

PRODUCT CERTIFICATE

Finished Product Laboratory

ISO 13006-10545

Equivalent to the Brazilian Norm NBR 15463/NBR 13818

Dry-pressed ceramic tiles with low water absorption $E_b \leq 0,1\%$

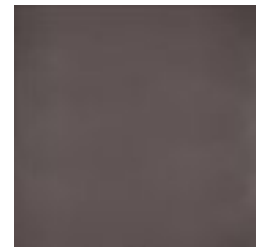
PRODUCT: MINERAL GRAFITE 90X90 Polish Rectified

TIPOLOGY: TECHINICAL PORCELAIN TILE

SIZE: 90X90

CODE: 29258E

LINE: MINERAL



Characteristics	Test as per	Results
Physical		
Water Absorption (%E)	ISO 10545-3 NBR 13818 - annex: B ($E \leq 0,1\%$)	0,1
Modulus of Breaking Strength (MPa)	ISO 10545-4 NBR 13818 - annex: C (NBR 15463 Average: ≥ 45)	45
Breaking Load (N)	ISO 10545-4 NBR 13818 - annex: C (NBR 15463 Average: ≥ 1800)	1800
Moisture Expansion (mm/m)	ISO 10545- 10 NBR 13818 - annex: J	0,1
Resistance to Deep Abrasion (mm ³)	ISO 10545-6 NBR 13818 - annex: E (≤ 175)	140
Crazing Resistance	ISO 10545-11 NBR 13818 - annex: F	Resist
Frost Resistance	ISO 10545-12 NBR 13818 - annex: M	Resist
Resistance to Thermal Shock	ISO 10545-9 NBR 13818 - annex: L	Resist
Chemical		
Resistance to Stains		
Green staining agent in light oil	ISO 10545-14 NBR 13818 - annex: G (Minimum: 3)	5
Red staining agent in light oil		5
Olive Oil		5
Chemical Resistance		
Hydrochloric Acid 3% (v/v)	ISO 10545-13 NBR 13818 - annex: H (Minimum: B)	A
Potassium Hydroxide 30g/L		A
Citric Acid 100g/L		A
Lactic Acid 5% (v/v)		A
Hydrochloric Acid 18% (v/v)		A
Potassium Hydroxide 100g/L		A
Ammonium Chloride 100g/L		A
Sodium Hypochloride 20mg/L		A

Coefficient of Friction

Dry Surface	NBR 13818 - annex: N Method: TORTUS III (Value \geq 0,4)	0,3
Wet Surface		0,3
Wet Surface	ANSI A137. Section 9.6 (Minimum Average Value 0,42)	0,4

Local of Use

IU - Industrial and Urban | RE - Residential | FA - Facade

Recommendation for Application

For information on application recommendations, refer to the virtual specifier: <http://especificadorvirtual.portobello.com.br>
Tijucas, 21/10/2020

Portobello



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