

CERTIFICADO DA QUALIDADE - FMN

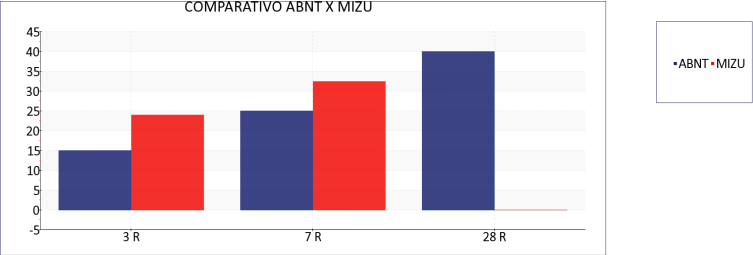
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP II Z 40

Abril-2025

DATA	COMPOSIÇÃO QUÍMICA					RESISTÊNCIA A COMPRESSÃO			MASSA	FINURA			EXP.	PEGA		CONSIST.
Parâmetros	PF	RI	SO3	CO2	CaO L.	3 DIAS	7 DIA	28 DIAS	ESPEC.	BLAINE	#325	#200	QUENTE	INICIO	FIM	NORMAL
Unidades	%	%	%	%	%	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
01/04/2025	2.55	9.95	3.81	0.00	1.20	23.90	32.30		3.04	4852.00	1.80	0.25	0.00	140.00	230.00	31.00
02/04/2025	2.41	10.26	3.71	0.00	1.25	23.40	32.10		3.04	4755.00	1.90	0.26	0.00	130.00	235.00	31.80
03/04/2025	2.53	10.25	3.80	0.00	1.10	23.70	33.00		3.04	4812.00	1.75	0.30	0.00	125.00	240.00	30.80
04/04/2025	2.54	9.90	3.55	0.00	1.05	24.20	32.70		3.04	4786.00	1.65	0.28	0.00	135.00	235.00	31.30
05/04/2025	2.40	9.78	3.70	0.00	1.10	24.50	32.30		3.04	4922.00	1.70	0.25	0.00	140.00	230.00	31.00
07/04/2025	2.35	9.98	3.65	0.00	1.17	23.60	32.50		3.04	4875.00	1.50	0.20	0.00	150.00	210.00	30.80
08/04/2025	2.70	10.50	3.72	0.00	1.14	24.60	32.40		3.04	4796.00	1.65	0.23	0.00	155.00	230.00	30.70
09/04/2025	2.65	10.15	3.80	0.00	1.10	23.80			3.04	4825.00	1.71	0.26	0.00	145.00	230.00	30.50
10/04/2025	2.70	9.96	3.50	0.00	1.12	24.80			3.04	4796.00	1.80	0.25	0.00	140.00	240.00	31.00
11/04/2025	2.45	10.45	3.15	0.00	1.09	24.50			3.04	4800.00	1.70	0.26	0.00	135.00	230.00	30.90
12/04/2025	2.55	10.15	3.45	0.00	1.04	24.10			3.04	4756.00	1.80	0.29	0.00	145.00	235.00	31.30
14/04/2025	2.63	9.95	3.25	0.00	1.20	24.30			3.04	4722.00	1.55	0.18	0.00	135.00	225.00	31.80

Controle Estatístico									Comparativo ABNT x MIZU							
						R3	R7	R28								
Média	2.50	10.10	3.60	0.00	1.10	24.10	32.50		3.00	4808.10	1.70	0.30	0.00	139.60	230.80	31.10
Desvio (P)	0.10	0.20	0.20	0.00	0.10	0.40	0.30		0.00	55.20	0.10	0.00	0.00	8.40	7.90	0.40
NBR 16697:2018	<8,5	<18,5	<4,5	<5,5	-	>15,0	>25,0	>40,0	-	>2800	-	<10,0	<5,0	<60	-	-

	ABNT	MIZU
R3	15	24.10
R7	25	32.50
R28	40	




Responsável Técnico
Gabriele Oliveira da Silva
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CERTIFICADO DA QUALIDADE - FMN

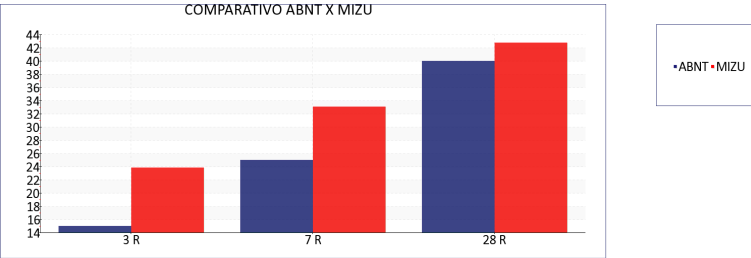
ENSAIOS QUÍMICOS E FÍSICOS DO CIMENTO CP II Z 40

Março-2025

DATA	COMPOSIÇÃO QUÍMICA					RESISTÊNCIA A COMPRESSÃO			MASSA	FINURA			EXP.	PEGA		CONSIST.
Parâmetros	PF	RI	SO3	CO2	CaO L.	3 DIAS	7 DIA	28 DIAS	ESPEC.	BLAINE	#325	#200	QUENTE	INICIO	FIM	NORMAL
Unidades	%	%	%	%	%	MPa	MPa	MPa	g/cm³	cm²/g	%	%	mm	min	min	%
05/03/2025	2.82	10.46	3.61	0.00	2.19	25.30	34.20	42.50	3.10	4822.00	1.85	0.20	0.00	130.00	230.00	29.00
06/03/2025	2.00	9.04	2.92	0.00	1.96	24.80	33.10	42.80	3.04	4856.00	1.78	0.26	0.00	135.00	230.00	30.00
07/03/2025	2.42	9.57	3.19	0.00	2.25	24.70	32.00	43.70	3.04	4757.00	1.90	0.28	0.00	135.00	235.00	29.50
08/03/2025	2.14	9.41	2.89	0.00	2.05	24.00	33.80	42.20	3.04	4689.00	1.80	0.25	0.00	145.00	235.00	30.10
10/03/2025	2.76	10.22	3.34	0.00	1.97	23.80	33.60	42.50	3.04	4865.00	1.75	0.26	0.00	130.00	230.00	29.70
11/03/2025	2.47	12.13	3.54	0.00	2.27	23.60	32.80	42.80	3.04	4785.00	1.85	0.30	0.00	125.00	230.00	30.30
12/03/2025	2.55	10.96	3.57	0.00	2.00	23.00	32.70	42.00	3.04	4800.00	1.90	0.33	0.00	130.00	220.00	30.60
13/03/2025	3.05	9.68	3.71	0.00	1.97	23.60	33.30	42.50	3.04	4856.00	1.70	0.25	0.00	125.00	225.00	30.50
14/03/2025	3.29	9.96	3.62	0.00	2.00	23.70	33.60	43.00	3.04	4786.00	1.85	0.20	0.00	130.00	230.00	30.70
15/03/2025	2.42	9.57	3.19	0.00	2.25	23.90	33.90	42.80	3.04	4800.00	1.80	0.23	0.00	135.00	219.00	3.06
17/03/2025	2.14	9.41	2.89	0.00	2.15	24.20	34.50	43.80	3.04	4659.00	1.82	0.26	0.00	135.00	220.00	29.80
18/03/2025	1.96	8.89	2.96	0.00	2.10	23.80	32.50		3.04	4725.00	1.80	0.25	0.00	130.00	225.00	29.30
19/03/2025	2.88	10.54	3.78	0.00	2.20	24.10	33.90		3.04	4822.00	1.71	0.22	0.00	130.00	230.00	29.00
20/03/2025	2.65	9.20	3.58	0.00	2.28	24.30	32.50		3.04	4756.00	1.65	0.24	0.00	140.00	230.00	29.80
21/03/2025	2.48	9.53	3.56	0.00	2.39	23.30	32.90		3.04	4722.00	1.75	0.26	0.00	135.00	225.00	29.50
22/03/2025	2.61	9.72	3.71	0.00	2.30	23.00	32.60		3.04	4796.00	1.85	0.33	0.00	145.00	235.00	30.80
24/03/2025	2.55	9.95	3.56	0.00	1.96	23.30	33.00		3.04	4822.00	1.90	0.35	0.00	150.00	230.00	30.80
25/03/2025	2.60	9.00	3.65	0.00	2.10	23.30	33.50		3.04	4785.00	1.85	0.33	0.00	130.00	225.00	30.60
26/03/2025	2.78	9.15	3.71	0.00	1.99	23.60	32.80		3.04	4800.00	1.90	0.30	0.00	135.00	235.00	30.30
27/03/2025	2.83	10.48	3.61	0.00	2.00	23.80	33.80		3.04	4793.00	1.92	0.34	0.00	130.00	225.00	30.50
28/03/2025	2.42	9.57	3.19	0.00	2.10	23.30	33.30		3.04	4855.00	1.85	0.30	0.00	140.00	230.00	30.80
29/03/2025	2.50	10.50	3.65	0.00	2.03	23.50	32.50		3.04	4822.00	1.80	0.32	0.00	130.00	230.00	30.50
31/03/2025	2.56	9.27	3.80	0.00	0.84	24.70	30.80		3.04	4726.00	1.75	0.30	0.00	130.00	225.00	30.80

Controle Estatístico									Comparativo ABNT x MIZU							
						R3	R7	R28								
Média	2.60	9.80	3.40	0.00	2.10	23.90	33.10	42.80	3.00	4786.90	1.80	0.30	0.00	133.90	228.20	29.00
Desvio (P)	0.30	0.80	0.30	0.00	0.30	0.60	0.80	0.60	0.00	54.50	0.10	0.00	0.00	6.40	4.80	5.70
NBR 16697:2018	<8,5	<18,5	<4,5	<5,5	-	>15,0	>25,0	>40,0	-	>2800	-	<10,0	<5,0	<60	-	-

	ABNT	MIZU
R3	15	23.90
R7	25	33.10
R28	40	42.80




Responsável Técnico
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