

# 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  $E_b \leq 0,5\%$

**PRODUCT:** NORD CEMENT 90X90 Natural  
Rectified

**PRODUCT:** PORCELAIN TILE

**SIZE:** 90X90

**SIZE:** 27028E

**LINE:** NORD



Characteristics	Test as per	Results
<b>Physical</b>		
Water Absorption (%E)	ISO 10545-3 NBR 13818 - annex: B ( $E \leq 0,5\%$ )	0,5
Modulus of Breaking Strength (MPa)	ISO 10545-4 NBR 13818 - annex: C (NBR 15463 Average: $\geq 37$ )	37
Breaking Load (N)	ISO 10545-4 NBR 13818 - annex: C (NBR 15463 Average: $\geq 1500$ )	1800
Moisture Expansion (mm/m)	ISO 10545- 10 NBR 13818 - annex: J	0,1
Resistance to Deep Abrasion (mm <sup>3</sup> )	NA	NA
Crazing Resistance	ISO 10545-11 NBR 13818 - annex: F	Resist
Resistance to Thermal Shock	ISO 10545-9 NBR 13818 - annex: L	Resist
<b>Chemical</b>		
<b>Resistance to Stains</b>		
Green staining agent in light oil		5
Red staining agent in light oil	ISO 10545-14 NBR 13818 - annex: G (Minimum: 3)	5
Iodine		5
Olive Oil		5
<b>Chemical Resistance</b>		
Hydrochloric Acid 3% (v/v)		A
Potassium Hydroxide 30g/L		B
Citric Acid 100g/L		A
Lactic Acid 5% (v/v)	ISO 10545-13 NBR 13818 - annex: H (Minimum: B)	A
Hydrochloric Acid 18% (v/v)		A
Potassium Hydroxide 100g/L		B
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 )	0,5
Wet Surface		0,4
Wet Surface	ANSI A137. Section 9.6 (Minimum Average Value 0,42)	0,6

## Local of Use

HC - Heavy Commercial | RE - Residential | FA - Facade

## Recommendation for Application

For information on application recommendations, refer to the virtual specifier: <http://especificadorvirtual.portobello.com.br>  
Tijucas, 24/10/2018

# Portobello



2e23dbcb39c8a2fc037cad9fe58263050a2aa5ed

Portobello SA - Factory | contato@portobello.com.br | SAC: 800 648 2002 | BR 101 - Km 163 - PO Box 15 - Tijucas/SC - Brazil - 88200-000