

# Annotation on the Technical Data

All Jasba stoneware products\* conform to the quality requirements of DIN Standard ISO 14411 group B<sub>1</sub> in terms of:

- Dimension deviations:
  - at edge lengths
  - on thickness of the sherd
  - at right angularity of the sherd
  - on surface regularity of the sherd
- Surface finish
- Water absorption
- Bending strength/breaking load
- Resistance to surface wear (see wear resistance group)
- Linear coefficient of thermal expansion
- Resistance to temperature fluctuations
- Frost resistance
- Resistance to:
  - staining agents
  - household chemicals (normal home cleaning agents, except those containing hydrofluoric acid)
  - bath salts
- Fade resistance
- General requirements for surface quality

## Acid and Alkali Resistance

Resistance to acids and alkalis is tested according to the Standard ISO 10545-13. The glazed surface undergoes a 4-day exposure to a solution of 3% hydrochloric acid and 3% potassium hydroxide at normal room temperature. Consequently, this test far exceeds the normal hazards found in the home. If no changes appear in the glazing, the requirements of the standard ISO 10545-13 are fulfilled.

## Wear Resistance Groups

Glazed tiles undergo a surface wear test (PEI-Test). Tiles tested according to ISO 10545-7 (determination of resistance to surface wear) are grouped by the manufacturer into six wear resistance groups according to the degree of wear shown. The test criteria of the Standard ISO 10545-7 have been made even more stringent, to ensure that house builders, tilers and architects can safely rely on the properties claimed. Result: the virtually proverbial Jasba quality. Depending on the function of a room, ceramic floor tiles are subject to different degrees of wear. Wear, or abrasion of the glazing, ranges from low to high. That is why the areas of application have been divided into six categories. Making sure that the right tile is selected for the right application.

## Abrasion

Walking on floors causes abrasion. On glazed tiles or flags, this can result in scratching and dulling of the glaze and consequently changes in colour, loss of gloss and ultimately wear. To a certain extent, such wear and tear can be regarded as normal. However, improved dirt sluices can keep wear to a minimum. There are six wear resistance groups for glazed tiles and flags.

### Class 0

The use of glazed tiles of this class for floor coverings is not recommended.

### Class 1

Floor coverings in areas mainly walked on in soft footwear or barefoot and not exposed to abrasive dirt (e.g. bathrooms and bedrooms without direct access from outside).

### Class 2

Floor coverings in areas occasionally walked on with soft or normal footwear and exposed to only little abrasive dirt (e.g. rooms in living areas of houses, except kitchens, entrances and similar heavily frequented rooms). This does not apply to special footwear such as e.g. hobnailed boots.

### Class 3

Floor coverings in areas frequently walked on with normal shoes and exposed to little abrasive dirt (e.g. kitchen-cum-living-rooms, halls, corridors, balconies, loggias and terraces). This does not apply to special footwear such as e.g. hobnailed boots.

### Class 4

Floor coverings walked on regularly and exposed to little abrasive dirt, so that they are subject to greater stress as in the case of class 3 (e.g. commercial kitchens, hotels, exhibition and sales rooms).

### Class 5

Floor coverings subject to heavy pedestrian traffic over long periods of time and exposed to little abrasive dirt, so that they are subject to the most extreme stress under which glazed tiles can be applicable (e.g. public areas such as shopping centres, entrance halls of airports, hotel foyers, public footpaths and industrial applications).

## Further classification of tiles with a non-skid surface for application in wet barefoot areas (BGI/GUV-I8527)

According to the different dangers of slipping the individual areas are classified in the categories A, B and C; the requirements regarding the non-skid quality increase from A-C.

The following schedule shows minimum slope angles for different areas which are to be attained by the floor covering according to DIN 51097; the list of the wet barefoot areas is not yet exhausted.

Group	Minimum slope angle	Areas
A	12°	Barefoot walkways (mainly dry), single and group changing rooms, pool floors in non-swimmer areas if the water depth is more than 80 cm in the total area, sauna and relaxation areas (largely dry)
B	18°	Barefoot areas, but not classified under A, showers, disinfectant spray systems areas, pool surrounds, pool floors in non-swimmer areas if water depth is less than 80 cm in partial areas, pool floors in non-swimmer areas of tidal pools, raising floor levels, kiddies pools, ladders and steps outside the pool area, walk areas on diving platforms and diving boards, but not classified under C, sauna and relaxation areas, but not classified under A
C	24°	Ladders and steps leading into the water, access areas to diving facilities and water slides, diving platform and diving board surfaces reserved for divers (the non-slip surface of diving platforms and diving boards must include the front edge gripped by divers' hands and toes), walkthrough pools, sloped pool surrounds

## Comment to appear in print:

For reasons of a technical nature, the colours of the tiles cannot be reproduced with complete exactitude in print. The publisher does not assume liability for misprints.

\* Stoneware tiles for wall and floor coverings for indoor and outdoor areas

## Definition of the valuation groups for non-slip material for use in working areas and rooms with increased slip risk.

The range of application of the aforementioned tiles refers to working areas and rooms, whose floor coverings, depending on the utilisation, may come into contact with substances which increase the risk of slippage.

The average slope angle at which slippage occurs is determined by the to "Schiefe Ebene" method according to the standard on DIN 51130 ("inclined plane"), and is governed by classification into a particular group.

The following table is an extract of the average slope angles corresponding to the particular groups.

Mean value of slope angles	Group
from 6° to 10°	R 9
11° to 19°	R 10
20° to 27°	R 11

A selection of working areas and rooms, in accordance with "Notice on floors in working areas and rooms with slippage risk" (BGR/GUV-R181), published by the German National Association of Accident Insurance Companies, can be found in the following:

- R 9** Entrance areas (indoors), stairs (indoors)  
Sales areas in shops  
Dining rooms, guest rooms and canteens included  
Service corridors  
Rooms for medical diagnoses and treatment  
Massage rooms  
Operating rooms  
Hospital wards and corridors  
Medical surgeries and clinics  
Pharmacies  
Laboratory rooms  
Hairdressing salons  
Service areas in credit institutes
- R 10** Social rooms (toilets, wash rooms)  
Restaurant and hotel kitchens  
Ward kitchens  
Defrost and preheat rooms  
Stock and fermenting cellars (beverage production)  
Selling areas in shops, especially:
- Service Counters for meat and sausage, packed material
  - Service Counters for bread and baker's ware, unpacked material
  - Service Counters for cheese and cheese products
- Schools and nursery schools, here especially:
- Toilets, wash rooms
  - Teaching kitchens, kitchens for nursery schools
  - Technical rooms for craft work
- Rooms for public health services, here especially:
- Dissection rooms, sanitary rooms, ward baths

## CE marking according to the description in the obligatory annexes Q, ZA and ZB of the harmonized standard EN 14411 "Ceramic tiles".

From the 1st December 2005, products for which the application of the Directive for construction products 89/106/EEC is relevant must be provided with the CE marking. With the CE marking, the compliance with the essential requirements of this directive is declared. Our products of course meet the conditions of the EC directive in force and are provided with the CE marking accordingly.

Further explanations / background information concerning the CE marking:

### 1. CE marking as condition for the commercialization of products

From the 1st December 2005, manufacturers and importers themselves are obliged to mark products subject to the European Directive for construction products either directly or their packaging or the accompanying documents with the CE marking. The CE marking is a condition for the distribution within the EU and thus required for the first commercialization of a product.

The target of the "Directive for construction products 89/106/EEC" is to harmonize laws, regulations and administrative provisions of the member states in order to make sure that structural and civil engineering projects are constructed and realized in such a way that the safety of persons and goods is not at risk and that at the same time other essential requirements in the interest of the public welfare are taken into account. Construction products are only authorized for the free movement of goods within the Community if they are suitable for their intended utilization, which presupposes that they meet the essential requirements defined in the Directive for construction products with regard to the health and safety of the users, which include the following fields: mechanical resistance and stability; fire protection; hygiene, health and environment; safety of utilization; sound insulation and energy saving as well as thermal insulation.

### 2. The CE marking is an administrative mark

The CE marking is an administrative mark exclusively addressed to the governmental supervising authorities. The CE marking indicates to these authorities that the marked product corresponds to the European legislation at the time of its commercialization.

### 3. Declaration / certificate of conformity

The declaration of conformity is the act by which the manufacturer himself declares that a product, process or service corresponds to a specific standard or any other set of regulations. The manufacturer is responsible for the certificate of conformity of the product. In addition to the CE marking and for each CE-marked product, the manufacturer must draw up a declaration of conformity based on the tasks which were carried out on his own responsibility or by a named laboratory.

### 4. Commerce and consumers have no right of inspection of certificates of conformity of the manufacturers

The right to demand and inspect certificates of conformity is exclusively reserved to the market supervising authorities in charge of supervising the compliance with the legal safety requirements of construction products.

### 5. The CE marking is no quality or test mark

The CE marking only refers to the compliance with the "fundamental requirements" stipulated by law of certain directives. Thus, it does not at all imply any statement concerning the quality of the marked products. As an administrative mark prescribed by law without any value for consumers and users, the CE marking should not be mixed up with the test marks issued by independent test institutes (such as e.g. MPA NRW, NF UPEC). These test institutes also do not check whether a product is provided with the CE marking in accordance with the law.