
MANUFACTURING SPECIFICATIONS & BENEFITS

KAOLIFINA PORCELAIN SHOWER & TUB SYSTEMS

Kaolifina's high-performance porcelain panels are an ideal material for shower surrounds, offering exceptional strength, waterproofing, stain resistance, and ease of cleaning. Below is an overview of the key ANSI and ISO ratings, explaining why these properties make Kaolifina a superior choice for wet environments.

1. Superior Strength & Durability

Breaking Strength (ISO 10545-4):

6 mm: 1,300 N

- **Why it matters:** These numbers demonstrate high resistance to mechanical stress, ensuring the panels withstand heavy loads and impact over time without breaking.

Flexural Strength (ISO 10545-4, ≥ 35 N/mm²):

6 mm: ≥ 40 N/mm²

- **Why it matters:** High flexural strength means the panels are resistant to bending and cracking, crucial for shower walls that experience thermal and humidity changes.

Impact Resistance (UNI EN ISO 14617-9):

- Compliant (1 kg steel ball test)
 - **Why it matters:** These panels can withstand sudden impacts without chipping, making them highly durable in high-traffic areas.

Compression Strength (ASTM C170M-16):

- Compliant
 - **Why it matters:** The panels resist heavy pressure and weight, ensuring longevity in wet areas.

Scratch Resistance (UNI EN 15186:2012):

- Load > 10 N (Compliant for Natural & Soft finishes)
 - **Why it matters:** High scratch resistance ensures the surface remains pristine over time, even with frequent cleaning or accidental abrasions.
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2. Waterproof & Mold Resistance

Water Absorption (ISO 10545-3):

- $<0.5\%$ water absorption (body) | 0% water absorption (face)
 - **Why it matters:** This rating proves the panels are waterproof, preventing moisture penetration that could lead to mold, mildew, and deterioration over time.

Fungi Resistance (ASTM G21-15):

- Compliant after 28-day fungal exposure
 - **Why it matters:** The surface resists mold and mildew, ensuring a cleaner and healthier shower environment.

Damp Heat Resistance (UNI EN 12721:2013):

- Compliant for $55^{\circ}\text{C} - 100^{\circ}\text{C}$ cycles
 - **Why it matters:** Can withstand hot showers and steam exposure without degrading or warping.
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Frost Resistance (ISO 10545-12):

- Resistant
 - **Why it matters:** Ensures durability in extreme temperature changes, making the material ideal for all climates.

Thermal Shock Resistance (ISO 10545-9):

- Resistant
 - **Why it matters:** The panel won't crack due to sudden temperature fluctuations from hot to cold water exposure.
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3. Fire Safety & Chemical Resistance

Fire Reaction (UNI EN 13501-1):

- Class A1fl + A1 (ISO 9293-1 test)
 - **Why it matters:** Completely non-combustible, ensuring safety in case of fire exposure.

Chemical Resistance (ISO 10545-13):

- Resistant to low acid, alkalis & domestic chemicals
 - **Why it matters:** Cleaning products will not degrade or damage the surface, allowing easy maintenance with everyday household cleaners.
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4. Stain Resistance & Easy Cleaning

Stain Resistance (ISO 10545-14):

- Class 5 (Natural + Soft finishes)
 - **Why it matters:** The panels resist staining from soap scum, shampoos, and hard water, making them incredibly easy to clean with minimal effort.

Dirt Retention (UNI 9300:2015):

- No visible change after carbon black staining test
 - **Why it matters:** The non-porous surface prevents buildup, keeping the shower looking fresh and clean over time.

Cold Liquid Resistance (UNI EN 12720:2013):

- Compliant (tested from 10 seconds to 24 hours exposure)
 - **Why it matters:** Water, oils, and other common bathroom spills won't permanently stain or damage the surface.
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5. Dimensional & Surface Quality

Dimensional Tolerance & Flatness (ISO 10545-2):

- $\pm 5\%$ deviation from production dimensions
- $\pm 0.5\%$ warping/curvature tolerance
 - **Why it matters:** Guarantees consistency in size and installation precision, making it easier to fit and align panels seamlessly.

Surface Quality (ISO 10545-2):

- At least 95% free from defects
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- **Why it matters:** Ensures high visual quality, so only the best panels make it into installations.
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Why Kaolifina is the Best Choice for Shower Surrounds

- ✓ Waterproof: prevents mold, mildew, and damage.
- ✓ Extreme Durability: High breaking & flexural strength.
- ✓ Scratch & Stain Resistant: Holds up to daily cleaning, maintaining a pristine finish.
- ✓ Thermal Stability: Resists steam, heat, and cold, ensuring long-term reliability.
- ✓ Low Maintenance: Resistant to dirt, chemicals, and UV discoloration, making it effortless to clean.
- ✓ Fire-Safe & Chemical Resistant: Class A1 fire rating and acid/alkali resistance for ultimate protection.