	228	33.66
24/03/2025	1.68	0.62	1.97	1.09	21.30	29.60	44.30	2.99	4770	0.93	0.09	0.00	183	233	33.78
25/03/2025	1.45	0.58	1.61	1.02	19.13	28.60	42.47	2.99	4817	0.79	0.10	0.00	182	232	33.64
26/03/2025	1.48	0.63	2.06	1.02	21.46	29.73	44.32	2.99	4674	0.85	0.06	0.00	166	213	33.66
27/03/2025	1.03	0.46	1.94	1.07	20.60	29.30	42.57	2.99	4698	1.14	0.11	0.00	173	222	33.66
28/03/2025	1.45	0.48	1.59	0.84	17.43	26.76	41.45	2.96	4817	0.99	0.16	0.00	186	238	33.02
29/03/2025	1.62	0.71	1.38	0.75	17.56	28.26	43.40	2.96	4848	1.01	0.14	0.00	186	237	33.00
31/03/2025	0.90	0.73	1.59	0.73	18.36	30.10		2.96	4903	1.12	0.15	0.00	193	244	33.02

Controle Estatístico															
					R3	R7	R28								
Média	1.34	0.60	1.58	0.96	18.53	28.47	43.82	2.97	4807	1.00	0.11	0.00	189	242	33.20
Desvio	0.27	0.17	0.35	0.24	2.21	1.45	1.62	0.02	88	0.20	0.05	0.00	14	17	0.40
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	18.53
R7	23	28.47
R28	40	43.82



Kênia gomes aires

Responsável Técnico
Kênia Gomes Aires
CRQ: 21.3.00318

CERTIFICADO DA QUALIDADE

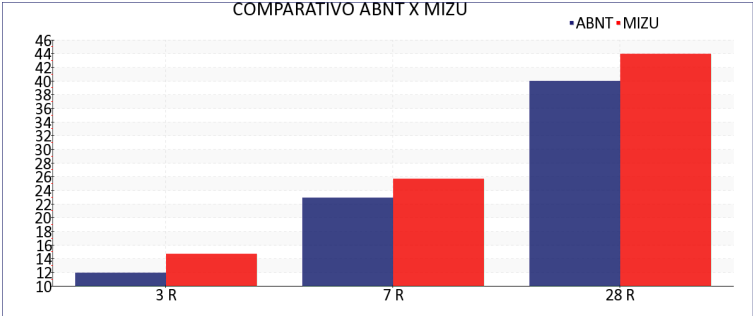
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP III 40 RS ENSACADO

Fev/2025

DATA	COMPOSIÇÃO QUIMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO.	3 DIAS	7 DIA	28 DIAS	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	ESPECIFICA					>60	<720	
	%	%	%	%	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
01/02/2025	0.86	0.45	1.22	0.63	15.86	27.83	43.17	2.95	4804	1.47	0.21	0.00	220	275	32.44
03/02/2025	0.93	0.58	1.22	0.57	13.70	28.56	41.42	2.95	4859	1.40	0.20	0.00	220	272	32.54
04/02/2025	1.06	0.70	1.14	0.68	14.00	27.03	42.27	2.95	4804	1.27	0.19	0.00	225	280	32.90
05/02/2025	1.26	0.76	1.20	0.78	14.26	27.86	45.60	2.95	4912	1.12	0.18	0.00	218	269	32.84
06/02/2025	0.68	0.49	1.24	0.81	13.70	26.00	43.22	2.95	4912	1.15	0.19	0.00	233	294	32.86
07/02/2025	0.99	0.47	1.08	0.76	13.50	24.30	42.10	2.95	4832	0.95	0.11	0.00	219	274	32.82
08/02/2025	0.95	0.29	1.11	0.83	14.63	25.13	40.10	2.95	4859	1.23	0.15	0.00	223	285	32.90
10/02/2025	0.97	0.56	1.15	0.83	16.56	28.50	40.50	2.95	4832	1.24	0.19	0.00	207	260	33.02
11/02/2025	0.77	0.30	1.35	0.78	13.50	24.26	41.72	2.95	4912	1.07	0.16	0.00	215	273	33.00
12/02/2025	1.25	0.72	1.16	0.73	14.53	25.10	44.80	2.95	4859	0.95	0.09	0.00	210	262	32.76
13/02/2025	1.20	0.68	1.10	0.78	15.60	27.23	48.00	2.95	4886	0.93	0.10	0.00	213	268	32.70
14/02/2025	1.14	0.55	1.27	0.76	13.70	24.40	46.45	2.95	4823	0.99	0.09	0.00	196	255	32.70
15/02/2025	0.94	0.65	1.19	1.04	13.16	24.16	44.00	2.95	4823	0.95	0.12	0.00	200	258	32.74
17/02/2025	1.38	0.43	1.08	1.04	13.20	24.03	45.25	2.95	4797	0.86	0.10	0.00	197	256	32.88
18/02/2025	1.30	0.68	1.46	0.86	15.63	30.10	48.67	2.95	4717	1.17	0.12	0.00	224	277	32.88
19/02/2025	1.41	0.41	0.92	0.83	13.40	23.86	43.02	2.95	4744	1.30	0.14	0.00	188	237	33.08
20/02/2025	1.51	0.36	1.25	0.94	14.46	24.40	41.27	2.95	4770	0.78	0.11	0.00	204	255	33.34
21/02/2025	1.55	0.65	1.00	0.81	13.30	22.00	40.70	2.95	4636	1.38	0.21	0.00	217	269	33.20
22/02/2025	1.18	0.30	1.14	0.78	14.63	24.83	44.50	2.95	4797	0.94	0.13	0.00	206	256	33.20
23/02/2025	1.31	0.21	1.14	0.73	15.46	25.43	46.73	2.95	4823	0.91	0.12	0.00	196	254	33.02
24/02/2025	1.18	0.33	1.47	0.94	17.53	26.63	44.80	2.95	4849	1.26	0.22	0.00	212	271	33.08
25/02/2025	1.16	0.60	1.21	0.76	17.10	25.40	47.66	2.95	4823	1.19	0.18	0.00	191	243	33.00
26/02/2025	1.40	0.52	1.15	0.68	15.30	24.46	44.00	2.95	4849	1.07	0.12	0.00	191	240	33.00
27/02/2025	1.49	0.69	1.01	0.60	16.23	25.10	44.50	2.95	4875	1.12	0.12	0.00	194	245	32.92
28/02/2025	1.36	0.61	1.20	0.61	16.30	27.16	45.50	2.95	4901	1.18	0.15	0.00	207	265	32.90

Controle Estatístico															
					R3	R7	R28								
Média	1.17	0.52	1.18	0.78	14.77	25.75	44.00	2.95	4828	1.12	0.15	0.00	209	264	32.91
Desvio	0.24	0.16	0.13	0.12	1.31	1.88	2.41	0.00	64	0.18	0.04	0.00	12	14	0.20
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	14.77
R7	23	25.75
R28	40	44.00



Kênia gomes aires

Responsável Técnico
Kênia Gomes Aires
CRQ: 21.3.00318

CERTIFICADO DA QUALIDADE

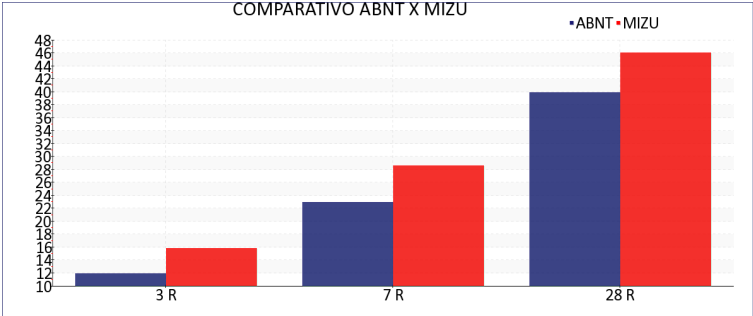
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP III 40 RS ENSACADO

Jan/2025

DATA	COMPOSIÇÃO QUIMÍCA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO.	3 DIAS	7 DIA	28 DIAS	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	ESPECIFICA					>60	<720	
	%	%	%	%	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
02/01/2025	2.08	0.77	0.39	1.25	15.60	28.30	46.75	2.95	4694	1.24	0.18	0.00	230	293	31.80
03/01/2025	2.14	0.90	0.40	0.78	15.70	28.36	46.07	2.95	4790	1.36	0.12	0.00	237	302	31.50
06/01/2025	1.42	0.63	0.97	1.02	16.23	29.26	46.47	2.95	4663	1.11	0.15	0.00	236	301	31.68
07/01/2025	1.51	0.57	1.04	1.02	15.83	29.30	46.80	2.95	4663	1.00	0.15	0.00	236	303	31.66
08/01/2025	1.32	0.23	1.01	0.78	15.20	27.76	45.92	2.95	4553	1.11	0.15	0.00	235	297	31.68
09/01/2025	1.49	0.52	1.05	0.83	15.40	27.40	45.22	2.95	4690	1.01	0.14	0.00	229	291	31.80
10/01/2025	1.75	0.49	0.97	0.78	16.06	28.53	46.40	2.95	4663	0.87	0.12	0.00	225	288	31.78
11/01/2025	1.49	0.28	1.08	0.83	16.00	28.70	45.95	2.95	4636	0.97	0.13	0.00	229	290	31.70
13/01/2025	1.42	0.52	1.13	0.81	17.50	31.90	46.80	2.95	4690	0.82	0.14	0.00	233	290	31.98
14/01/2025	1.64	0.41	1.11	0.78	16.96	29.40	47.12	2.95	4832	0.83	0.13	0.00	218	272	32.04
15/01/2025	1.13	0.60	1.18	0.81	16.70	28.80	46.75	2.95	4690	1.42	0.17	0.00	219	274	32.16
16/01/2025	1.48	0.55	1.07	0.83	16.33	29.50	45.42	2.95	4804	0.98	0.10	0.00	218	273	32.44
17/01/2025	1.54	0.67	1.03	0.83	16.70	29.26	46.22	2.95	4690	0.90	0.20	0.00	232	290	32.42
18/01/2025	1.04	0.54	1.10	0.73	15.23	28.03	46.92	2.95	4777	0.87	0.15	0.00	236	300	32.50
19/01/2025	1.17	0.23	1.19	1.17	15.06	28.13	44.62	2.95	4750	1.13	0.15	0.00	234	300	32.52
20/01/2025	1.16	0.44	1.08	0.83	15.70	28.46	47.42	2.95	4694	0.97	0.16	0.00	231	293	32.56
21/01/2025	1.03	0.37	1.32	0.73	16.93	28.73	47.90	2.95	4694	0.80	0.18	0.00	221	276	32.36
22/01/2025	0.82	0.68	1.21	0.81	15.66	28.53	47.42	2.95	4832	0.92	0.14	0.00	211	267	32.34
23/01/2025	1.26	0.68	1.10	0.83	15.20	27.70	46.37	2.95	4886	0.93	0.13	0.00	219	276	32.36
24/01/2025	1.19	0.58	1.16	0.68	15.13	27.46	44.30	2.95	4859	1.07	0.15	0.00	218	275	32.38
25/01/2025	0.81	0.34	1.18	0.60	15.93	27.46	45.02	2.95	4777	0.72	0.21	0.00	211	266	32.40
27/01/2025	1.25	0.23	1.25	0.73	15.86	28.10	46.60	2.95	4859	1.29	0.20	0.00	203	258	32.42
28/01/2025	0.72	0.52	1.30	0.68	15.53	28.36	45.15	2.95	4832	1.05	0.15	0.00	217	271	32.52
29/01/2025	0.90	0.69	1.20	0.57	15.10	28.00	44.60	2.95	4832	1.13	0.17	0.00	211	266	32.40
30/01/2025	0.96	0.47	1.20	0.70	16.50	31.03		2.95	4832	1.18	0.20	0.00	227	289	32.38
31/01/2025	0.93	0.78	1.24	0.78	15.40	28.60	44.87	2.95	4886	1.36	0.21	0.00	224	281	32.44

Controle Estatístico															
					R3	R7	R28								
Média	1.29	0.53	1.08	0.82	15.90	28.66	46.12	2.95	4753	1.04	0.16	0.00	225	284	32.16
Desvio	0.36	0.18	0.22	0.15	0.66	1.03	0.99	0.00	89	0.19	0.03	0.00	10	13	0.34
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	15.90
R7	23	28.66
R28	40	46.12



Kênia gomes aires

Responsável Técnico
Kênia Gomes Aires
CRQ: 21.3.00318