

# HARDROCK

THE EXALTED STONE DESIGN



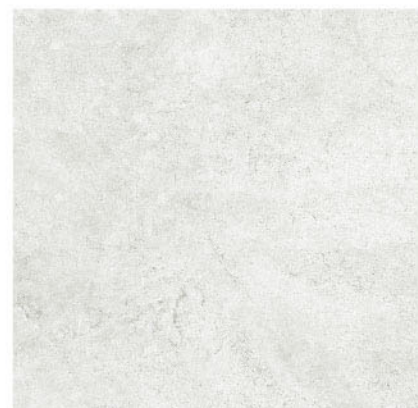
**NIRO GRANITE**  
THE SWISS-QUALITY TILE

# HARDROCK

THE EXALTED STONE DESIGN



**GHR01** Dove



60x60cm



60x30cm

**GHR02** Oasis



60x60cm



60x30cm

**GHR03** Drizzle



60x60cm



60x30cm

**GHR04** Moss



60x60cm



60x30cm

**GHR05** Sparrow

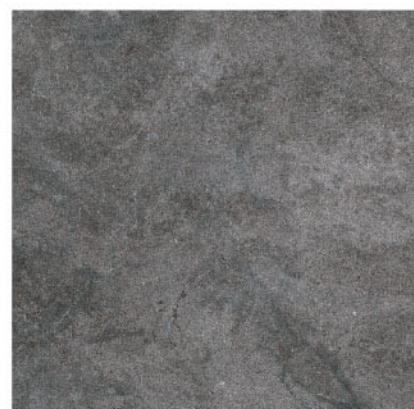


60x60cm



60x30cm

**GHR06** Hawk



60x60cm



60x30cm



**GHR04** Moss 60x60cm Structured

Natural stone design  
with **warm & cool** colour tones  
for **MINIMALIST INTERIOR** settings



Wall **GHR02** Oasis 60x30cm Matt    Floor **GHR01** Dove 60x60cm Matt

## TECHNICAL SPECIFICATIONS

| DESCRIPTION   | STANDARD TEST      | MEASUREMENT UNIT        | ISO STANDARD REQUIREMENT                                    | NIRO GRANITE  |
|---|--------------------|-------------------------|---|---|
| Length & Width  | ISO 10545 -2       | mm                      | ±0.6% Max   | ±0.30% Max  |
| Thickness   | ISO 10545 -2       | mm                      | ±5.0% Max   | ±5.0% Max   |
| Sides Straightness  | ISO 10545 -2       | mm                      | ±0.5% Max   | ±0.25% Max  |
| Rectangularity  | ISO 10545 -2       | mm                      | ±0.5% Max   | ±0.25% Max  |
| Flatness: a) Centre Curvature   | ISO 10545 -2       | mm                      | ±0.5% Max   | ±0.20% Max / Max 2.0mm                                      |
| b) Edge Curvature   | ISO 10545 -2       | mm                      | ±0.5% Max   | ±0.20% Max / Max 2.0mm                                      |
| c) Warpage  | ISO 10545 -2       | mm                      | ±0.5% Max   | ±0.20% Max / Max 2.0mm                                      |
| Surface Quality   | ISO 10545 -2       | One Major Area of Tiles | ≥ 95% free from visible defect                              | Comply  |
| Water Absorption  | ISO 10545 -3       | Mass                    | ≤0.5%   | ≤0.20%  |
| Breaking Strength   | ISO 10545 -4       | N                       | ≥ 1300 N  | ≥ 1300 N  |
| Modulus of Rupture  | ISO 10545 -4       | N/mm <sup>2</sup>       | ≥ 35 N/mm <sup>2</sup><br>Individual ≥ 32 N/mm <sup>2</sup> | ≥ 35 N/mm <sup>2</sup><br>Individual ≥ 32 N/mm <sup>2</sup> |
| Abrasion Resistance   |                    |                         |   |   |
| a) Deep Abrasion for unglazed tiles                                       | ISO 10545 -6       | mm <sup>3</sup>         | ≤ 175 mm <sup>3</sup>                                       | ≤ 160 mm <sup>3</sup>                                       |
| b) Surfaces Abrasion for glazed tiles                                     | ISO 10545 -7       | Visual Check            | Manuf. to state abrasion class, cycle and passed            | ≥ PEI 3<br>( Dependent on product type )*                   |
| Crazing Test (glazed tiles)   | ISO 10545 -11      | Visual Check            | No Sign of Crazing  | No Sign of Crazing  |
| Frost Resistance  | ISO 10545 -12      | Visual Check            | Required  | No Visible Crack  |
| Chemical Resistance   |                    |                         |   |   |
| a) Low concentrations   | ISO 10545 -13      | Visual Check            | Manuf. To State   | Class A<br>Class B (For Polished Tile)                      |
| b) Household chemicals and swimming pool salts                            | ISO 10545 -13      | Visual Check            | ≥ Class B   | Class A<br>Class B (For Polished Tile)                      |
| Stain Resistance  |                    |                         |   |   |
| a) For unglazed tiles   | ISO 10545 -14      | Visual Check            | Manuf. to State   | ≥ Class 3   |
| b) For glazed tiles   | ISO 10545 -14      | Visual Check            | ≥ Class 3   | ≥ Class 3   |
| Slip Resistance<br>(Excluding Polished, Lappato and Matt Satin finishing) | AS/NZS 4586 App. A | P0 to P5                | Manuf. to State   | Wet Pendulum ≥ P2<br>( Dependent on product type )*         |

The technical specifications is only for rectified tiles. \* Refer to test report for specific test result.

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

|  |   |   |  |
|--|---|---|--|
| <br><b>U1</b><br><b>UNIFORM</b><br>FROM TILE TO TILE   | <br><b>U2</b><br><b>SLIGHTLY NOTICEABLE</b><br>FROM TILE TO TILE  | <br><b>U3</b><br><b>MODERATELY NOTICEABLE</b><br>FROM TILE TO TILE  | <br><b>U4</b><br><b>DISTINCTLY NOTICEABLE</b><br>FROM TILE TO TILE   |
| <br><b>U1</b><br><b>Uniform from tile to tile</b><br>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. | <br><b>U2</b><br><b>Slightly noticeable from tile to tile</b><br>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. | <br><b>U3</b><br><b>Moderately noticeable from tile to tile</b><br>The range of colours and tones within the same shade is moderately noticeable from tile to tile. Clearly distinguishable differences in design or pattern. | <br><b>U4</b><br><b>Distinctly noticeable from tile to tile</b><br>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 colors from that on other tiles. Final installation can be unique. |

