TECHNICAL SPECIFICATION SHEET

Product Category: Porcelain Tiles (Group BIa)

Applicable Standards: ISO 13006:2018 / EN 14411:2016 Annex G

1. REGULATORY PROPERTIES (DIMENSIONS & SURFACE)

Precision sizing for seamless, narrow-joint installation.

Characteristics	Standard Requirement (ISO 13006 / EN 14411)	Aleron Ceramic's Mean Value	Test Method
Deviation in Length & Width	±0.60% (±2.0mm)	±0.10%	ISO 10545-2
Deviation in Thickness	±5.00% (±0.5mm)	±3.00%	ISO 10545-2
Straightness of Sides	±0.50% (±1.5mm)	±0.10%	ISO 10545-2
Rectangularity	±0.50% (±2.0mm)	±0.10%	ISO 10545-2
Surface Flatness (Center)	±0.50% (±2.0mm)	±0.20%	ISO 10545-2
Surface Quality	Min. 95% free from visible defects	100% Free from visible defects	ISO 10545-2
Glossiness	As per Manufacturer	High Gloss: > 95 GU Glossy: >90 GU Matt/Satin: < 15 GU	Glossometer 60°

2. STRUCTURAL PROPERTIES (THE BODY)

Ultra-compact body with virtually zero porosity.

Characteristics	Standard Requirement (ISO 13006 / EN 14411)	Aleron Ceramic's Mean Value	Test Method
Water Absorption	≤ 0.50%(Individual Max 0.6%)	≤ 0.10% * (Near Zero)	ISO 10545-3
Apparent Density	> 2.00 g / cc	> 2.28 g / cc	DIN 51082
Moisture Expansion	Report Value	Nil / No Expansion	ISO 10545-10

***Water Absorption:** Frequently tests at ≤ 0.05%, in Premium Slab Formats.

3. MASSIVE MECHANICAL PROPERTIES

Heavy-duty load bearing capacity.

Characteristics	Standard Requirement (ISO 13006 / EN 14411)	Aleron Ceramic's Mean Value	Test Method
Modulus of Rupture (MOR)	Min. 35 N / mm^2	≥ 40 N / mm^2	ISO 10545-4
Breaking Strength	Min. 1300 N (for thickness ≥ 7.5mm)	≥ 1500 N*	ISO 10545-4
Impact Resistance	Report Value	Min. 0.55 (Resistant)	ISO 10545-5

***Breaking Strength:** Often exceeds ≥ 1800 N in premium Slab formats.

4. SURFACE MECHANICAL PROPERTIES (Varies by Finish)

Superior resistance to wear and scratching.

Characteristics	Standard Requirement	Aleron Ceramic's Mean Value	Test Method
Surface Abrasion (PEI)	As per Manufacturer	**High Gloss:** PEI Class III/IV **Matt/Rustic:** PEI Class IV/V	ISO 10545-7
Moh's Scratch Hardness	As per Manufacturer	**High Gloss:** Min. 5 **Matt/Rustic:** Min. 6+	EN 101
Slip Resistance (R-Value)	As per Manufacturer	**High Gloss:** NPD **Matt:** R10 **Rustic:** R11	DIN 51130

5. THERMO-HYDROMETRIC PROPERTIES

Engineered for extreme climates.

Characteristics	Standard Requirement (ISO 13006 / EN 14411)	Aleron Ceramic's Mean Value	Test Method
Frost Resistance	Required	**Frost Proof**	ISO 10545-12
Thermal Shock Resistance	Required	**Resistant (10 Cycles)**	ISO 10545-9
Crazing Resistance	Required	**No Crazing (Autoclave passed)**	ISO 10545-11

6. CHEMICAL PROPERTIES

Total resistance to acids, alkalis, and staining.

Characteristics	Standard Requirement	Aleron Ceramic's Mean Value	Test Method
Chemical Resistance (Household)	Min. GB	**Class GA / UA** (Highest Resistance)	ISO 10545-13
Stain Resistance	Min. Class 3	**Class 5 (Stain Proof)**	ISO 10545-14
Lead & Cadmium Release	Report Value	**Does not yield**	ISO 10545-15

QUALITY ASSURANCE STATEMENT

Note on Performance Limits: The values stated in the "Mean Value" column represent the **minimum guaranteed limits** for our production.

1. **Average Batch Performance:** Our standard production batches typically exceed these limits significantly.
    - **Water Absorption:** Frequently tests at ≤ 0.05% (Near Zero Porosity).
    - **Breaking Strength:** Often exceeds ≥ 1800 N in premium thickness formats.
    - **Surface Quality:** 100% of tiles undergo optical and manual sorting to ensure defect-free shipments.
2. **Rectified Precision:** All Aleron tiles are rectified to allow for 2mm **spacer joints**, ensuring a seamless, monolithic appearance.
3. **Porcelain Classification:** Material is fully vitrified Porcelain (Group BIa) with water absorption consistently ≤ 0.1%.