

TECHNICAL SHEET PSO CMTO CEMENTO PLS BCO 45X45 EXT 2.03

EVALUATED CHARACTERISTICS	TEST METHOD	NORM ISO 13006 REQUIREMENTS (BIIb)	RESULT	CONCLUSION
	DIMENSION	S AND SURFACE QUALITY	Y	
* Length and Width, mm Manufacturing Size: 451.0 mm			(%) (mm)	
Manufacturing Size: 451.0 mm Average Size: 452.2 mm * Thickness, mm	ISO 10545-2	± 0.6%; ± 2.0mm	0.27 1.20	Comply
Manufacturing: 7.5 mm Average result: 7.8 mm	ISO 10545-2	± 5.0%; ± 0.5mm	4.00 0.30	Comply
* Straightness of sides, %	ISO 10545-2	± 0.5%; ± 1.5mm	0.09 0.40	Comply
* Rectangularity, % * Surface flatness	ISO 10545-2	± 0.5%; ± 2.0mm	-0.18 -0.80	Comply
Edge curvature, %		± 0.5%; ± 2.0mm	0.18 0.00 0.80 0.00	Comply
Centre curvature, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.24 0.00 1.50 0.00	Comply
Warpage, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.14 -0.02 0.90 -0.10	Comply
* Surface quality, %	ISO 10545-2	A minimum of 95 % of the tiles are to be free from visible defects which can impair the appearance of a major area of tiles	96.3%	Comply
	PHY	SICAL PROPERTIES		
**************************************	I			I .
* Water absorption (E _v), %	ISO 10545-3	$6 \% < E_v \le 10 \%$ Individual maximum 11 %	6.9 7.0	Comply Comply
* Breaking strength, N (Thickness ≥ 7.5 mm)	ISO 10545-4	Not less than 800	1012	Comply
* Modulus of rupture, N/mm ²	ISO 10545-4	Minimum 18	33	Comply
* Abrasion resistance - CU	ISO 10545-7	Individual minimum 16 Report abrasion class and cycles passed	31 Class 4 Cycles 2100	Comply -
* Crazing resistance	ISO 10545-11	Required	No crazing	Comply
	CHE	MICAL PROPERTIES		
* Desistance to etaining				l
* Resistance to staining - Green Oxide	ISO 10545-14	Minimum class 3	Class 5	Comply
- Iodo	ISO 10545-14	Minimum class 3	Class 5	Comply
- Olive oil	ISO 10545-14	Minimum class 3	Class 5	Comply
Resistance to low concentrations of acids and alkalis	100 10040 14	Will ill fall Class 5	Glass 5	Обтру
3% Hydrochloric Acid (V / V)Potassium hydroxide, 30 g / I		Manufacturer is to state classification	LB LA	-
* Resistance to high concentrations of acids and alkalis	ISO 10545-13		LID	
 18% Hydrochloric Acid (V / V) Potassium hydroxide, 100 g / I * Resistance to household chemicals and swimming pool salts 		Test method available	HB HA	-
Ammonium Chloride 100 g / I Sodium hypochlorite, 20 mg / I	ISO 10545-13	Minimum B	A A	Comply Comply

Requirements verified as indicated in the INTERNATIONAL STANDARD, ISO 13006

Dry-pressed ceramic tiles 6 % < $E_v \le 10$ % Group BII_b

DATE OF ISSUE	Tuesday, November 15, 2022
Prepared by: Quality Supervisor	Reviewed by: Manager Quality Assurance
César Prado R.	Marlene Chauca R.

[&]quot;Ceramic Tiles - Definitions, Classification, Characteristics and marking", Annex k (normative), Table k,1.



TECHNICAL SHEET PSO CMTO CEMENTO PLS GRSPLAT45X45EXT2.03

EVALUATED CHARACTERISTICS	TEST METHOD	NORM ISO 13006 REQUIREMENTS (BIIb)	RESULT	CONCLUSION
	DIMENSION	S AND SURFACE QUALITY	Y	
* Length and Width, mm Manufacturing Size: 451.0 mm			(%) (mm)	
Average Size: 452.2 mm * Thickness, mm	ISO 10545-2	± 0.6%; ± 2.0mm	0.27 1.20	Comply
Manufacturing: 7.5 mm Average result: 7.7 mm	ISO 10545-2	± 5.0%; ± 0.5mm	2.67 0.20	Comply
* Straightness of sides, %	ISO 10545-2	± 0.5%; ± 1.5mm	0.14 0.64	Comply
* Rectangularity, % * Surface flatness	ISO 10545-2	± 0.5%; ± 2.0mm	0.13 0.59	Comply
Edge curvature, %		± 0.5%; ± 2.0mm	0.20 0.00 0.90 0.00	Comply
Centre curvature, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.22 0.00 1.41 0.00	Comply
Warpage, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.15 -0.06 0.93 -0.42	Comply
* Surface quality, %	ISO 10545-2	A minimum of 95 % of the tiles are to be free from visible defects which can impair the appearance of a major area of tiles	96.5%	Comply
	PHY	SICAL PROPERTIES		
	I			
* Water absorption (E _v), %	ISO 10545-3	6 % < E _v ≤ 10 % Individual maximum 11 %	6.8 7.0	Comply Comply
* Breaking strength, N (Thickness ≥ 7.5 mm)	ISO 10545-4	Not less than 800	902	Comply
* Modulus of rupture, N/mm ²	ISO 10545-4	Minimum 18	33	Comply
* Abrasion resistance - CU	ISO 10545-7	Individual minimum 16 Report abrasion class and cycles passed	32 Class 3 Cycles 1500	Comply -
* Crazing resistance	ISO 10545-11	Required	No crazing	Comply
	CHE	MICAL PROPERTIES		<u>'</u>
* Resistance to staining				
- Green Oxide	ISO 10545-14	Minimum class 3	Class 5	Comply
- Iodo	ISO 10545-14	Minimum class 3	Class 5	Comply
- Olive oil	ISO 10545-14	Minimum class 3	Class 5	Comply
Resistance to low concentrations of acids and alkalis	100 10040 14	Will ill fall Class 5	Glass 5	Остру
3% Hydrochloric Acid (V / V)Potassium hydroxide, 30 g / I		Manufacturer is to state classification	LB LB	-
* Resistance to high concentrations of acids and alkalis	ISO 10545-13			
 18% Hydrochloric Acid (V / V) Potassium hydroxide, 100 g / I * Resistance to household chemicals and swimming pool salts 		Test method available	НВ НВ	- -
Ammonium Chloride 100 g / I Sodium hypochlorite, 20 mg / I	ISO 10545-13	Minimum B	A A	Comply Comply

Requirements verified as indicated in the INTERNATIONAL STANDARD, ISO 13006

Dry-pressed ceramic tiles 6 % < $E_v \le 10$ % Group BII_b

DATE OF ISSUE	Tuesday, November 15, 2022
Prepared by: Quality Supervisor	Reviewed by: Manager Quality Assurance
César Prado R.	Marlene Chauca R.

[&]quot;Ceramic Tiles - Definitions, Classification, Characteristics and marking", Annex k (normative), Table k,1.



TECHNICAL SHEET PSO CMTO CEMENTO PLS PERLA 45X45 EXT2.03

NORM ISO 13006				
EVALUATED CHARACTERISTICS	TEST METHOD	REQUIREMENTS (BIIb)	RESULT	CONCLUSION
	DIMENSION	IS AND SURFACE QUALITY	Y	
* Length and Width, mm			(%) (mm)	
Manufacturing Size: 451.0 mm	ISO 10545-2			
Average Size: 451.8 mm	100 100-0 2	± 0.6%; ± 2.0mm	0.18 0.80	Comply
* Thickness, mm				
Manufacturing: 7.5 mm	100 40545 0	5 00% + 0 5	0.07	0
Average result: 7.7 mm * Straightness of sides, %	ISO 10545-2 ISO 10545-2	± 5.0%; ± 0.5mm ± 0.5%; ± 1.5mm	2.67 0.20 0.11 0.51	Comply Comply
* Rectangularity, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.11 0.51	Comply
* Surface flatness	100 100-0 2	10.0%, 12.00000	0.12 0.00	Comply
Edge curvature, %		± 0.5%; ± 2.0mm	0.18 0.00 0.82 0.00	Comply
Centre curvature, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.25 0.00 1.58 0.00	Comply
Warpage, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.14 -0.03 0.91 -0.25	Comply
		A minimum of 95 % of the tiles are		
* Surface quality, %	ISO 10545-2	to be free from visible defects which	97.1%	Comply
Surface quality, 76	100 100-0 2	can impair the appearance of a	37.170	Comply
		major area of tiles		
	PHY	SICAL PROPERTIES		
* Water absorption (E _v), %	ISO 10545-3	6 % < E _v ≤ 10 %	6.8	Comply
, , , , , , , , , , , , , , , , , , ,		Individual maximum 11 %	6.9	Comply
* Breaking strength, N	ISO 10545-4	Not less than 800	877	Comply
(Thickness ≥ 7.5 mm)			-	
* Modulus of rupture, N/mm ²	ISO 10545-4	Minimum 18	32	Comply
* Abrasion resistance - CU	ISO 10545-7	Individual minimum 16 Report abrasion class and cycles	31 Class 3	Comply
, ibrasion residiantes		passed	Cycles 1500	-
* Crazing resistance	ISO 10545-11	Required	No crazing	Comply
	OHE	MICAL PROPERTIES	Ţ.	
	CHE	MICAL PROPERTIES		l
* Resistance to staining				
- Green Oxide	ISO 10545-14	Minimum class 3	Class 5	Comply
- lodo	ISO 10545-14	Minimum class 3	Class 5	Comply
- Olive oil	ISO 10545-14	Minimum class 3	Class 5	Comply
* Resistance to low concentrations of acids and alkalis				
- 3% Hydrochloric Acid (V / V)		Manufacturer is to state	LB	_
- Potassium hydroxide, 30 g / I		classification	LB	-
* Resistance to high concentrations of acids	ISO 10545-13			
and alkalis				
- 18% Hydrochloric Acid (V / V)		Took mother described.	НВ	-
- Potassium hydroxide, 100 g / l		Test method available	HB	-
* Resistance to household chemicals and				
swimming pool salts				
- Ammonium Chloride 100 g / I	ISO 10545-13	Minimum B	A	Comply
- Sodium hypochlorite, 20 mg / I			А	Comply

Requirements verified as indicated in the INTERNATIONAL STANDARD, ISO 13006

"Ceramic Tiles - Definitions, Classification, Characteristics and marking", Annex k (normative), Table k,1.

Dry-pressed ceramic tiles 6 % < $E_v \le 10$ % Group BII_b

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César Prado R.	Marlene Chauca R.



TECHNICAL SHEET PSO CMTO CEMENTO PLS MARR 45X45 EXT 2.03

EVALUATED CHARACTERISTICS	TEST METHOD	NORM ISO 13006 REQUIREMENTS (BIIb)	RESULT	CONCLUSION
	DIMENSION	S AND SURFACE QUALITY	Y	
* Length and Width, mm			(%) (mm)	
Manufacturing Size: 451.0 mm			(70)	
Average Size: 450.5 mm	ISO 10545-2	± 0.6%; ± 2.0mm	-0.11 -0.50	Comply
* Thickness, mm		1 0.070, 1 2.011111	0.11	Comply
Manufacturing: 7.5 mm				
Average result: 7.4 mm	ISO 10545-2	± 5.0%; ± 0.5mm	-1.33 -0.10	Comply
* Straightness of sides, %	ISO 10545-2	± 0.5%; ± 1.5mm	0.20 0.91	Comply
* Rectangularity, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.13 0.51	Comply
* Surface flatness	100 100 10 2	2 0.0 /0, 2 2.011111	0.10	Comply
Edge curvature, %		± 0.5%; ± 2.0mm	0.20 0.00 0.91 0.00	Comply
Centre curvature, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.18 0.00 1.15 0.00	Comply
Warpage, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.15 -0.07 0.93 -0.48	Comply
Waipage, 70	100 10040 2		0.10 0.07 0.30 0.40	Comply
		A minimum of 95 % of the tiles are		
* Surface quality, %	ISO 10545-2	to be free from visible defects which can impair the appearance of a	98.1%	Comply
		major area of tiles		
		ŕ		
	PHY	SICAL PROPERTIES		
* Water absorption (E _v), %	ISO 10545-3	6 % < E _v ≤ 10 %	6.8	Comply
VValor aboorphori (20), 70	100 100 10 0	Individual maximum 11 %	7.0	Comply
* Breaking strength, N	ISO 10545-4			
(Thickness ≥ 7.5 mm)		Not less than 800	835	Comply
* Modulus of rupture, N/mm ²	ISO 10545-4	Minimum 18	32	Comply
•		Individual minimum 16	30	Comply
* Abrasion resistance - CU	ISO 10545-7	Report abrasion class and cycles	Class 2	_
		passed	Cycles 600	
* Crazing resistance	ISO 10545-11	Required	No crazing	Comply
CHEMICAL PROPERTIES				
* Posistance to staining				
* Resistance to staining - Green Oxide	ISO 10545-14	Minimum class 3	Class 5	Comply
	ISO 10545-14	Minimum class 3	Class 5	Comply
- lodo	ISO 10545-14	Minimum class 3		Comply
- Olive oil	150 10545-14	Minimum class 3	Class 5	Comply
* Resistance to low concentrations of acids				
and alkalis		Manufactura is to state	LB	
 3% Hydrochloric Acid (V / V) Potassium hydroxide, 30 g / I 		Manufacturer is to state classification	LB	-
	ISO 10545-13	Classification	LB	-
* Resistance to high concentrations of acids and alkalis	130 10040-13			
18% Hydrochloric Acid (V / V)			НВ	_
Potassium hydroxide, 100 g / I		Test method available	HB	
			טוו	_
* Resistance to household chemicals and				
swimming pool salts			٨	Comply
 Ammonium Chloride 100 g / I Sodium hypochlorite, 20 mg / I 	ISO 10545-13	Minimum B	A A	Comply
- Socialii hypochionte, 20 mg / i			^	Comply

Requirements verified as indicated in the INTERNATIONAL STANDARD, ISO 13006

"Ceramic Tiles - Definitions, Classification, Characteristics and marking", Annex k (normative), Table k,1.

Dry-pressed ceramic tiles 6 % < $E_v \le 10$ % Group BII_b

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César Prado R.	Marlene Chauca R.



TECHNICAL SHEET PSO CMTO CEMENTO PLS GRIS 45X45 EXT 2.03

EVALUATED CHARACTERISTICS	TEST METHOD	NORM ISO 13006 REQUIREMENTS (BIIb)	RESULT	CONCLUSION
	DIMENSION	S AND SURFACE QUALITY	Y	
* Length and Width, mm Manufacturing Size: 451.0 mm			(%) (mm)	
Average Size: 451.5 mm * Thickness, mm	ISO 10545-2	± 0.6%; ± 2.0mm	0.11 0.50	Comply
Manufacturing: 7.5 mm Average result: 7.7 mm	ISO 10545-2	± 5.0%; ± 0.5mm	2.67 0.20	Comply
* Straightness of sides, %	ISO 10545-2	± 0.5%; ± 1.5mm	0.16 0.71	Comply
* Rectangularity, % * Surface flatness	ISO 10545-2	± 0.5%; ± 2.0mm	0.11 0.50	Comply
Edge curvature, %		± 0.5%; ± 2.0mm	0.08 0.00 0.35 0.00	Comply
Centre curvature, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.07 0.00 0.47 0.00	Comply
Warpage, %	ISO 10545-2	± 0.5%; ± 2.0mm	0.14 0.00 0.92 0.00	Comply
* Surface quality, %	ISO 10545-2	A minimum of 95 % of the tiles are to be free from visible defects which can impair the appearance of a major area of tiles	98.1%	Comply
	PHYS	SICAL PROPERTIES		
* M	I			
* Water absorption (E _v), %	ISO 10545-3	$6 \% < E_v \le 10 \%$ Individual maximum 11 %	6.9 7.0	Comply Comply
* Breaking strength, N (Thickness ≥ 7.5 mm)	ISO 10545-4	Not less than 800	837	Comply
* Modulus of rupture, N/mm ²	ISO 10545-4	Minimum 18 Individual minimum 16	32 30	Comply Comply
* Abrasion resistance - CU	ISO 10545-7	Report abrasion class and cycles passed	Class 2 Cycles 600	-
* Crazing resistance	ISO 10545-11	Required	No crazing	Comply
	CHE	MICAL PROPERTIES		•
* Resistance to staining				
- Green Oxide	ISO 10545-14	Minimum class 3	Class 5	Comply
- lodo	ISO 10545-14	Minimum class 3	Class 5	Comply
- Olive oil	ISO 10545-14	Minimum class 3	Class 5	Comply
* Resistance to low concentrations of acids and alkalis				,
3% Hydrochloric Acid (V / V)Potassium hydroxide, 30 g / I		Manufacturer is to state classification	LB LB	-
* Resistance to high concentrations of acids and alkalis	ISO 10545-13			
 18% Hydrochloric Acid (V / V) Potassium hydroxide, 100 g / I * Resistance to household chemicals and swimming pool salts 		Test method available	НВ НВ	- -
Ammonium Chloride 100 g / I Sodium hypochlorite, 20 mg / I	ISO 10545-13	Minimum B	A A	Comply Comply

Requirements verified as indicated in the INTERNATIONAL STANDARD, ISO 13006

Dry-pressed ceramic tiles 6 % < $E_v \le 10$ % Group BII_b

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