

## Tender specifications / BIOARCH collection

Supply of Panaria Ceramica porcelain stoneware tiles for walls and floors.

### Product characteristics

Panaria Ceramica full body porcelain stoneware tiles, unglazed, composed of a very fine mixture of quality clay with the addition of feldspar, quartz and kaolin, manufactured by dry pressing of atomized powders and subsequently sintered by industrial firing at temperatures above 1200°C.

The complete vitrification of the tiles allows for a compact, non-absorbent, frost-proof product, resistant to bending, impacts, staining, chemical attack and thermal shock.

### Compliance with EN 14411-G / ISO 13006-G

The Bioarch collection is in compliance with the regulations required for first quality products in Italy and Europe UNI EN 14411-G and internationally through ISO 13006-G.

### Quality and environmental certifications

The conservation of the product characteristics is guaranteed by the Quality Management System put into practice by Panaria Ceramica in its plants and certified in accordance with UNI EN ISO 9001.

The collection is manufactured in plants with UNI EN ISO 14001 certified Environmental Management Systems (internationally recognized standard) and EMAS (Regulation CE 1221/09 - eco-management and audit community system).

The collection helps to meet the criteria for obtaining LEED credits. The content of "pre-consumer" recycled material is 40%, as certified by a qualified external body (LEED V4 Regulations - MR Credit). The product contains no VOC (volatile organic compounds) and got the GREENGUARD GOLD certification. The Environmental Product Declaration (EPD) is available, this tool communicates clearly the environmental performances of the Bioarch collection based on its Life Cycle Assessment (LCA).

Commercial description of the product			
Company	PANARIA CERAMICA (Panariagroup Industrie Ceramiche S.p.A.)		
Collection	BIOARCH		
Colours	BARGE GIALLA, BARGE GRIGIA,		
Sizes	20X20 cm STRUTTURATO	15X60 cm RECT SPAZZOLATA	60X60 cm-20 mm RECT STRUTTURATO
	20X30,5 cm STRUTTURATO	30X60 cm RECT SPAZZOLATA	60,3X60,3 cm-20 mm STRUTTURATO
	20X41 cm STRUTTURATO	60X60 cm RECT SPAZZOLATA	
	30X60,3 cm STRUTTURATO	60,3X60,3 cm SPAZZOLATA	
Surfaces	STRUTTURATO, SPAZZOLATA		
Edges	RECTIFIED (RECT), NOT RECTIFIED		
Thickness	9mm – 9,5mm - 12mm – 20mm		



ISO 9001



ISO 14001



EMAS



RECYCLED MATERIALS



GREENGUARD GOLD



EPD



LEED



LEED



CE MARK



MADE IN ITALY

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### Technical features

Product type: full body porcelain stoneware (UGL)

According to: ISO 13006-G (Group Bla), EN 14411-G (Group Bla)

Technical features		Test method	Required values - ISO 13006-G / EN 14411-G - Bla-UGL Group	Average values BIOARCH
Water absorption		ISO 10545-3	≤ 0,5 %	0,05 %
Breaking strength (S)		ISO 10545-4	≥ 1300 N	Thickness 9mm: 1800 N Thickness 9,5mm: 2200 N Thickness 12mm: 3500 N Thickness 20 mm: 13600 N
Modulus of rupture		ISO 10545-4	≥ 35 N/mm <sup>2</sup>	50 N/mm <sup>2</sup>
Deep abrasion resistance		ISO 10545-6	≤ 175mm <sup>3</sup>	145mm <sup>3</sup>
Linear thermal expansion		ISO 10545-8	No provision	$\alpha \leq 7 \cdot 10^{-6} \text{ } ^\circ\text{C}^{-1}$
Stain resistance		ISO 10545-14	Class 3 Min.	5 RESISTANT
Chemical resistance (*)		ISO 10545-13	As indicated by manufacturer	LA, HA RESISTANT
Frost resistance		ISO 10545-12	No alteration	RESISTANT
Dimensions	Lenght and width	ISO 10545-2	RECT ± 0,3 %, max ± 1 mm	COMPLIANT
			± 0,6 %, max ± 2 mm	
	Straightness of sides	ISO 10545-2	RECT ± 0,3 %, max ± 0,8 mm	COMPLIANT
			± 0,5 %, max ± 1,5 mm	
	Rectangularity	ISO 10545-2	RECT ± 0,3 %, max ± 1,5 mm	COMPLIANT
	± 0,5 %, max ± 2 mm			
Warpage	ISO 10545-2	RECT ± 0,4 %, max ± 1,8 mm	COMPLIANT	
		± 0,5 %, max ± 2 mm		
Thickness	ISO 10545-2	± 5 % ± 0,5mm		COMPLIANT
Slip resistance		DIN 51130	-	R11 (Strutturato - 20mm) R10 (Spazzolata)
		DIN 51097	-	A+B+C (Strutturato - 20mm) A (Spazzolata)
		BCR-TORTUS	-	μ > 0,40
		ANSI A326.3	-	DCOF ≥ 0.42
		BS 7976-2	-	36+ (Strutturato - 20mm)
Shade variation		ANSI A137.1	As indicated by manufacturer	V4 (Strutturato) V3 (Spazzolata - 20mm)
Fire reaction		EN 13823	CPR (UE) 305/2011, 2000/147/CE, UNI EN 13501-1	Class A1 (wall)
		EN 9239-1		Class A1 <sub>fl</sub> (floor)
Thermal conductivity		EN 12524	-	λ = 1,3 W/m °K
Recommended minimum joint (**)		Indoor (Spazzolata)	-	2mm (RECT) 3-4mm APPROX (NOT RECT)
		Outdoor (Naturale)	-	5-6mm APPROX

(\*) Excluding hydrofluoric acid and its derivatives.

(\*\*) The width of grout joints must be established by the installation supervisor, unless grout widths are regulated by national laying standards.