

As a summary this table shows why we think TerraKlinker Tiles are an excellent choice . Each area is covered in more detail in the following pages.

Topic	Information	Source/Standard
<b>Do the tiles need to be sealed ?</b>	TerraKlinker tiles <b>do not</b> need to be sealed - ever	TerraKlinker/Middle Earth Tiles
<b>Can they cope with Football/Rugby Boots</b>	They score an 8 on the Mohs Hardness score.  Harder than nails used in a nail gun	UNE-EN 101 Scratch Resistance  Score = Mohs Hardness 8
<b>Will they wear out over time</b>	In a UNE Standard test to test wear, the tiles achieved results very close to excellent (<170mm <sup>2</sup> ). These are very hardy tiles.	UNE-EN ISO 10545-6 – Deep Abrasion Resistance  Score <180 mm <sup>2</sup>
<b>What sort of cleaning regime is required</b>	The same as the current regime used by most NZ Councils for changing rooms and toilets. Disinfectant and Low PH Cleaning Products	
<b>Slip Rating With shoes Barefoot</b>	Very high rating for wet use with both a shoe and barefoot.  Suitable for public showers/changing rooms/toilets	R12 – DIN 51130 (Slip Resistance with Shoes)  Class C – DIN 51097 (Barefoot Slip Resistance)

## TECHNICAL DATA



**Scratch resistance:** Mohs hardness 8 according to standard UNE-EN 101



**Resistance to deep abrasion:** < 180 mm<sup>2</sup> according to standard UNI-EN-ISO 10545-6



**Frost resistance:** complies with standard UNE-EN ISO 10545-12



**Resistance to impact:** complies with standard UNE-EN ISO 10545-5



**Determination of dimensions and Surface quality:** complies with standard UNE-EN ISO 10545-2



**Thermal shock resistance:** complies with standard UNE-EN ISO 10545-9



**Resistance to acids and bases:** complies with standard UNE-EN ISO 10545-13



**Resistance to stains:** complies with standard UNE-EN ISO 10545-14



**Firing temperature:** 1.360 °C according to certificate BRD/2/235/0009/91-2 of Bureau Veritas



**Determination of water absorption:** < 3 % according to standard UNE-EN ISO 10545-3 group Alla



**Bending strength:** > 30 N/mm<sup>2</sup> according to standard UNE-EN-ISO 10545-4

### Slip resistance scale:



• Classification R12 according to standard DIN 51130

• Class C according to standard DIN 51097



## Why TerraKlinker Tiles Don't Need Sealing

One of the standout features of TerraKlinker tiles is that **they require no sealing**—they're ready to use as soon as they're installed.

This is thanks to the extremely high firing temperature used during manufacturing. TerraKlinker tiles are fired at much higher temperatures than typical porcelain or terracotta tiles. This intense heat **eliminates porosity**, making the tiles incredibly dense—almost like natural stone.

Because TerraKlinker tiles are non-porous, they not only resist water and stains but also meet strict international standards for durability and performance—such as **UNE-EN ISO 10545-3 for water absorption**.

### UNE-EN ISO 10545-3 – Water Absorption - Score <3%

This test measures how much water a tile can absorb. Our tiles absorb very little water, making them perfect for wet areas like bathrooms, kitchens changing rooms and outdoor areas.



### **UNE-EN 101 Scratch Resistance - Score Mohs Hardness 8**

TerraKlinker Tiles have Scratch Resistance of **Mohs Hardness 8** according to **UN Standard UNE-EN 101**. This means that TerraKlinker tiles are **extremely scratch-resistant**.

The standard measures how hard a surface is using the Mohs scale. This scale goes from 1 (very soft, like talc) to 10 (very hard, like diamond).

Our tiles score an 8, which means they're as hard as topaz. In everyday terms, this means they can resist scratches from most materials you'd find in everyday usage

- **Grit or sand** can contain quartz (Mohs 7), which is still **softer than TerraKlinker Tiles**. So even in gritty conditions, TerraKlinker tiles will **resist scratching better than most flooring materials**.

Our tiles are tough enough to handle the wear and tear of cleats in changing rooms. With a scratch resistance of Mohs 8, they can withstand contact with rubber, plastic, and even most metals without damage—making them ideal for sports facilities and high-traffic areas.

They are literally harder than nails (Mohs 4-5)





## UNE-EN ISO 10545-6 – Deep Abrasion Resistance - Score <180 mm<sup>2</sup>

This standard tests how well a tile holds up to long-term wear and tear, especially in high-traffic areas. TerraKlinker tiles are built to last, even in heavy traffic area and places like gyms, malls, locker rooms and outdoor areas

What Does “<180 mm<sup>2</sup>” mean ?

- The test  **rubs a tile surface**  with an abrasive material.
- Then it  **measures how much material was worn away** .
- The result is expressed in  **square millimetres (mm<sup>2</sup>)**  of surface lost.

So, < 180 mm<sup>2</sup> means:

The tile lost  **less than 180 mm<sup>2</sup>**  of surface during the test.

Is < 180 mm<sup>2</sup> a Good Result ?

Yes — it’s  **very good**  for most public and commercial applications.

To give some context:

- <  **175 mm<sup>2</sup>**  is often considered  **excellent** .
- <  **205 mm<sup>2</sup>**  is the  **minimum requirement**  for many commercial-grade tiles.
- The  **lower the number** , the  **more durable**  the tile.



## **UNE-EN ISO 10545-4 Breaking Strength/Modulus of Rupture - Score $<30 \text{ N/mm}^2$**

The **UNE-EN-ISO 10545-4** standard measures the **bending strength** (also called **modulus of rupture**) of ceramic tiles — essentially, how much force a tile can withstand before it breaks when pressure is applied.

What Does  $> 30 \text{ N/mm}^2$  Mean?

- **$\text{N/mm}^2$**  stands for **Newtons per square millimetre**, a unit of pressure or stress.
- A result of  **$> 30 \text{ N/mm}^2$**  means the tile can withstand **more than 30 Newton of force per  $\text{mm}^2$**  before breaking.
- This is a **very strong** tile — suitable for **heavy-duty applications**



## **UNE-EN ISO 10545-13 – Resistance to Acids and Bases - Result**

### **TerraKlinker Tiles comply with standard UNE-EN ISO 10545-13**

**What it means:** This standard tests how well tiles resist damage from acidic or alkaline substances.

#### **In simple terms:**

"These tiles won't get damaged or stained by common household chemicals, cleaning products, or spills—making them perfect for kitchens, bathrooms, and commercial spaces where chemical exposure is common."

#### **How to clean the tiles.**

The same process mandated by Council and followed by current Contractors is fine for TerraKlinker Tiles. The Disinfectant and Cleaning products currently in use will meet cleaning requirements for TerraKlinker Tiles without causing any damage or degradation.





## **R12 – DIN 51130 (Slip Resistance with Shoes)**

**What it means:** This standard measures how slip-resistant a tile is when walked on with shoes, especially in oily or slippery conditions.

### **In simple terms:**

"These tiles are rated R12, which means they offer **very high slip resistance**—ideal for areas like commercial kitchens, workshops, or outdoor spaces where safety is a priority."

## **Class C – DIN 51097 (Barefoot Slip Resistance)**

**What it means:** This standard tests how slip-resistant tiles are when walked on barefoot in wet conditions.

### **In simple terms:**

"Class C is the top rating, showing these tiles are **very safe for barefoot use in wet areas**—like swimming pools, spas, and bathrooms."

---

