

## CERTIFICADO DA QUALIDADE

### ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP III 40 RS ENSACADO

Dez/2020

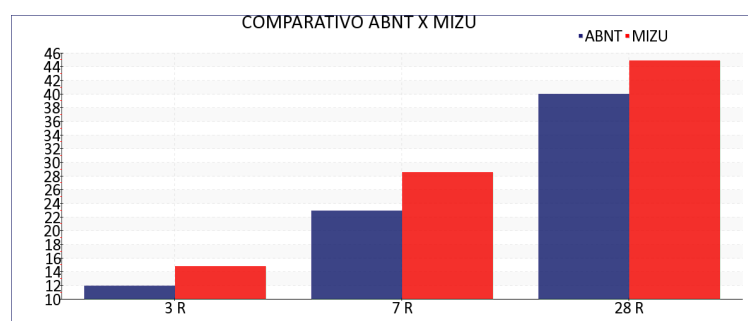
DATA	COMPOSIÇÃO QUÍMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO.	3 DIAS	7 DIA	28 DIAS	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	ESPECÍFICA	cm <sup>2</sup> /g	%	%	mm	>60	<720	
	%	%	%	%	MPa	MPa	MPa	g/cm <sup>3</sup>				mm	min	min	%
01/12/2020	0.10	0.50	1.07		15.23	28.96	44.20	2.94	4464	1.33	0.22	0.00	225	270	33.20
02/12/2020	0.15	0.48	1.13		14.10	26.73	40.92	2.94	4464	1.42	0.21	0.00	230	280	33.18
03/12/2020	0.10	0.57	1.07		13.23	26.10	40.65	2.94	4435	1.12	0.19	0.00	230	285	33.40
04/12/2020	0.17	0.51	0.89		14.13	27.70	42.70	2.94	4522	0.93	0.12	0.00	215	260	33.40
05/12/2020	0.10	0.47	0.91		16.73	28.70	43.15	2.94	4493	0.83	0.16	0.00	215	265	33.46
07/12/2020	0.10	0.42	1.17		13.80	27.93	44.32	2.94	4405	0.95	0.10	0.00	210	260	33.62
08/12/2020	0.10	0.62	1.12		15.26	29.53	47.30	2.94	4405	0.90	0.12	0.00	210	255	33.66
09/12/2020	0.16	0.60	0.95		16.93	28.13	47.50	2.94	4375	0.88	0.12	0.00	215	260	33.74
10/12/2020	0.17	0.54	0.92		16.00	29.53	47.65	2.94	4493	0.99	0.12	0.00	225	270	33.68
11/12/2020	0.10	0.46	1.00		15.70	28.20	47.52	2.94	4405	0.93	0.10	0.00	230	275	33.38
12/12/2020	0.16	0.57	0.90		14.00	29.03	46.80	2.94	4493	0.92	0.09	0.00	230	275	33.64
14/12/2020	0.09	0.60	0.89		15.96	29.70	46.20	2.94	4493	1.01	0.10	0.00	230	275	33.32
15/12/2020	0.10	0.44	0.98		15.86	30.56	45.05	2.94	4493	0.94	0.13	0.00	230	275	33.22
16/12/2020	0.10	0.56	1.04		16.46	30.30	48.35	2.94	4551	1.01	0.12	0.00	230	275	33.16
17/12/2020	0.10	0.53	1.03		15.06	28.06	48.40	2.94	4665	0.94	0.11	0.00	230	275	33.28
18/12/2020	0.10	0.55	0.85		14.06	29.93	44.90	2.94	4637	1.22	0.18	0.00	230	275	33.34
19/12/2020	0.10	0.40	0.77		13.46	26.93	44.60	2.94	4522	1.19	0.17	0.00	225	270	33.40
21/12/2020	0.13	0.48	0.91		14.00	29.73	43.37	2.94	4405	0.98	0.17	0.00	220	260	33.30
22/12/2020	0.10	0.51	0.70		14.80	28.86	43.67	2.94	4522	1.01	0.15	0.00	235	280	33.30
23/12/2020	0.05	0.64	0.69		14.46	28.56	42.70	2.94	4580	1.02	0.12	0.00	235	280	33.30
26/12/2020	0.15	0.50	1.02		13.10	28.93	44.32	2.94	4405	1.06	0.19	0.00	225	270	33.30
28/12/2020	0.17	0.52	0.80		14.50	28.76	43.80	2.94	4375	0.95	0.14	0.00	225	270	33.44
29/12/2020	0.23	0.67	0.90		17.00	29.23		2.94	4464	0.88	0.13	0.00	225	270	33.52
30/12/2020	0.27	0.65	0.78		13.96	27.26		2.94	4464	1.13	0.15	0.00	230	275	33.54
31/12/2020	0.16	0.52	0.54		13.90	27.03		2.94	4522	0.93	0.13	0.00	225	270	33.46

Controle Estatístico

	PF	RI	SO3	CaO.	R3	R7	R28	MASSA	BLAINE	#P325	#200	EXP.	INICIO	FIM	CONSIST.
Média	0.13	0.53	0.92		14.87	28.58	44.91	2.94	4482	1.02	0.14	0.00	225	271	33.41
Desvio	0.05	0.07	0.15		1.18	1.16	2.28	0.00	75	0.14	0.04	0.00	7	8	0.16
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	14.87
R7	23	28.58
R28	40	44.91



*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/2021

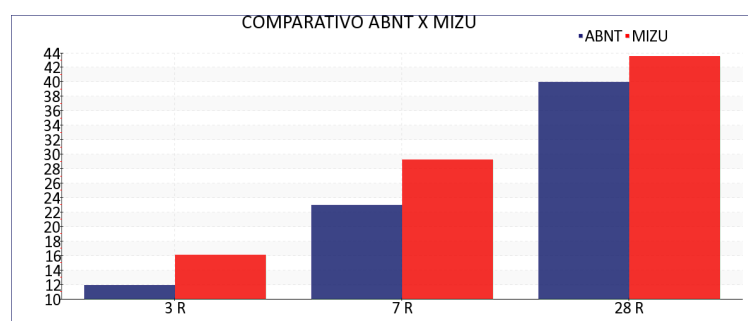
DATA	COMPOSIÇÃO QUÍMICA				RESISTÊNCIA A COMPRESSÃO			FINURA				EXP.	PEGA		CONSIST. NORMAL
	PF	RI	SO3	CaO.	3 DIAS	7 DIA	28 DIAS	MASSA	BLAINE	#P325	#200	QUENTE	INICIO	FIM	
	<6,5	<5,0	<4,5	Livre	>12,0	>23,0	>40,0	ESPECÍFICA	cm <sup>2</sup> /g	%	%	mm	>60	<720	
	%	%	%	%	MPa	MPa	MPa	g/cm <sup>3</sup>					min	min	%
02/01/2021	0.38	0.55	0.56		14.23	27.06	43.80	2.94	4434	1.15	0.16	0.00	225	275	33.40
04/01/2021	0.10	0.54	0.57		13.86	25.73	43.42	2.94	4551	0.92	0.16	0.00	220	255	33.40
05/01/2021	0.20	0.49	0.62		14.50	28.96		2.94	4551	1.07	0.21	0.00	240	300	32.86
06/01/2021	0.22	0.71	0.74		13.53	27.40		2.94	4405	1.17	0.19	0.00	235	275	33.16
07/01/2021	0.14	0.64	0.84		14.76	26.56		2.94	4284	1.16	0.19	0.00	240	295	31.96
08/01/2021	0.10	0.67	0.71		13.73	28.40		2.94	4315	1.21	0.21	0.00	235	280	33.34
11/01/2021	0.22	0.62	0.76		14.40	24.90		2.94	4253	1.34	0.25	0.00	245	300	33.40
12/01/2021	0.27	0.38	0.80		15.03	24.30		2.94	4284	1.29	0.20	0.00	235	280	32.72
13/01/2021	0.29	0.67	1.03		13.46	26.40		2.94	4345	1.18	0.19	0.00	235	280	32.88
14/01/2021	0.29	0.50	0.84		14.10	28.11		2.94	4375	1.24	0.18	0.00	235	280	33.50
15/01/2021	0.34	0.41	0.82		17.53	30.80		2.94	4405	0.96	0.15	0.00	220	265	33.54
16/01/2021	0.43	0.43	0.85		17.93	31.00		2.94	4522	1.03	0.16	0.00	220	270	33.60
18/01/2021	0.10	0.49	1.05	1.05	18.73	31.13		2.94	4522	1.11	0.12	0.00	230	275	33.58
19/01/2021	0.10	0.63	0.74	0.93	17.93	33.33		2.94	4405	1.07	0.18	0.00	225	270	34.00
20/01/2021	0.37	0.49	1.14	0.99	17.13	33.83		2.94	4405	1.02	0.13	0.00	235	280	34.12
21/01/2021	0.23	0.44	0.89	0.99	18.16	32.30		2.94	4434	0.96	0.11	0.00	220	265	33.50
22/01/2021	0.10	0.47	0.99	0.76	17.93	32.43		2.94	4405	1.14	0.17	0.00	220	265	34.46
23/01/2021	0.48	0.62	1.15	0.73	17.13	31.90		2.94	4405	0.96	0.09	0.00	225	270	34.40
25/01/2021	0.10	0.64	1.21	1.11	17.33	31.93		2.94	4405	0.91	0.11	0.00	225	270	34.50
26/01/2021	0.22	0.40	1.02	1.05	18.83			2.94	4375	1.14	0.10	0.00	235	280	34.46
27/01/2021	0.10	0.44	1.27	0.98	17.00			2.94	4315	1.12	0.09	0.00	230	280	34.54
28/01/2021	0.10		1.01	1.07	18.76			2.94	4405	1.21	0.10	0.00	235	280	34.10
29/01/2021	0.42		1.05	1.07				2.94	4315	0.93	0.20	0.00	225	270	34.24
30/01/2021	0.20		1.01	1.13				2.94	4315	0.86	0.12	0.00	220	265	34.34

Controle Estatístico

					R3	R7	R28								
Média	0.23	0.53	0.90	0.99	16.18	29.29	43.61	2.94	4393	1.09	0.16	0.00	230	276	33.67
Desvio	0.12	0.10	0.20	0.13	1.98	3.00	0.27	0.00	83	0.13	0.04	0.00	8	11	0.67
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	16.18
R7	23	29.29
R28	40	43.61



*Kênia gomes aires*

Responsável Técnico

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