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**TEST REPORT**

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**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

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**2. SAMPLE INFORMATION ANALYZED**

| Date Received | Qty. Samples Tested | Type of Material | Product Identification | Format |
|---------------|---------------------|------------------|------------------------|--------|
| 21.03.2016    | 03                  | Porcelain        | LOFT BK                | 60X60  |

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**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.

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**4. RESULTS**

| ANSI Specification Standard | Results    |
|-----------------------------|------------|
| <b>Wet</b>                  | <b>Wet</b> |
| ≥0,42                       | 0,30±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](http://www.cecrisa.com.br) – **SACC (0800) 701 7801**

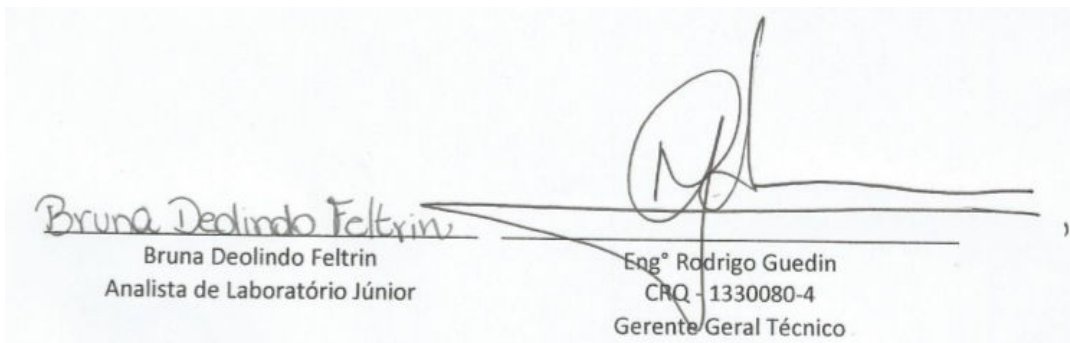
This paragraph is excerpted from Section 6.2.2.1.10 of the standard. For the complete section, including necessary information for specifiers, this section can be viewed and downloaded at no cost at: [http://www.tcnatile.com/images/pdfs/COF\\_excerpt\\_from\\_ANSI\\_A137.1-2012\\_release\\_date\\_November\\_2012.pdf](http://www.tcnatile.com/images/pdfs/COF_excerpt_from_ANSI_A137.1-2012_release_date_November_2012.pdf)

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**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

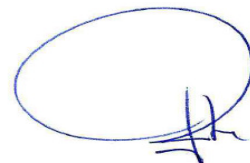
Engº Rodrigo Guedin  
CRQ - 1330080-4  
Gerente Geral Técnico

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT BE BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 59.5X59.5                                 |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality                    | 10545-2  | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                               | 10545-4  | >=1300       | N                 | >=1700                |
| Class of Use *                                  |          |              | USO               | 6                     |
| Linear expansion coefficient x 10 <sup>-6</sup> | 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      | -                 | GLB                   |
| 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     | -                 | -                     |
| Deep abrasion resistance                        | 10545-6  | -            | -                 | -                     |
| Changes in hue                                  |          |              |                   | V2                    |

| * 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      | LOFT BE BOLD                               |
| FORMAT       | 30X60                                      |
| NOMINAL SIZE | 30X60                                      |
| WORK SIZE    | 295.0 X 595.0 mm X 8.50 mm                 |
| CONTAINS     | 10 Pieces 1.76 m <sup>2</sup> = 18.95 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| DCOF wet                                | ANSIA137.1-2012 | ≥0,42        |                   | 0,30 +/-0,05          |

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



**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
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| NOMINAL SIZE | 60X60                                     |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| 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.
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- 4 - Use in: All residential dependences.
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**Equivalent to:**

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



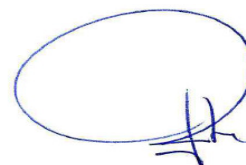
**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |                              |
|--------------|------------------------------|
| PRODUCT      | LOFT BK BOLD                 |
| FORMAT       | 60X60                        |
| NOMINAL SIZE | 59.5X59.5                    |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm   |
| CONTAINS     | 5 Pecas 1.77 m2 = 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      | %     | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2  | +/-0.60      | %     | +/-0.40               |
| 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 *                          |          |              | 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      | -     | GLB                   |
| 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     | -     | -                     |
| Deep abrasion resistance                | 10545-6  | -            | -     | -                     |
| Changes in hue                          |          |              |       | V2                    |

| * CLASS OF USE   | Equivalent to: |
|--|----------------|
| 1 - Use in: Walls.   | PEI 0          |
| 2 - Use in: Bathrooms and residential bedrooms.  | PEI 1          |
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| 6 - Use in: All residential dependences and commercial ambiances with intense traffic. | PEI 5          |



**Paulo Cesar Benetton**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |  |
|--------------|--|
| PRODUCT      | LOFT BK BOLD                               |
| FORMAT       | 30X60                                      |
| NOMINAL SIZE | 30X60                                      |
| WORK SIZE    | 295.0 X 595.0 mm X 8.50 mm                 |
| CONTAINS     | 10 Pieces 1.76 m <sup>2</sup> = 18.95 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| DCOF wet                                | ANSIA137.1-2012 | ≥0,42        |                   | 0,30 +/-0,05          |

**\* CLASS OF USE**

- 1 - Use in: Walls.
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**Equivalent to:**

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



**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
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| GROUP        | Bla                                       |

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| Water absorption                        | 10545-3         | <=0.5        | %                 | <=0.5                 |
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| Class of Use *                          |                 |              | USO               | 5                     |
| Linear expansion coefficient x 10-6     | 10545-8         | -            | C-1               | 6.3 a 7.0             |
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| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| DCOF wet                                | ANSIA137.1-2012 | ≥0,42        |                   | 0,30 +/-0,05          |

**\* CLASS OF USE**

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**Equivalent to:**

- PEI 0
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**Rodrigo Pereira Ghedin**  
Operations Director



## TECHNICAL DETAILS CERTIFICATE

|              |  |
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| FORMAT       | 30X60                                      |
| NOMINAL SIZE | 30X60                                      |
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| GROUP        | Bla  |

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| Thickness variation                     | 10545-2         | +/- 5.0       | %                 | +/- 5.0               |
| Straightness of the sides               | 10545-2         | +/-0.50       | %                 | +0.10/-0.30           |
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| 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 <sup>2</sup> | >=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        | Requerida     | -                 | OK                    |
| Resistance to chemicals                 | 10545-13        | Min.Classe GB | -                 | GA                    |
| Resistance attacks acid/alkaline        | 10545-13        | Especific     | -                 | GLB                   |
| Surface resistance to stains            | 10545-14        | Min.Classe 3  | -                 | Min.Classe 3          |
| Coefficient of friction wet/dry         | NBR13818        | Especificar   | -                 | <0.4/<0.4             |
| Coefficient dry/wet                     | ASTM1028        | Especificar   | -                 | -                     |
| Ice resistance                          | 10545-12        | Requerida     | -                 | OK                    |
| Deep abrasion resistance                | 10545-6         | -             | -                 | -                     |
| Changes in hue                          |                 |               |                   | V2                    |
| 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      | LOFT BW BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 60X60                                     |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=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              | <=0.6                 |
| Grazing resistance                      | 10545-11        | Required     | -                 | OK                    |
| Resistance to chemicals                 | 10545-13        | Min.Class GB | -                 | GA                    |
| Resistance attacks acid/alkaline        | 10545-13        | Specify      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| 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



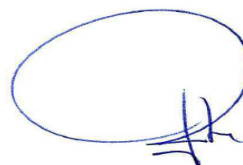
**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT BW BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 59.5X59.5                                 |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2  | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=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              | <=0.6                 |
| Grazing resistance                      | 10545-11 | Required     | -                 | OK                    |
| Resistance to chemicals                 | 10545-13 | Min.Class GB | -                 | GA                    |
| Resistance attacks acid/alkaline        | 10545-13 | Specify      | -                 | GLB                   |
| 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     | -                 | -                     |
| Deep abrasion resistance                | 10545-6  | -            | -                 | -                     |
| Changes in hue                          |          |              |                   | V2                    |

| * 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          |



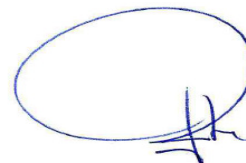
**Paulo Cesar Benetton**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT SGR BOLD                             |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 59.5X59.5                                 |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality                    | 10545-2  | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                               | 10545-4  | >=1300       | N                 | >=1700                |
| Class of Use *                                  |          |              | USO               | 6                     |
| Linear expansion coefficient x 10 <sup>-6</sup> | 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      | -                 | GLB                   |
| 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     | -                 | -                     |
| Deep abrasion resistance                        | 10545-6  | -            | -                 | -                     |
| Changes in hue                                  |          |              |                   | V2                    |

| * 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      | LOFT SGR BOLD                              |
| FORMAT       | 30X60                                      |
| NOMINAL SIZE | 30X60                                      |
| WORK SIZE    | 295.0 X 595.0 mm X 8.50 mm                 |
| CONTAINS     | 10 Pieces 1.76 m <sup>2</sup> = 18.95 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| 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      | LOFT SGR BOLD                             |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 60X60                                     |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| 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



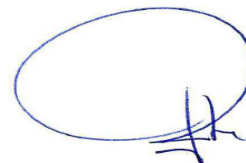
**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT WH BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 59.5X59.5                                 |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality                    | 10545-2  | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                               | 10545-4  | >=1300       | N                 | >=1700                |
| Class of Use *                                  |          |              | USO               | 6                     |
| Linear expansion coefficient x 10 <sup>-6</sup> | 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      | -                 | GLB                   |
| 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     | -                 | -                     |
| Deep abrasion resistance                        | 10545-6  | -            | -                 | -                     |
| Changes in hue                                  |          |              |                   | V2                    |

| * 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          |



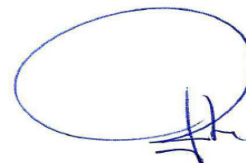
**Paulo Cesar Benetton**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT WH BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 59.5X59.5                                 |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality                    | 10545-2  | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                               | 10545-4  | >=1300       | N                 | >=1700                |
| Class of Use *                                  |          |              | USO               | 6                     |
| Linear expansion coefficient x 10 <sup>-6</sup> | 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      | -                 | GLB                   |
| 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     | -                 | -                     |
| Deep abrasion resistance                        | 10545-6  | -            | -                 | -                     |
| Changes in hue                                  |          |              |                   | V2                    |

| * 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      | LOFT WH BOLD                               |
| FORMAT       | 30X60                                      |
| NOMINAL SIZE | 30X60                                      |
| WORK SIZE    | 295.0 X 595.0 mm X 8.50 mm                 |
| CONTAINS     | 10 Pieces 1.76 m <sup>2</sup> = 18.95 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| DCOF wet                                | ANSIA137.1-2012 | >=0,42       |                   | 0,30 +/-0,05          |

| * 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          |



**Rodrigo Pereira Ghedin**  
Operations Director

## TECHNICAL DETAILS CERTIFICATE

|              |   |
|--------------|---|
| PRODUCT      | LOFT WH BOLD                              |
| FORMAT       | 60X60                                     |
| NOMINAL SIZE | 60X60                                     |
| WORK SIZE    | 595.0 X 595.0 mm X 9.50 mm                |
| CONTAINS     | 5 Pieces 1.77 m <sup>2</sup> = 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      | %                 | +0.10/-0.30           |
| Deviation from orthogonality            | 10545-2         | +/-0.60      | %                 | +/-0.40               |
| 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 <sup>2</sup> | >=40                  |
| Breaking Strength                       | 10545-4         | >=1300       | N                 | >=1700                |
| Class of Use *                          |                 |              | USO               | 6                     |
| 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      | -                 | GLB                   |
| 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                          |                 |              |                   | V2                    |
| 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