



Tender specifications FRAME collection

Supply of Fiordo porcelain stoneware tiles for walls and floors.

Product characteristics

Fiordo 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 Frame 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 Fiordo 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 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). The Environmental Product Declaration (EPD) is available, this tool communicates clearly the environmental performances of the Frame collection based on its Life Cycle Assessment (LCA).

Commercial description of the product		
Company	FIORDO INDUSTRIE CERAMICHE (Panariagroup Industrie Ceramiche S.p.A.)	
Collection	FRAME	
Colours	GLEN, RIVER, PEAK, GROOVE	
Sizes	30X60cm RECT	60X60cm RECT STRUTTURATO
	60X60cm RECT	60X60cm RECT 20mm STRUTTURATO
	45X90cm RECT	60,3X60,3cm 20mm STRUTTURATO
	60,3X60,3cm	45X90cm RECT 20mm STRUTTURATO
	30X60cm RECT STRUTTURATO	
Surfaces	NATURALE, STRUTTURATO	
Edges	RECTIFIED (RECT)	
Thickness	10 mm – 20 mm	



EMAS



ISO 14001



LEED



LEED



LEED



ISO 9001



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 FRAME
Water absorption		ISO 10545-3	≤ 0,5 %	0,05 %
Breaking strength (S)		ISO 10545-4	≥ 1300 N	2500 N – thickness 10mm 13600 N – thickness 20mm
Modulus of rupture		ISO 10545-4	≥ 35 N/mm ²	50 N/mm ²
Deep abrasion resistance		ISO 10545-6	≤ 175mm ³	145mm ³
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	± 0,6 % ± 2mm	COMPLIANT
	Straightness of sides	ISO 10545-2	± 0,5 % ± 1,5mm	COMPLIANT
	Rectangularity	ISO 10545-2	± 0,5 % ± 2mm	COMPLIANT
	Warpage	ISO 10545-2	± 0,5 % ± 2mm	COMPLIANT
	Thickness	ISO 10545-2	± 5 % ± 0,5mm	COMPLIANT
Slip resistance		DIN 51130	-	R10 (NATURALE) R11 (STRUTTURATO, 20mm)
		DIN 51097	-	A+B (NATURALE) A+B+C (STRUTTURATO, 20mm)
		BCR-TORTUS	-	$\mu > 0,40$
		ANSI A326.3	-	DCOF ≥ 0.42
	AS 4586:2013	-	P3 (NATURALE) P4 (STRUTTURATO, 20mm)	
	BS 7976:2002	-	PTV 36+Wet (Sl. 96) (NATURALE) PTV 36+Wet (Sl. 55) (STRUTTURATO, 20mm)	
Shade variation	ANSI A137.1	As indicated by manufacturer	V2	
Fire reaction	EN 13823	CPR (UE) 305/2011, 2000/147/CE, UNI EN 13501-1	Class A1 (wall)	
	EN 9239-1		Class A1 _f (floor)	
Thermal conductivity	EN 12524	-	$\lambda = 1,3 \text{ W/m } ^\circ\text{K}$	
Recommended minimum joint (**)	Indoor	-	2mm (RECT) 3-4mm approx (NOT RECT)	
	Outdoor	-	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.



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