
TEST REPORT

1. INFORMATION OF APPLICANT / CLIENT

Name: João Vitor Jucoski Porto

Address: Cerâmica Portinari UI.06

Country: Brazil

City: Criciúma

State: SC

Zip Code: 88812-600

2. SAMPLE INFORMATION ANALYZED

Date Received	Qnt. Samples Tested	Type of Material	Product Identification	Format
21.03.2016	03	Porcelain	CALACATA CLASSICO HD WH ACT BOLD	60X60

3. TEST DONE

ANSI A137.1-2012 Section 9.6.1: "Wet Dynamic Coefficient of Friction (DCOF)"

Informal Test Method Description: This test method covers the measurement of dynamic coefficient of friction of ceramic tile or other surfaces under the wet condition using the BOT 3000 device.

4. RESULTS

ANSI Specification Standard	Results
Wet	Wet
≥0,42	0,29±0,05

ANSI SPECIFICATIONS:

According to the ANSI A137.1 standard for ceramic tile, "Unless otherwise specified, tiles suitable for level interior spaces expected to be walked upon when wet shall have a wet DCOF of 0.42 or greater when tested using SLS solution as per the procedure in section 9.6.1. However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. The specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but not in limitation, type of use, traffic, expected contaminants, expected maintenance, expected wear, and manufacturers' guidelines and recommendations."

CECRISA Revestimentos Cerâmicos S.A.

Rodovia BR 101, nº 2585, KM 392, Vila São Domingos, Criciúma/SC - CEP 88.812-600

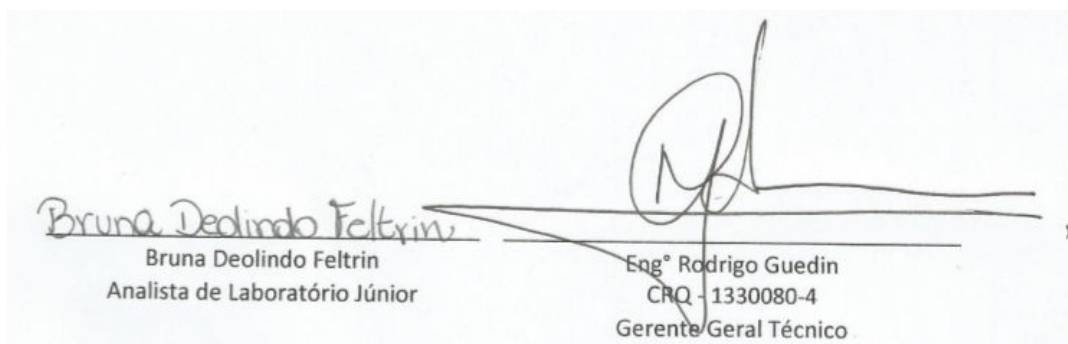
55 (48) 3431-6333 – Home Page: www.cecrisa.com.br – **SACC (0800) 701 7801**

This paragraph is excerpted from Section 6.2.2.1.10 of the standard. For the complete section, including necessary information for specifiers, this section can be viewed and downloaded at no cost at: http://www.tcnatile.com/images/pdfs/COF_excerpt_from_ANSI_A137.1-2012_release_date_November_2012.pdf

5. Terms:

- a. We guarantee the reliability of the results contained in this report.**
- b. The tests were performed and specified according to ANSI A137.1 standards and procedures.**
- c. The results obtained through mathematical calculations are presented with rounded values.**
- d. This report is confidential and has been prepared for the exclusive use of the client. It is not an endorsement, approval, certification, or criticism of any product. This report shall not be published in any form without prior written consent from Cecrisa S.A.**

March 22th, 2016.



Bruna Deolindo Feltrin
Bruna Deolindo Feltrin
Analista de Laboratório Júnior

Engº Rodrigo Guedin
CRQ - 1330080-4
Gerente Geral Técnico

CECRISA Revestimentos Cerâmicos S.A.
Rodovia BR 101, nº 2585, KM 392, Vila São Domingos, Criciúma/SC - CEP 88.812-600
55 (48) 3431-6333 – Home Page: www.cecrisa.com.br – **SACC (0800) 701 7801**

TECHNICAL DETAILS CERTIFICATE

PRODUCT	CALACATA CLASSICO HD WH ACT BOLD
FORMAT	60X60
NOMINAL SIZE	60X60
WORK SIZE	595.0 X 595.0 mm X 9.50 mm
CONTAINS	5 Pieces 1.77 m ² = 19.05 SQFT
GROUP	Bla

Technical Characteristics	ISO	Required	Unit	Cecrisa Specification
Tile size variation in relation to W	10545-2	+/-0.60	%	+/-0.60
Tile size variation in relation to M	10545-2	+/-0.50	%	+/-0.25
Thickness variation	10545-2	+/- 5.0	%	+/- 5.0
Straightness of the sides	10545-2	+/-0.50	%	+0.1/-0.3
Deviation from orthogonality	10545-2	+/-0.60	%	+/-0.4
Central diagonal curvature deviation	10545-2	+/-0.50	%	+0.3/-0.1
Deviation of the curvature of the sides	10545-2	+/-0.50	%	+0.3/-0.1
Bending over diagonal	10545-2	+/-0.50	%	+/-0.30
Quality of surface	10545-2	>=95	%	>=95
Water absorption	10545-3	<=0.5	%	<=0.5
Resistance to bending	10545-4	>=35	N/mm ²	>=40
Breaking Strength	10545-4	>=700	N	>=900
Class of Use *			USO	5
Linear expansion coefficient x 10-6	10545-8	-	C-1	6.3 a 7.0
Thermal shock resistance	10545-9	-	-	OK
Moisture expansion	10545-10	-	mm/m	<=0.6
Grazing resistance	10545-11	Required	-	OK
Resistance to chemicals	10545-13	Min.Class GB	-	GA
Resistance attacks acid/alkaline	10545-13	Specify	-	GLA
Surface resistance to stains	10545-14	Min.Class 3	-	Min.Class 3
Coefficient of friction wet/dry	NBR13818	Specify	-	<0.4/<0.4
Coefficient dry/wet	ASTM1028	Specify	-	
Ice resistance	10545-12	-	-	-
Deep abrasion resistance	10545-6	-	-	-
Changes in hue				V3
DCOF wet	ANSIA137.1-2012	≥0,42		0,30 +/-0,05

*** CLASS OF USE**

- 1 - Use in: Walls.
- 2 - Use in: Bathrooms and residential bedrooms.
- 3 - Use in: Residential dependences without communication with outside.
- 4 - Use in: All residential dependences.
- 5 - Use in: All residential dependences and commercial ambiances with medium traffic.
- 6 - Use in: All residential dependences and commercial ambiances with intense traffic.

Equivalent to:

- PEI 0
- PEI 1
- PEI 2
- PEI 3
- PEI 4
- PEI 5



Rodrigo Pereira Ghedin
Operations Director

TECHNICAL DETAILS CERTIFICATE

PRODUCT	CALACATA CLASSICO HD WH ACT
FORMAT	60X120
NOMINAL SIZE	60X120
WORK SIZE	584.0 X 1170.0 mm X 11.00 mm
CONTAINS	2 Pieces 1.37 m ² = 14.75 SQFT
GROUP	Bla

Technical Characteristics	ISO	Required	Unit	Cecrisa Specification
Tile size variation in relation to W	10545-2	+/-0.60	%	+/-0.60
Tile size variation in relation to M	10545-2	+/-0.50	%	+/-0.10
Thickness variation	10545-2	+/- 5.0	%	+/- 5.0
Straightness of the sides	10545-2	+/-0.50	%	+/-0.10
Deviation from orthogonality	10545-2	+/-0.60	%	+/-0.20
Central diagonal curvature deviation	10545-2	+/-0.50	%	+0.30/-0.10
Deviation of the curvature of the sides	10545-2	+/-0.50	%	+0.30/-0.10
Bending over diagonal	10545-2	+/-0.50	%	+/-0.30
Quality of surface	10545-2	>=95	%	>=95
Water absorption	10545-3	<=0.5	%	<=0.5
Resistance to bending	10545-4	>=35	N/mm ²	>=40
Breaking Strength	10545-4	>=1300	N	>=1700
Class of Use *			USO	5
Linear expansion coefficient x 10-6	10545-8	-	°C-1	6.3 a 7.0
Thermal shock resistance	10545-9	-	-	OK
Moisture expansion	10545-10	-	mm/m	<=0.60
Grazing resistance	10545-11	Required	-	OK
Resistance to chemicals	10545-13	Min.Class GB	-	GA
Resistance attacks acid/alkaline	10545-13	Specify	-	GLA
Surface resistance to stains	10545-14	Min.Class 3	-	Min.Class 3
Coefficient of friction wet/dry	NBR13818	Specify	-	<0.4/<0.4
Coefficient dry/wet	ASTM1028	Specify	-	-
Ice resistance	10545-12	Required	-	OK
Deep abrasion resistance	10545-6	-	-	-
Changes in hue				V3
DCOF wet	ANSIA137.1-2012	≥0,42		0,30 +/-0,05

*** CLASS OF USE**

- 1 - Use in: Walls.
- 2 - Use in: Bathrooms and residential bedrooms.
- 3 - Use in: Residential dependences without communication with outside.
- 4 - Use in: All residential dependences.
- 5 - Use in: All residential dependences and commercial ambiances with medium traffic.
- 6 - Use in: All residential dependences and commercial ambiances with intense traffic.

Equivalent to:

- PEI 0
- PEI 1
- PEI 2
- PEI 3
- PEI 4
- PEI 5



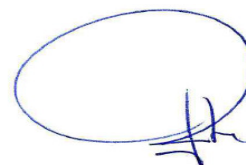
Rodrigo Pereira Ghedin
Operations Director

TECHNICAL DETAILS CERTIFICATE

PRODUCT	CALACATA CLASSICO HD WH ACT
FORMAT	60X60 BOLD
NOMINAL SIZE	59.5 X 59.5
WORK SIZE	595.0 X 595.0 mm X 9.50 mm
CONTAINS	5 Pieces 1.77 m ² = 19.05 SQFT
GROUP	Bla

Technical Characteristics	ISO	Required	Unit	Cecrisa Specification
Tile size variation in relation to W	10545-2	+/-0.60	%	+/-0.60
Tile size variation in relation to M	10545-2	+/-0.50	%	+/-0.25
Thickness variation	10545-2	+/- 5.0	%	+/- 5.0
Straightness of the sides	10545-2	+/-0.50	%	+0.1/-0.3
Deviation from orthogonality	10545-2	+/-0.60	%	+/-0.4
Central diagonal curvature deviation	10545-2	+/-0.50	%	+0.3/-0.1
Deviation of the curvature of the sides	10545-2	+/-0.50	%	+0.3/-0.1
Bending over diagonal	10545-2	+/-0.50	%	+/-0.30
Quality of surface	10545-2	>=95	%	>=95
Water absorption	10545-3	<=0.5	%	<=0.5
Resistance to bending	10545-4	>=35	N/mm ²	>=40
Breaking Strength	10545-4	>=700	N	>=900
Class of Use *			USE	5
Linear expansion coefficient x 10 ⁻⁶	10545-8	-	C-1	6.3 a 7.0
Thermal shock resistance	10545-9	-	-	OK
Moisture expansion	10545-10	-	mm/m	<=0.6
Grazing resistance	10545-11	Required	-	OK
Resistance to chemicals	10545-13	Min.Class GB	-	GA
Resistance attacks acid/alkaline	10545-13	Specify	-	GLA
Surface resistance to stains	10545-14	Min.Class 3	-	Min.Class 3
Coefficient of friction wet/dry	NBR13818	Specify	-	<0.4/<0.4
Coefficient dry/wet	ASTM1028	Specify	-	
Ice resistance	10545-12	-	-	-
Deep abrasion resistance	10545-6	-	-	-
Changes in hue				V3

* CLASS OF USE	Equivalent to:
1 - Use in: Walls.	PEI 0
2 - Use in: Bathrooms and residential bedrooms.	PEI 1
3 - Use in: Residential dependences without communication with outside.	PEI 2
4 - Use in: All residential dependences.	PEI 3
5 - Use in: All residential dependences and commercial ambiances with medium traffic.	PEI 4
6 - Use in: All residential dependences and commercial ambiances with intense traffic.	PEI 5



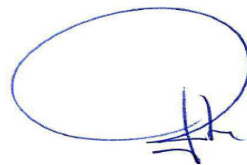
Paulo Cesar Benetton
Operations Director

TECHNICAL DETAILS CERTIFICATE

PRODUCT	CALACATA CLASSICO HD WH ACT
FORMAT	60X120
NOMINAL SIZE	58.4 X 117.0 cm
WORK SIZE	584.0 X 1170.0 mm X 11.00 mm
CONTAINS	2 Pieces 1.37 m2 = 14.75 SQFT
GROUP	Bla

Technical Characteristics	ISO	Required	Unit	Cecrisa Specification
Tile size variation in relation to W	10545-2	+/-0.60	%	+/-0.60
Tile size variation in relation to M	10545-2	+/-0.50	%	+/-0.10
Thickness variation	10545-2	+/- 5.0	%	+/- 5.0
Straightness of the sides	10545-2	+/-0.50	%	+/-0.10
Deviation from orthogonality	10545-2	+/-0.60	%	+/-0.20
Central diagonal curvature deviation	10545-2	+/-0.50	%	+0.30/-0.10
Deviation of the curvature of the sides	10545-2	+/-0.50	%	+0.30/-0.10
Bending over diagonal	10545-2	+/-0.50	%	+/-0.30
Quality of surface	10545-2	>=95	%	>=95
Water absorption	10545-3	<=0.5	%	<=0.5
Resistance to bending	10545-4	>=35	N/mm2	>=40
Breaking Strength	10545-4	>=1300	N	>=1700
Class of Use *			USE	5
Linear expansion coefficient x 10-6	10545-8	-	°C-1	6.3 a 7.0
Thermal shock resistance	10545-9	-	-	OK
Moisture expansion	10545-10	-	mm/m	<=0.60
Grazing resistance	10545-11	Required	-	OK
Resistance to chemicals	10545-13	Min.Class GB	-	GA
Resistance attacks acid/alkaline	10545-13	Specify	-	GLA
Surface resistance to stains	10545-14	Min.Class 3	-	Min.Class 3
Coefficient of friction wet/dry	NBR13818	Specify	-	<0.4/<0.4
Coefficient dry/wet	ASTM1028	Specify	-	-
Ice resistance	10545-12	Required	-	OK
Deep abrasion resistance	10545-6	-	-	-
Changes in hue				V3

* CLASS OF USE	Equivalent to:
1 - Use in: Walls.	PEI 0
2 - Use in: Bathrooms and residential bedrooms.	PEI 1
3 - Use in: Residential dependences without communication with outside.	PEI 2
4 - Use in: All residential dependences.	PEI 3
5 - Use in: All residential dependences and commercial ambiances with medium traffic.	PEI 4
6 - Use in: All residential dependences and commercial ambiances with intense traffic.	PEI 5



Paulo Cesar Benetton
Operations Director