

## Tender specifications

### LIMESTONE KERLITE 5plus collection

Supply of ceramic tiles made of Cotto d'Este Kerlite laminated porcelain tile for floors and walls.

#### Product characteristics

Cotto d'Este Kerlite laminated porcelain tiles, produced in a maximum size of 3000x1000 mm and 5mm thick, reinforced with fibreglass mesh, obtained from raw materials of the highest quality and purity (light clay, feldspar and ceramic pigments with high chromatic performance), and manufactured by dry pressing on a belt of atomized powder, subsequently sintered by means of industrial firing at temperatures exceeding 1200 °C.

The innovative Kerlite manufacturing process produces a final product which is light, flat and flexible, but at the same time compact, non-absorbent, frost-resistant, resistant to stains, chemical attack and thermal shock. The application of the fibreglass mesh gives the product high resistance and extreme versatility and ease of use for a wide range of applications in the architectural world.

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

The Limestone Kerlite 5plus 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 Cotto d'Este 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 recognised standard) and EMAS (Regulation 1221/09 - eco-management and audit community system).

The collection helps to meet the criteria for obtaining LEED credits. The product contains no VOC (volatile organic compounds) and has obtained the GREENGUARD GOLD certification. The Environmental Product Declaration (EPD) is available, this tool communicates clearly the environmental performances of the Limestone Kerlite 5plus collection based on its Life Cycle Assessment (LCA).

#### Antibacterial properties

Thanks to Protect antibacterial technology, the tiles from the Limestone Kerlite 5plus collection have continuous, effective and durable protection against the proliferation of bacteria, tested and certified in accordance with ISO 22196 and ASTM E3031

Commercial description of the product	
Company	COTTO D'ESTE (Panariagroup Industrie Ceramiche S.p.A.)
Collection	LIMESTONE KERLITE 5plus
Colours	CLAY, AMBER, OYSTER, SLATE
Sizes	50X100cm
	100X100cm
	100x250cm
	100X300cm
Surfaces	NATURAL
Edges	RECTIFIED
Thickness	5,5mm

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#### Technical features

Product type: laminated 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	Average values LIMESTONE KERLITE 5plus
Water absorption		ISO 10545-3	≤ 0,5 %	0,1 (*) %
Modulus of rupture		ISO 10545-4	≥ 35 N/mm <sup>2</sup>	50 N/mm <sup>2</sup>
Deep abrasion resistance		ISO 10545-6	≤ 175 mm <sup>3</sup>	175mm <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	± 0,3 %, max ± 1 mm	COMPLIANT
	Straightness of sides	ISO 10545-2	± 0,3 %, max ± 0,8 mm	COMPLIANT
	Rectangularity	ISO 10545-2	± 0,3 %, max ± 1,5 mm	COMPLIANT
	Warpage	ISO 10545-2	± 0,4 %, max ± 1,8 mm	COMPLIANT
	Thickness	ISO 10545-2	± 5 %, max ± 0,5 mm	COMPLIANT
Slip resistance		DIN 51130	-	R10
		DIN 51097	-	A+B
		BCR-TORTUS	-	$\mu > 0,40$
		ANSI A326.3	-	DCOF ≥ 0.42
		BS 7976-2	-	PTV 36+ wet SI.96
		UNE 41901 EX	-	Clase 2
Shade variation		ANSI A 137.1	As indicated by manufacturer	V2
Fire reaction		EN 13823	CPR (UE) 305/2011, 2000/147/CE, UNI EN 13501-1	Class A2-s1,d0 (wall)
		EN 9239-1		Class A2fl-s1 (floor)
Thermal conductivity		EN 12524	-	$\lambda = 1,3 \text{ W/m } ^\circ\text{K}$
Recommended minimum joint (***)		Indoor	-	1mm (wall) 2mm (floor)

(\*) Average value referred to ceramic material only.

(\*\*) 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.