

CERTIFICADO DA QUALIDADE

ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CPV ARI

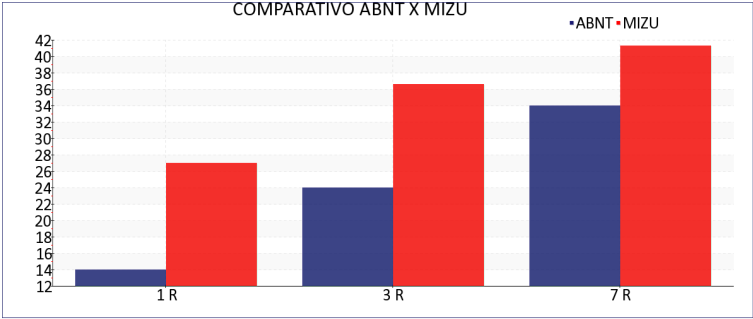
Fev/2025

DATA	COMPOSIÇÃO QUÍMICA			RESISTÊNCIA A COMPRESSÃO				FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	1 DIA	3 DIAS	7 DIA	28 DIAS	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	>14,0	>24,0	>34,0		ESPECIFICA			<6,0		>60	<600	
	%	%	%	MPa	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
01/02/2025	2.93	1.28	4.07	27.50	36.60	42.00	51.47	3.11	4680	0.47	0.05	0.00	135	171	32.32
03/02/2025	2.64	0.74	3.93	27.65	36.90	40.66	50.42	3.10	4715	0.60	0.05	0.00	138	180	32.40
04/02/2025	2.81	0.87	4.04	26.40	35.80	41.86	49.40	3.10	4952	0.49	0.06	0.00	128	165	32.44
05/02/2025	2.76	0.94	3.87	25.80	36.56	40.83	51.03	3.10	4784	0.53	0.05	0.00	129	163	32.30
06/02/2025	2.86	0.65	3.84	28.90	37.46	45.50	49.00	3.10	4868	0.36	0.05	0.00	131	166	32.38
06/02/2025	2.40	0.65	3.91	29.10	37.73	44.36	48.90	3.10	4952	0.45	0.07	0.00	126	163	32.42
10/02/2025	2.57	1.06	3.86	28.20	38.70	40.70	51.07	3.10	4885	0.46	0.05	0.00	108	138	32.40
12/02/2025	3.09	1.19	3.79	25.75	36.46	38.36	51.75	3.10	5050	0.45	0.07	0.00	123	155	32.48
13/02/2025	2.88	0.86	3.88	25.80	34.93	41.23	51.60	3.10	4885	0.72	0.08	0.00	120	164	32.36
14/02/2025	2.86	0.65	3.84	25.63	35.70	41.26	51.02	3.10	4868	0.46	0.06	0.00	134	169	32.28
14/02/2025	3.01	0.65	3.98	26.10	34.46	40.50	50.87	3.10	4952	0.53	0.05	0.00	123	157	32.32
15/02/2025	2.73	0.68	3.92	25.96	35.43	42.05	48.95	3.10	4868	0.46	0.06	0.00	101	126	32.36
17/02/2025	2.99	0.81	4.22	25.06	36.63	39.50	52.90	3.10	4968	0.42	0.05	0.00	135	165	32.28
18/02/2025	2.97	0.47	4.08	25.00	34.96	39.73	52.90	3.10	4902	0.46	0.06	0.00	138	173	32.24
21/02/2025	2.81	0.80	4.00	27.70	37.70	39.16	52.60	3.10	5034	0.42	0.06	0.00	127	157	32.26
24/02/2025	2.97	0.70	3.86	29.95	39.90	42.36		3.10	4968	0.54	0.07	0.00	113	143	32.22
27/02/2025	3.44	0.82	3.86	29.38	38.53	41.96		3.10	5114	0.48	0.08	0.00	115	145	32.16
28/02/2025	3.40	0.82	3.96	26.35	35.20	42.10		3.10	4852	0.68	0.06	0.00	135	177	32.00

Controle Estatístico															
				R1	R3	R7	R28								
Média	2.90	0.81	3.94	27.01	36.65	41.34	50.93	3.10	4905	0.50	0.06	0.00	126	160	32.31
Desvio	0.25	0.20	0.11	1.57	1.48	1.73	1.37	0.00	110	0.09	0.01	0.00	11	14	0.11
NBR 16697:2018	<6,5	<3,5	<4,5	>14,0	>24,0	>34,0	-	-	-	-	<6,0	<5,0	>60	<600	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R1	14	27.01
R3	24	36.65
R7	34	41.34
R28	--	50.93



Kênia gomes aires

Responsável Técnico
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CRQ: 21.3.00318

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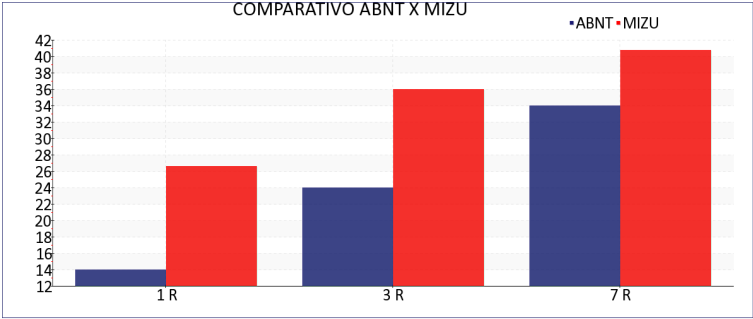
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CPV ARI

Jan/2025

DATA	COMPOSIÇÃO QUÍMICA			RESISTÊNCIA A COMPRESSÃO				FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF <6,5	RI <5,0	SO3 <4,5	1 DIA >14,0	3 DIAS >24,0	7 DIA >34,0	28 DIAS	MASSA ESPECIFICA	BLAINE	#P325	#200 <6,0	QUENTE	INICIO >60	FIM <600	
	%	%	%	MPa	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
02/01/2025	3.76	0.84	3.77	24.90	34.36	39.23	49.90	3.11	4897	1.20	0.13	0.00	126	160	32.16
03/01/2025	3.77	0.83	3.88	25.70	34.76	40.20	47.57	3.11	5007	0.39	0.03	0.00	114	146	32.10
06/01/2025	3.49	0.83	3.86	24.20	36.93	39.90	47.00	3.11	5007	0.63	0.07	0.00	131	166	31.98
06/01/2025	3.49	1.01	3.69	25.10	34.26	40.70	46.05	3.11	4868	0.58	0.07	0.00	115	146	31.44
07/01/2025	3.50	1.07	4.09	26.30	34.80	40.46	48.12	3.11	4989	0.62	0.15	0.00	120	153	31.44
09/01/2025	3.45	1.01	3.86	26.00	34.73	40.13	48.60	3.11	4860	0.72	0.06	0.00	131	168	31.82
10/01/2025	3.55	0.96	3.76	25.10	34.53	39.96	47.97	3.11	4952	0.62	0.06	0.00	130	165	30.96
13/01/2025	3.37	0.96	3.87	28.10	36.70	40.00	50.65	3.11	4970	0.56	0.05	0.00	134	171	31.90
16/01/2025	3.82	0.49	3.97	27.15	36.60	40.53	48.70	3.11	4823	0.52	0.04	0.00	149	179	31.98
17/01/2025	3.25	1.01	3.93	26.40	36.70	41.10	49.19	3.11	4842	0.64	0.07	0.00	139	169	31.96
17/01/2025	3.43	1.01	4.09	26.00	35.90	39.90	48.67	3.11	4918	0.69	0.06	0.00	128	156	31.86
20/01/2025	3.48	0.80	3.89	28.90	34.43	41.00	48.55	3.11	4916	0.62	0.07	0.00	127	163	31.48
21/01/2025	3.05	1.01	3.94	28.05	35.96	40.56	50.52	3.11	4934	0.56	0.07	0.00	135	174	31.46
22/01/2025	2.51	0.51	3.97	26.70	35.13	41.90	50.70	3.11	4842	0.51	0.05	0.00	130	165	31.48
22/01/2025	2.95	0.51	4.26	27.15	36.60	40.60	50.67	3.11	4818	0.48	0.06	0.00	133	169	31.44
23/01/2025	2.50	0.58	3.92	27.90	36.90	40.16	52.17	3.11	4968	0.48	0.06	0.00	129	164	32.30
24/01/2025	2.85	0.68	3.90	28.00	36.73	41.63		3.11	4818	0.59	0.04	0.00	136	173	32.32
25/01/2025	2.60	0.74	4.16	27.10	37.20	43.30		3.11	4749	0.55	0.07	0.00	134	176	32.34
29/01/2025	2.53	0.91	3.86	27.85	38.53	43.33	50.77	3.11	4663	0.57	0.08	0.00	141	179	32.40
30/01/2025	3.00	0.95	4.04	27.25	39.06	41.40	50.00	3.11	4645	0.72	0.05	0.00	128	158	32.28

Controle Estatístico															
				R1	R3	R7	R28								
Média	3.22	0.84	3.94	26.69	36.04	40.80	49.21	3.11	4874	0.61	0.07	0.00	131	165	31.86
Desvio	0.44	0.19	0.14	1.27	1.39	1.08	1.57	0.00	104	0.16	0.03	0.00	8	10	0.40
NBR 16697:2018	<6,5	<3,5	<4,5	>14,0	>24,0	>34,0	-	-	-	-	<6,0	<5,0	>60	<600	-

Comparativo ABNT x MIZU		
	ABNT	MIZU
R1	14	26.69
R3	24	36.04
R7	34	40.80
R28	--	49.21



Kênia gomes aires

Responsável Técnico
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CERTIFICADO DA QUALIDADE

ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CPV ARI

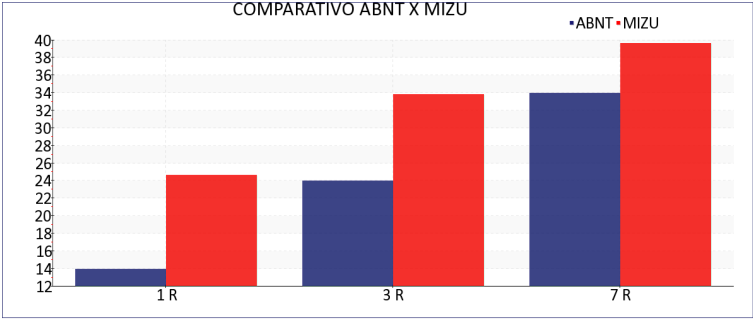
Dez/2024

DATA	COMPOSIÇÃO QUÍMICA			RESISTÊNCIA A COMPRESSÃO				FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	1 DIA	3 DIAS	7 DIA	28 DIAS	MASSA ESPECIFICA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	>14,0	>24,0	>34,0		g/cm³	cm²/g	%	%	mm	>60	<600	
	%	%	%	MPa	MPa	MPa	MPa						min	min	%
02/12/2024	3.32	0.98	4.02	24.85	34.80	40.03	49.97	3.11	4842	0.53	0.06	0.00	130	165	31.94
03/12/2024	3.84	0.99	3.76	25.80	32.00	38.23	49.10	3.11	4823	0.58	0.04	0.00	137	173	31.74
04/12/2024	3.66	0.88	4.11	25.25	35.16	38.16	49.17	3.11	4970	0.49	0.06	0.00	118	151	31.92
05/12/2024	3.83	0.86	4.04	24.25	32.86	40.40	49.32	3.11	4952	0.54	0.07	0.00	108	140	32.04
09/12/2024	3.88	0.56	3.99	24.50	33.33	40.13	50.90	3.11	4804	0.57	0.08	0.00	121	154	31.94
10/12/2024	3.22	0.73	3.80	25.70	34.43	38.70	51.10	3.11	4842	0.59	0.06	0.00	113	146	31.88
11/12/2024	3.35	0.52	3.90	24.40	33.93	41.26	49.72	3.11	4860	0.76	0.07	0.00	113	143	31.86
11/12/2024	3.20	0.52	3.80	24.95	34.93	41.40	50.67	3.11	4748	1.07	0.11	0.00	115	148	31.68
13/12/2024	3.69	0.52	4.28	25.95	34.73	40.36	51.50	3.11	4860	0.57	0.06	0.00	118	151	32.20
17/12/2024	3.51	1.15	4.27	23.25	33.33	38.80	51.00	3.11	4934	0.48	0.05	0.00	120	155	32.44
18/12/2024	3.25	0.90	4.21	25.10	33.96	39.43	50.92	3.11	4767	0.60	0.05	0.00	131	166	32.44
19/12/2024	3.15	0.64	4.11	24.05	33.33	38.43	49.57	3.11	4860	0.43	0.07	0.00	128	164	31.66
20/12/2024	3.84	0.64	3.96	23.65	33.16	40.16	50.02	3.11	4842	0.65	0.10	0.00	118	153	31.26
23/12/2024	4.05	1.02	4.26	24.35	34.30	39.16	49.00	3.11	4842	0.43	0.04	0.00	126	163	32.42
27/12/2024	4.46	0.94	3.75	24.15	33.13	40.53	48.50	3.11	4879	0.62	0.05	0.00	110	143	31.10

Controle Estatístico															
				R1	R3	R7	R28								
Média	3.62	0.79	4.02	24.68	33.83	39.68	50.03	3.11	4855	0.59	0.06	0.00	120	154	31.90
Desvio	0.38	0.21	0.19	0.79	0.90	1.06	0.93	0.00	62	0.16	0.02	0.00	8	10	0.39
NBR 16697:2018	<6,5	<3,5	<4,5	>14,0	>24,0	>34,0	-	-	-	-	<6,0	<5,0	>60	<600	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R1	14	24.68
R3	24	33.83
R7	34	39.68
R28	--	50.03



Kênia gomes aires

Responsável Técnico
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ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CPV ARI

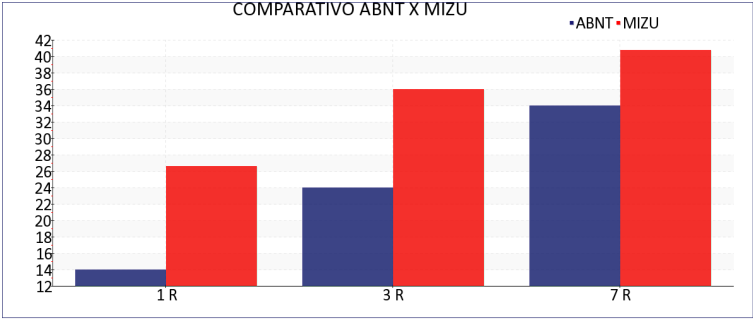
Jan/2025

DATA	COMPOSIÇÃO QUÍMICA			RESISTÊNCIA A COMPRESSÃO				FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF <6,5	RI <5,0	SO3 <4,5	1 DIA >14,0	3 DIAS >24,0	7 DIA >34,0	28 DIAS	MASSA ESPECIFICA	BLAINE	#P325	#200 <6,0	QUENTE	INICIO >60	FIM <600	
	%	%	%	MPa	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
02/01/2025	3.76	0.84	3.77	24.90	34.36	39.23	49.90	3.11	4897	1.20	0.13	0.00	126	160	32.16
03/01/2025	3.77	0.83	3.88	25.70	34.76	40.20	47.57	3.11	5007	0.39	0.03	0.00	114	146	32.10
06/01/2025	3.49	0.83	3.86	24.20	36.93	39.90	47.00	3.11	5007	0.63	0.07	0.00	131	166	31.98
06/01/2025	3.49	1.01	3.69	25.10	34.26	40.70	46.05	3.11	4868	0.58	0.07	0.00	115	146	31.44
07/01/2025	3.50	1.07	4.09	26.30	34.80	40.46	48.12	3.11	4989	0.62	0.15	0.00	120	153	31.44
09/01/2025	3.45	1.01	3.86	26.00	34.73	40.13	48.60	3.11	4860	0.72	0.06	0.00	131	168	31.82
10/01/2025	3.55	0.96	3.76	25.10	34.53	39.96	47.97	3.11	4952	0.62	0.06	0.00	130	165	30.96
13/01/2025	3.37	0.96	3.87	28.10	36.70	40.00	50.65	3.11	4970	0.56	0.05	0.00	134	171	31.90
16/01/2025	3.82	0.49	3.97	27.15	36.60	40.53	48.70	3.11	4823	0.52	0.04	0.00	149	179	31.98
17/01/2025	3.25	1.01	3.93	26.40	36.70	41.10	49.19	3.11	4842	0.64	0.07	0.00	139	169	31.96
17/01/2025	3.43	1.01	4.09	26.00	35.90	39.90	48.67	3.11	4918	0.69	0.06	0.00	128	156	31.86
20/01/2025	3.48	0.80	3.89	28.90	34.43	41.00	48.55	3.11	4916	0.62	0.07	0.00	127	163	31.48
21/01/2025	3.05	1.01	3.94	28.05	35.96	40.56	50.52	3.11	4934	0.56	0.07	0.00	135	174	31.46
22/01/2025	2.51	0.51	3.97	26.70	35.13	41.90	50.70	3.11	4842	0.51	0.05	0.00	130	165	31.48
22/01/2025	2.95	0.51	4.26	27.15	36.60	40.60	50.67	3.11	4818	0.48	0.06	0.00	133	169	31.44
23/01/2025	2.50	0.58	3.92	27.90	36.90	40.16	52.17	3.11	4968	0.48	0.06	0.00	129	164	32.30
24/01/2025	2.85	0.68	3.90	28.00	36.73	41.63		3.11	4818	0.59	0.04	0.00	136	173	32.32
25/01/2025	2.60	0.74	4.16	27.10	37.20	43.30		3.11	4749	0.55	0.07	0.00	134	176	32.34
29/01/2025	2.53	0.91	3.86	27.85	38.53	43.33	50.77	3.11	4663	0.57	0.08	0.00	141	179	32.40
30/01/2025	3.00	0.95	4.04	27.25	39.06	41.40	50.00	3.11	4645	0.72	0.05	0.00	128	158	32.28

Controle Estatístico															
				R1	R3	R7	R28								
Média	3.22	0.84	3.94	26.69	36.04	40.80	49.21	3.11	4874	0.61	0.07	0.00	131	165	31.86
Desvio	0.44	0.19	0.14	1.27	1.39	1.08	1.57	0.00	104	0.16	0.03	0.00	8	10	0.40
NBR 16697:2018	<6,5	<3,5	<4,5	>14,0	>24,0	>34,0	-	-	-	-	<6,0	<5,0	>60	<600	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R1	14	26.69
R3	24	36.04
R7	34	40.80
R28	--	49.21



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CRQ: 21.3.00318

CERTIFICADO DA QUALIDADE

ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CPV ARI

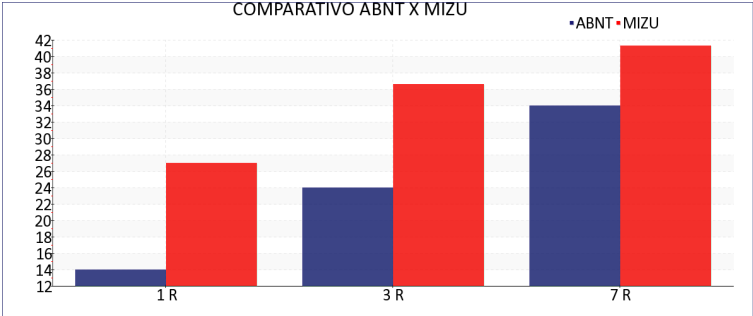
Fev/2025

DATA	COMPOSIÇÃO QUÍMICA			RESISTÊNCIA A COMPRESSÃO				FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	1 DIA	3 DIAS	7 DIA	28 DIAS	MASSA ESPECIFICA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	>14,0	>24,0	>34,0		g/cm³	cm²/g	%	%	mm	>60	<600	
	%	%	%	MPa	MPa	MPa	MPa						min	min	%
01/02/2025	2.93	1.28	4.07	27.50	36.60	42.00	51.47	3.11	4680	0.47	0.05	0.00	135	171	32.32
03/02/2025	2.64	0.74	3.93	27.65	36.90	40.66	50.42	3.10	4715	0.60	0.05	0.00	138	180	32.40
04/02/2025	2.81	0.87	4.04	26.40	35.80	41.86	49.40	3.10	4952	0.49	0.06	0.00	128	165	32.44
05/02/2025	2.76	0.94	3.87	25.80	36.56	40.83	51.03	3.10	4784	0.53	0.05	0.00	129	163	32.30
06/02/2025	2.86	0.65	3.84	28.90	37.46	45.50	49.00	3.10	4868	0.36	0.05	0.00	131	166	32.38
06/02/2025	2.40	0.65	3.91	29.10	37.73	44.36	48.90	3.10	4952	0.45	0.07	0.00	126	163	32.42
10/02/2025	2.57	1.06	3.86	28.20	38.70	40.70	51.07	3.10	4885	0.46	0.05	0.00	108	138	32.40
12/02/2025	3.09	1.19	3.79	25.75	36.46	38.36	51.75	3.10	5050	0.45	0.07	0.00	123	155	32.48
13/02/2025	2.88	0.86	3.88	25.80	34.93	41.23	51.60	3.10	4885	0.72	0.08	0.00	120	164	32.36
14/02/2025	2.86	0.65	3.84	25.63	35.70	41.26	51.02	3.10	4868	0.46	0.06	0.00	134	169	32.28
14/02/2025	3.01	0.65	3.98	26.10	34.46	40.50	50.87	3.10	4952	0.53	0.05	0.00	123	157	32.32
15/02/2025	2.73	0.68	3.92	25.96	35.43	42.05	48.95	3.10	4868	0.46	0.06	0.00	101	126	32.36
17/02/2025	2.99	0.81	4.22	25.06	36.63	39.50	52.90	3.10	4968	0.42	0.05	0.00	135	165	32.28
18/02/2025	2.97	0.47	4.08	25.00	34.96	39.73	52.90	3.10	4902	0.46	0.06	0.00	138	173	32.24
21/02/2025	2.81	0.80	4.00	27.70	37.70	39.16	52.60	3.10	5034	0.42	0.06	0.00	127	157	32.26
24/02/2025	2.97	0.70	3.86	29.95	39.90	42.36		3.10	4968	0.54	0.07	0.00	113	143	32.22
27/02/2025	3.44	0.82	3.86	29.38	38.53	41.96		3.10	5114	0.48	0.08	0.00	115	145	32.16
28/02/2025	3.40	0.82	3.96	26.35	35.20	42.10		3.10	4852	0.68	0.06	0.00	135	177	32.00

Controle Estatístico															
				R1	R3	R7	R28								
Média	2.90	0.81	3.94	27.01	36.65	41.34	50.93	3.10	4905	0.50	0.06	0.00	126	160	32.31
Desvio	0.25	0.20	0.11	1.57	1.48	1.73	1.37	0.00	110	0.09	0.01	0.00	11	14	0.11
NBR 16697:2018	<6,5	<3,5	<4,5	>14,0	>24,0	>34,0	-	-	-	-	<6,0	<5,0	>60	<600	-

Comparativo ABNT x MIZU

	ABNT	MIZU
R1	14	27.01
R3	24	36.65
R7	34	41.34
R28	--	50.93



Kênia gomes aires

Responsável Técnico
Kênia Gomes Aires
CRQ: 21.3.00318