

TECHNICAL CHARACTERISTICS OF PRODUCT

The characteristics of the product specified in this technical report meet the specification and test methods according to norm NBR 13818 and ISO 13006 requirements.

PRODUCT SPECIFICATION

Reference	METRO BLACK 10X20
Product Code	190420
Nominal Size (N)	10 cm x 20 cm
Work Size (W)	100,0 mm x 200,0 mm
Thickness	7,7 mm
Water Absorption	BIII (> 10,0%)
Shade Variation	V1
Application Joint	2,0 mm
Coverage Area	1,00 m ² /cx
Number of pieces per box	50

DIMENSIONAL CHARACTERISTICS

Deviation on W in relation to N	± 2,00 (max. ±5,0 mm)		
Deviation on r1 in relation to W	± 0,75mm	± 0,50%	(max. ±2,0 mm) ¹
Deviation on e in relation to eW	± 0,50 mm	± 10,0%	(max. ±0,5 mm) ¹
Wedging of size - deviation in relation to W	± 0,50 mm	± 0,30%	(max. ±1,5 mm) ¹
Rectangularity - deviation in relation to W	± 0,75 mm	± 0,50%	(max. ±2,0 mm) ¹
Edge curvature - deviation in relation to W	-0,50 / + 0,75 mm	-0,30 / +0,50% (max. -1,50 / +2,0mm) ¹	
Center Curvature - deviation in relation to W	-0,50 / + 0,75 mm		
Warpage - deviation in relation to W	± 0,75 mm		

¹ Specifications for the side length

Definition - Dimensional Characteristics

Wedging of size: occurs when the sides of the piece show a curvature either concave or convex.

Rectangularity: identifies if the tile is set square or not.

Edge curvature: occurs when one of the sides of the piece presents curvature, compared to the standard piece.

Center curvature: occurs when the center of the piece presents curvature, compared to the standard piece.

Warpage: is the difference of one of the four sides (end) related to the three sides leaned on the equipment, compared to the standard piece.

N - Nominal size (cm).

W - Work size (mm).

r - Average size of one piece (average of two sides if rectangular format and four sides when square format).

R - Average size of 10 pieces (average of two sides if rectangular format and four sides when square format).

PHYSICAL PROPERTIES

Flexion resistance (N/mm ²)	≥ 12
Breaking strength (N)	≥ 600
Moisture expansion (mm/m)	≤ 0,60
Crazing resistance	Guaranteed

CHEMICAL PROPERTIES

Resistance to household chemicals and swimming pool salts - Ammonium Chloride 100g/L	≥GB
Resistance to household chemicals and swimming pool water - Sodium Hypochlorite 20mg	≥GB
Acid - low concentration - chloridric acid 3%	≥GLB
Acid - low concentration - citric acid 100g/L	≥GLB
Alkalis - low concentration - potassium hydroxide 30g/L	≥GLB
Resistance to staining - Green Chrome (40% in oil)	≥Class 3
Resistance to staining - Olive Oil	≥Class 3
Resistance to staining - Alcohol iodine (13g / L)	≥Class 3

Definition - Chemical Resistance

Codes of classification: XYZ (Ex: GHA)

X – One letter: G or U, glazed or unglazed

Y – One letter: H or L, high or low concentration

Z – One letter: Chemical resistance class:

A = High

B = Medium

C = Low

Definition - Resistance to Stain

Class 5 - The stain can be removed easily.

Class 4 - The stain can be removed with a light chemical product.

Class 3 - The stain can be removed with a strong chemical product.

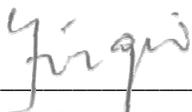
Class 2 - The stain can be removed with solvent.

Class 1 - The stain can not be removed.

Attention:

- Sand may produce scratches on any type of surface covering (stone, wood, vinyl or ceramic tiles). Therefore, ceramic tiles are not warranted against scratches, especially concerning glossy surface products.
- Special care is recommended during the application and its use
- In residential areas, we recommend to protect the base of furniture and appliances.
- Product manufactured by the wet process.
- Product with Class I combustibility, according to NBR 15575.

September 01, 2017
Cocal do Sul – SC – Brazil


Sergio Pereira Ruzza
Gerente de Tecnologia Cerâmica


Angela Waterkemper Vieira
Analista Desenvolvimento de Processos