

**POLAR
BLACK**

FULL BODY PORCELAIN TILE

CREATED BY NIRO GRANITE

POLAR BLACK

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“

Polar Black is the soul of black granite where its original roots from India, home of the historic trade routes, as well as, vast culture. Polar Black with its full body porcelain, peaks of its excellent quality that carries an elegant look on the matt and structured surfaces, beautifies the environment in your home and office surroundings and gives the absolute touches of harmony. It has light veins of pearly white which creates a distinctive look and preciousness to the final touch. Available in two sizes of 60 x 30 cm and 60 x 60 cm, and 5 simple and natural colour tones.

”

POLAR BLACK ■



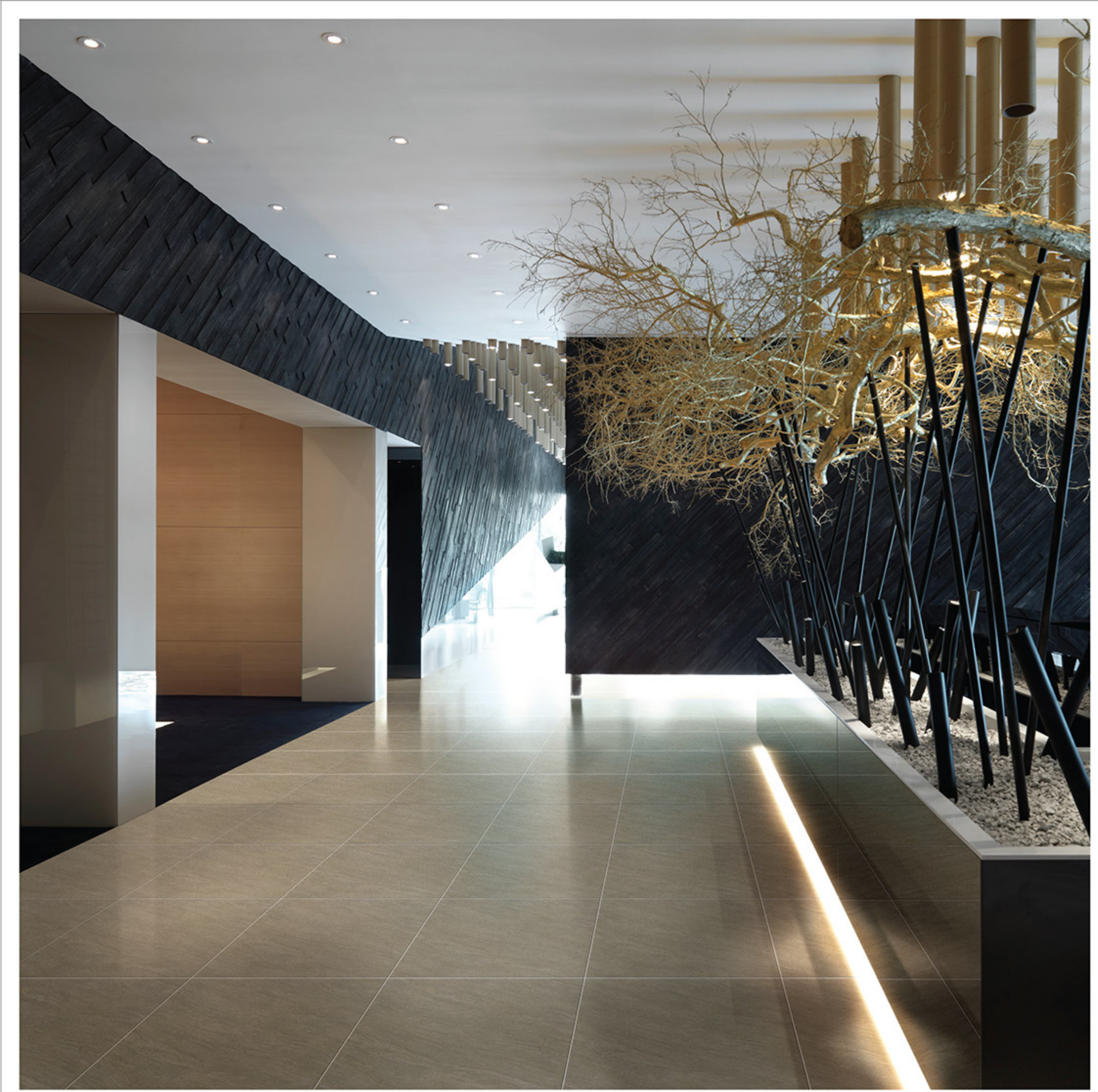
**POLAR
BLACK**

GPB01 | FOG

MATT SURFACE

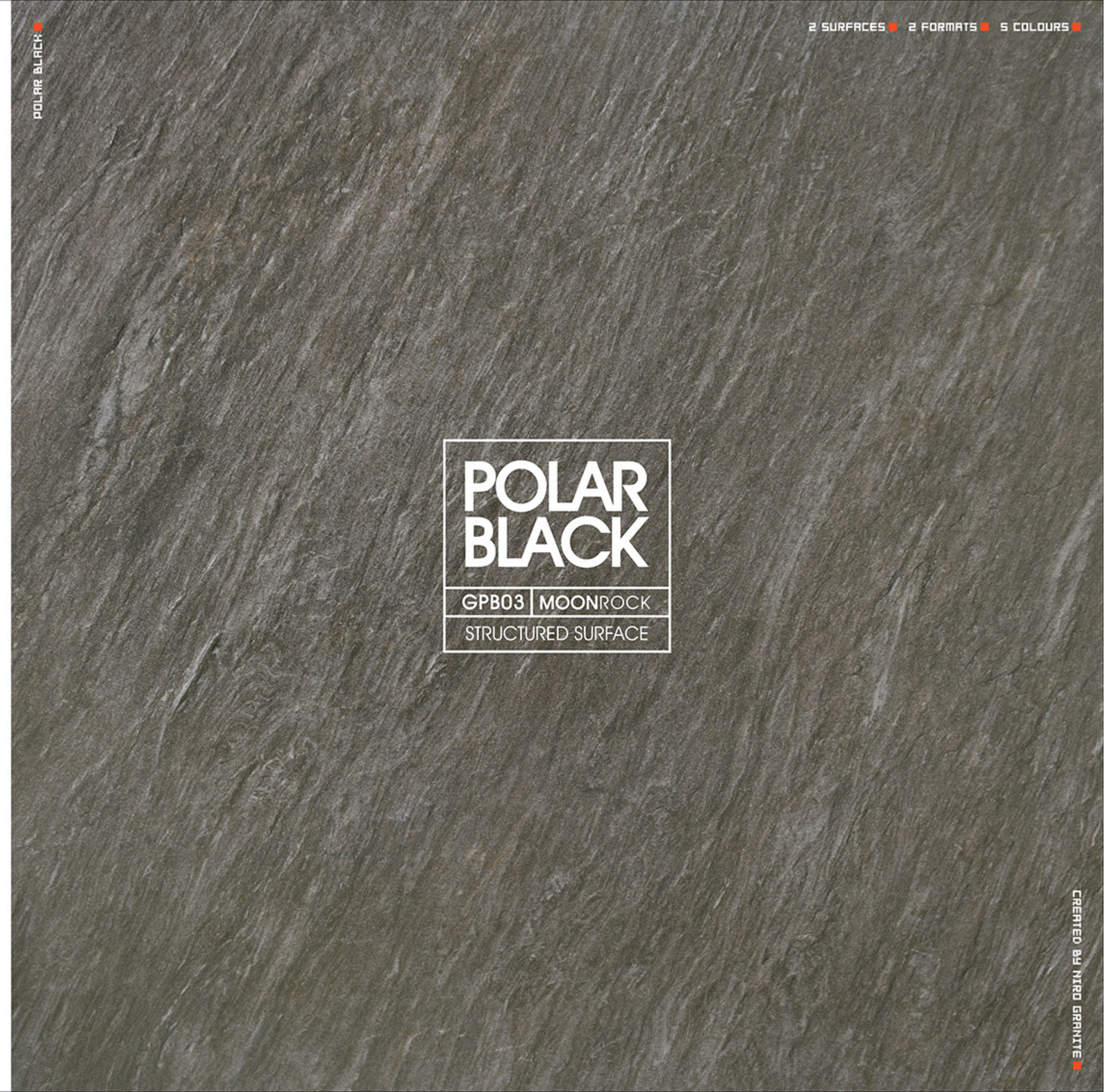
POLAR BLACK

**POLAR
BLACK**
GPB02 | COBBLESTONE
MATT SURFACE



POLAR BLACK

**POLAR
BLACK**
GPB03 | MOONROCK
STRUCTURED SURFACE





**POLAR
BLACK**

GPB04 | FROST

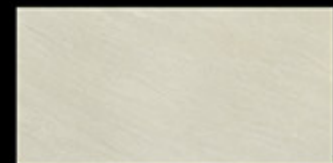
STRUCTURED SURFACE

POLAR BLACK ■

**POLAR
BLACK**
GPB05 | CASTLEROCK
MATT SURFACE



GPB01 FOG



Matt 60cm x 30cm

GPB02 COBBLE STONE



Matt 60cm x 30cm

GPB03 MOON ROCK



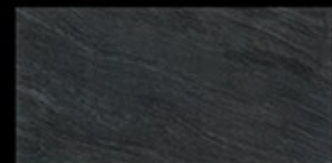
Matt 60cm x 30cm

GPB04 FROST



Matt 60cm x 30cm

GPB05 CASTLE ROCK



Matt 60cm x 30cm



Structured 60cm x 30cm



Structured 60cm x 30cm



Structured 60cm x 30cm



Structured 60cm x 30cm



Structured 60cm x 30cm



Matt 60cm x 60cm



Matt 60cm x 60cm



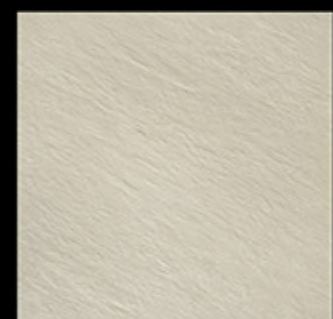
Matt 60cm x 60cm



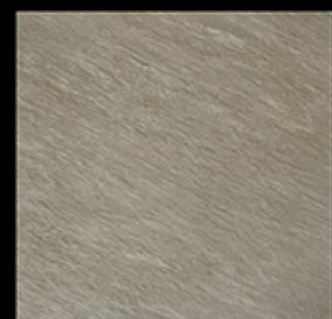
Matt 60cm x 60cm



Matt 60cm x 60cm



Structured 60cm x 60cm



Structured 60cm x 60cm



Structured 60cm x 60cm



Structured 60cm x 60cm



Structured 60cm x 60cm



Mosaico 60cm x 30cm



Mosaico 60cm x 30cm



Mosaico 60cm x 30cm



Mosaico 60cm x 30cm



Mosaico 60cm x 30cm



Mosaico A 60cm x 30cm



Mosaico B 60cm x 30cm



TECHNICAL SPECIFICATIONS

Description	Standard Test	Measurement Unit	ISO Standard Requirement	NIRO GRANITE
Length & Width	MS ISO 10545 - 2	mm	± 0.5% Max	± 0.25% Max
Thickness	MS ISO 10545 - 2	mm	± 5.0% Max	± 2.50% Max
Sides Straightness	MS ISO 10545 - 2	mm	± 0.5% Max	± 0.25% Max
Rectangularity	MS ISO 10545 - 2	mm	± 0.6% Max	± 0.30% Max
Flatness: a) Centre Curvature b) Edge Curvature c) Warpage	MS ISO 10545 - 2 MS ISO 10545 - 2 MS ISO 10545 - 2	mm mm mm	± 0.5% Max ± 0.5% Max ± 0.5% Max	± 0.25% Max ± 0.25% Max ± 0.25% Max
Surface Quality	MS ISO 10545 - 2	One major area of tiles	≥ 95% free from visible defect	Comply
Water Absorption	MS ISO 10545 - 3	Mass	≤ 0.5%	≤ 0.25% Max
Modulus of Rupture	MS ISO 10545 - 4	N/mm2	≥ 35 N/mm2	≥ 35 N/mm2
Deep Abrasion	MS ISO 10545 - 6	mm3	≤ 175 mm3	≤ 160 mm3
Surface Abrasion PEI ASTM C1027	MS ISO 10545 - 7	Visual Check	Manuf. to State Abrasion Class, Cycle Passed	Min PEI 3
Crazing Test	MS ISO 10545 - 11	Visual Check	Not Applicable for porcelain tiles	Not Applicable
Frost Resistance	MS ISO 10545 - 12	Visual Check	Required	No Visible Crack
Chemical Resistance (Low Cons.)	MS ISO 10545 - 13	Visual Check	Manuf. to State	Max Visible Change On Cut Side
Chemical Resistance (Household/Swimming Pool)	MS ISO 10545 - 13	Visual Check	Max Visible Change On Cut Side	Max Visible Change On Cut Side
Stain Resistance	MS ISO 10545 - 14	Visual Check	Class 3 Min	Class 3 Min
Coefficient of Friction AS/NZS 4586-1999 App.D.	MS ISO 10545 - 17	Manuf. to State	Manuf. to State	Oil /Wet Ramp (R9 Min)





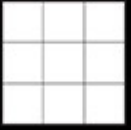
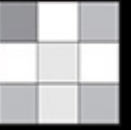

Each different tiles series are produced to meet different performance requirements. For specific product technical performance, please request from Niro Granite sales team or their agent or distributor.

Colour Variations: Since the colour reproduction in this printed piece will vary from the actual tile colours, final selection should be made from tile samples. Colour, shade and glaze variations may exist due to the inherent characteristics of porcelain tile.



Due to the low porosity of porcelain tiles, an Improved High Performance Cementitious adhesive in accordance to BS EN 12004 & ISO 13007-1 is highly recommended for proper installation. Products that meet this standard are available amongst leading adhesive manufacturers. Please seek expert advice from adhesive manufacturers for proper selection and application.

SHADE AND TONALITIES

 UNIFORM FROM TILE TO TILE	 SLIGHTLY NOTICEABLE FROM TILE TO TILE	 MODERATELY NOTICEABLE FROM TILE TO TILE	 DISTINCTLY NOTICEABLE FROM TILE TO TILE
 V1 Uniform from tile to tile The range of colours and tones within the same shade is relatively uniform from tile to tile. Minimal to no difference among pieces from the same production run.	 V2 Slightly noticeable from tile to tile The range of colours and tones within the same shade is slightly noticeable from tile to tile. Clearly distinguishable differences in design or pattern with similar or slight change in colour tones.	 V3 Moderately noticeable from tile to tile The range of colours and tones within the same shade is moderately noticeable from tile to tile. Clearly distinguishable differences in design or pattern.	 V4 Distinctly noticeable from tile to tile The range of colours and tones within the same shade is distinctly different from tile to tile. Random colour differences from tile to tile, so that one tile may have totally different colour from that on other tiles. Final installation can be unique.



www.nirogranite.com.my