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1. INTRODUCTION

Bien Construction Products Industry Tourism and Trade Joint Stock Company (hereinafter referred to as Bien only)

It is the establishment of Ercan Group of Companies. The factory was established as Bilser A.ÿ. in 1980. It was founded between 1986 and 1997 under the name

It operated under the name Serel between 1997 and 1997, and was acquired by Ercan Group of Companies in 1997. The company,

which produces under the title of ÿlkin Ercan Seramik, started to use the Bien brand in 2008.

In 2012, it adopted this brand as its trade name.

Bozüyük Seramik, which joined the Ercan Group of Companies in 1997, first launched the Bien brand in 2008.

and in 2012, it merged with Ercan Seramik under the trade name Bien.

In 2020, the Bilecik OSB wall facility located in the Bilecik OSB region was put into service and Ercan Companies

He joined the community.

Bien has a staff of 740 people in 9 separate production halls built on 165,275 m2 in Bilecik Pelitözü Location.

It produces with its staff. This halls double firing wall tile, single firing floor tile, small size,

Bien's entire ceramic coating material group with the production of skirting boards, bullnose, decor and borders.

It enables the creation of holistic collections. In its facilities on Bozüyük Seramik Street, Bien glazed

Focused on granite, technical porcelain and polish tiles. Wall tiles in our facility in Bilecik OSB

focused. The total production capacity of Bilecik, OSB and Bozüyük factories is 22 million in wall tiles.

square meters; Floor tiles, glazed and unglazed granites are also at the level of 12 million square meters.

Using this balanced capacity most effectively with design, R&D and technology investments, Bien uses the inkjet technique.

It is the first Turkish tile company to apply it in wall tiles. Wide dealer network in the domestic market accounts for 65% of its annual production

Bien markets its products domestically through 35% of its production in Europe, North America, West Asia, the Middle East and

It exports to Africa.

Bien's Mission; Producing above-standard coating materials with their technical features and aesthetic structure, all product

To be a respected tile manufacturer that has a say in its range.

Bien's Vision; Putting its own signature on each design and creating its own line with each new collection,

To create a brand that will be among the leading ceramic manufacturers in Europe.

2. OUR QUALITY POLICY AND GOALS

OUR QUALITY POLICY

With the belief that our existence in the future will be possible with the joint efforts of all our employees,

To establish the idea of high efficiency and continuous development at all levels;

To make our product contemporary and aesthetic by taking into account the changing needs and expectations of our customers; To be known as a reliable brand in the domestic and foreign markets; Mutual respect with all organizations we do business with

working within the framework of;

Following technological developments and updating our production lines and laboratories with the latest innovations;

Keeping the occupational safety of our employees above all else;

Contributing to the economy of our company and the country by using natural resources in the most appropriate way without harming the environment.

is to be found.

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3. DEFINITIONS AND TERMS

3.1. Basic concepts

Ceramic Tile: It is made of non-metal oxide compound raw materials such as clay, feldspar and quartz in the form of thin layers.

The product is generally used as a floor and wall covering material and is extruded or dried at room temperature.

After being shaped by the pressing method, it is dried and at a temperature sufficient to meet the desired properties.

It is a glazed (GL) or unglazed (UGL) fireproof and colorfast material that is fired.

Glaze: It is the top layer that becomes water-proof by becoming vitrified at the firing temperature and is suitable for decoration.

Engop: Clay-based, matte (non-vitreous) intermediate layer.

Tile Shaped by Dry Press: High composition of finely ground and powdered body.

Tile shaped by compression under pressure.

Water Absorption: The percentage ratio of the mass of water absorbed by the tile to its own mass.

3.2. Glazed Granite

Glazed granite is fired at 12000C and the tile thickness is over 1300 N for tiles over 7.5mm.

Provided with mechanical strength sufficient to reach 700N bending strength for tiles under 7.5mm,

It is a glazed ceramic tile with water absorption of less than 0.5%. It can be used outdoors as it has frost resistance properties.

can also be used.

3.3. Floor Tiles

Floor tiles are fired between 1170-11900C. Tiles of floor tile matte products with tile thickness over 7.5mm

bending strength over 1100N for tiles and over 700N for tiles with tile thickness less than 7.5mm.

has. It shows water absorption between 0.5% and 3.0%. Floor tiles glossy products tile thickness above 7.5mm

bending over 1000N for tiles, over 600N for tiles with tile thickness less than 7.5mm

It has high strength. It shows water absorption between 3.0% and 6.0%. It is especially suitable for use due to its mechanical strength.

used as coating. It is generally preferred for interiors.

3.4. Wall Tile

It is fired at a lower temperature than floor tiles – around 11400C – and its mechanical strength is low.

For this reason, it should never be used as a floor covering. Water absorption values are over 15%.

Therefore, they should only be considered for interior use. A wide variety of matte, opaque or transparent glaze textures and decorations

They offer options.

3.5. Decor / Border

Wall and floor tiles are produced with a second firing process (single or two-stage firing is used in tile production).

(this process is called third firing) can be re-decorated with an eye-catching top layer. This is the last decor

In its application, gold/platinum gilding and iridescent paints are generally used together with traditional floor and wall tile paints.

lusters are used; Relief patterns are created with glassy semi-processed materials. Decorated tiles 8500C

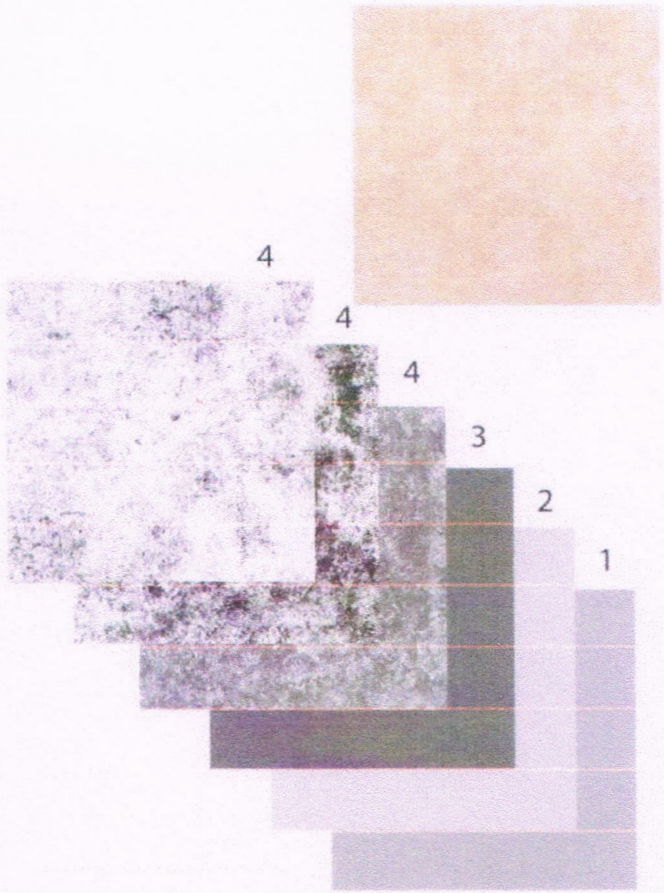
Extraordinary decoration pieces are obtained by firing.

4. PROMOTIONAL IMAGES

In this section, layered products are produced for Glazed Granite, Floor Tiles, Wall Tiles and Decoration/Border groups respectively. pictures are given. Each layer represents a different cross-section that makes up the material during the production process.

4.1. Glazed Granite Isometric Picture

Floor tile named Osoko Salmon in the product catalogue. Ceramic masses are shaped by dry pressing method
It is put into biscuit form (1). After the surface is covered with engop (2) and glaze (3) layers, it is patterned with three prints and fired at 1170-12000C .



LAYER NAMES
1- BISCUITS
2- ENGOP
3- SECRET
4- PATTERN PRINTS

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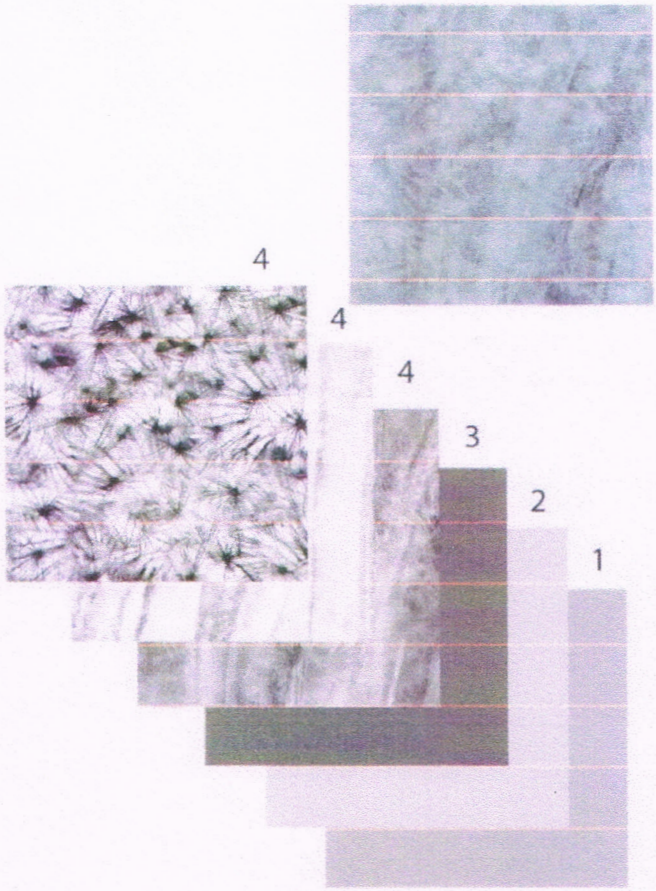
4.2. Floor Tile Isometric Picture

Floor tile named Polar Blue in the product catalogue. Ceramic masses are shaped by dry pressing method

It is put into biscuit form (1). After the surface is covered with engop (2) and glaze (3) layers, it is patterned with three prints and fired at 1170-12000C .



LAYER NAMES
1- BISCUITS
2- ENGOP
3- SECRET
4- PATTERN PRINTS

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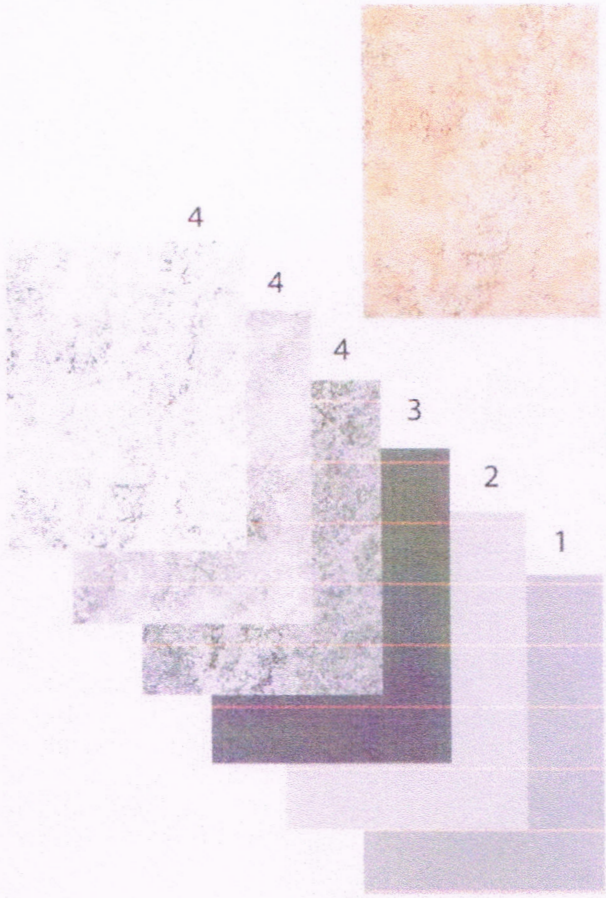
4.3. Wall Tile Isometric Picture

Wall tile named Ebru Dark Beige in the product catalogue. Ceramic masses are shaped by dry pressing method and shaped into biscuits and fired at 11400C (1). Surface with engop (2) and glaze (3) layers

After it is coated, it is patterned with three prints and glazed fired.



LAYER NAMES
1- BISCUITS
2- ENGOP
3- SECRET
4- PATTERN PRINTS

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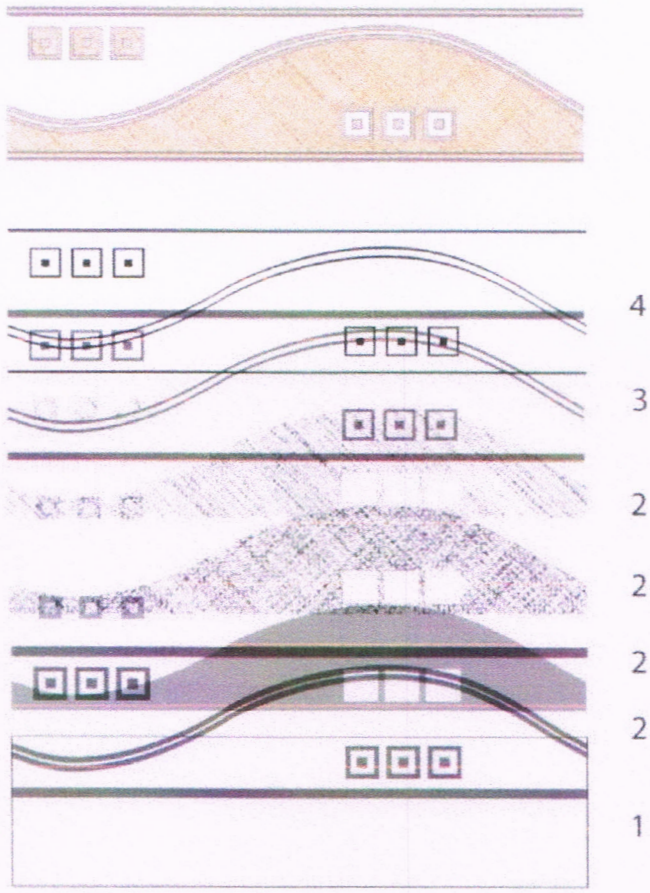
4.4. Decor/Border Isometric Picture

Border named Altes Libos Beige in the product catalogue. Shaped, engoed, glazed, decorated and

Third firing prints (2), relief frit (3) and metallic silver (4) are patterned on the fired tile (1) and fired again at approximately 8500C.



LAYER NAMES
1- TILE
2- PRINTS
3- VETROSA
4- METALLIC SILVER

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5. BENEFITS OF USING CERAMIC TILES

Ceramics are not affected by acids and bases except hydrofluoric acid. Physical and chemical corrosion

They are durable.

Ceramics are brittle, but their breaking strength is very high. They do not deform against mechanical impacts.

Ceramics do not conduct electricity. Their thermal conductivity is low. Therefore, it also has good properties as an insulation material.

They show.

They are refractory. Since they are heat treated at high temperatures, they are resistant to temperature changes.

They definitely won't burn.

They create aesthetic and easy-to-clean surfaces.

Thanks to developing printing techniques, they allow you to choose from a wide range of colors and patterns.

6. HOW TO SELECT TILES?

It is the best product against moisture on the floors and walls of places we call wet areas such as bathrooms, toilets and kitchens.

Ceramic tile, which is a protective material, is used. On balconies and terraces called external wet areas

Ceramic tile is again recommended as a coating material.

It is also the most suitable coating for the floors of corridors and entrances of residences due to its heat and sound insulation properties.
The material is ceramic.

Indoor coverings of hospital corridors, operating rooms, pharmacies, pharmaceutical facilities and other healthcare institutions

Ceramic tiles, which create hygienic surfaces that can be easily cleaned, are preferred.

It is not affected by rain, snow and temperature changes like paint and plaster, it does not spill, it does not get dirty and

Since it does not fade, the use of ceramic tiles as a protective coating on exterior surfaces is becoming increasingly widespread.

While color and pattern preferences, that is, the user's taste, are decisive in the selection of wall covering and decor/border.

Physical properties such as strength, abrasion resistance and frost resistance are also taken into consideration when choosing floor covering.
should be kept.

As mentioned before, floor tiles can also be used as interior wall coverings.

However, only glazed porcelain and floor tiles should be chosen as floor covering, relatively low-strength wall tiles.
tiles should never be used.

Only glazed granite should be preferred as exterior and exterior floor covering. Frost resistant feature

Glazed granites eliminate possible problems that may arise from temperature changes.

The factor to consider when choosing interior floor tiles is wear resistance.

Ceramics are divided into five according to their wear resistance. These categories range from less durable to more durable. are listed as follows.

PEI I: Floors that do not contain abrasive materials and can be walked barefoot or with soft-soled shoes.

PEI II: Floors walked in sports shoes or rubber-soled shoes.

PEI III: Floors walked with leathery-soled shoes containing small amounts of abrasive substances.

PEI IV : Floors with heavy traffic that are open to dust and pollution that may come from outside.

PEI V: Floors that are completely open to external factors and exposed to very heavy pedestrian traffic.

To give an example of the above order, PEI I class tiles are for bathrooms; PEI II class tiles bed and recommended for study rooms. It is unnecessary to choose ceramics that are very resistant to wear in residential buildings. However especially in areas where heavy household appliances such as washing machines, dishwashers, refrigerators and ovens will be placed. wear class must be taken into consideration. PEI III class tiles for entrance, corridor and kitchen; PEI IV class tiles pharmacy, bank, school and hotel lobbies with balconies and terraces; PEI V class tiles are used in business centers, markets and cafeterias. It is suitable for entrances, circulation areas, aisles and open areas.

7. COLOR TONE CHANGE

Due to the Random Printing feature of some products, there may be a difference in printing (effect) between tiles. Therefore, there may be Tone/Color difference. Or both according to color classification such as V1 - V2 - V3 - V4 printing, as well as color difference may exist.

V1 Group products; tiles with the same appearance,

V2 Group products; tiles with slight differences,

V3 Group products; tiles with significant differences,

V4 Group products; tiles with random (irrelevant colors) differences,

The prints of such products are on different tiles, with different effects and colors. All of this is due to the original feature of the product, which creates a natural look that complements each other when laid together.

Products with this feature should not be perceived as Color / Tonality difference or production defect.

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8. SURFACE SCRATCH RESISTANCE AND MOHS HARDNESS SCALE

Hardness, as its name suggests, refers to the hardness of a mineral. Against the pressures and forces acting on the mineral

The strength it shows is strength. Hardness is related to the chemical structure of the mineral and the bonds they form between them.

The more and tighter the bonds, the harder that mineral is.

Hardness is generally measured by the response to scratching force.

When Friedrich Mohs rubbed minerals together, he could tell which mineral was hard by the scratches left on them.

has determined. He saw that the harder mineral scratched the less hard mineral. As a result, the hardness

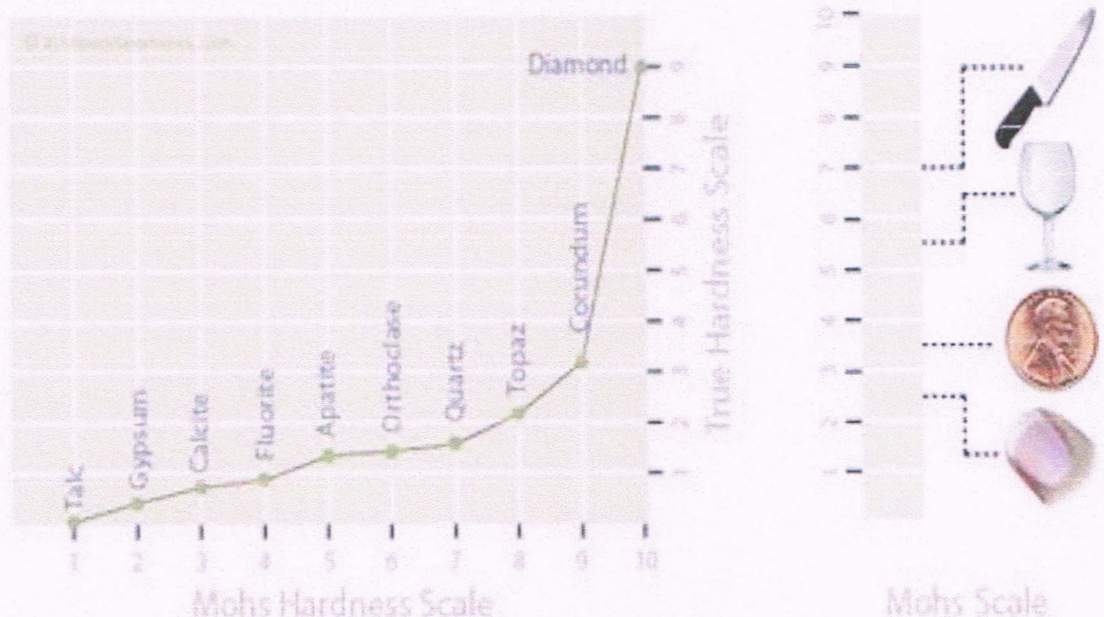
He suggested that it would be possible to make comments about minerals of unknown hardness by using known minerals.

Based on this, he created the Mohs Hardness Scale-Ruler.

The surface scratch resistance of ceramic tiles is classified using this table:

Mohs Hardness Scale		
Rock/Mineral	Hardness degree	Boot Trial
Talc	-	drawings with nails
Gypsum	2	Scratched with nails or a penknife and needle
Calcite	3	Drawings with a pocket knife and needle
Fluorite	4	Drawings with a pocket knife and needle
apatite	5	Drawings with a file
feldspar	6	Drawings with a file
Quartz	7	Those who scratch the glass with force
Topaz	8	Those who scratch the glass with force
Corundum	9	Those who scratch the glass with force
Diamond	10	Only those scratched with a very powerful laser
Hardness increases as you go down the list.		

Comparison of Mohs hardness with true hardness and familiar materials:



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9. SLIP RESISTANT TILE (ANTISLIP SURFACE)

Extra non-slip on matte, wooden and concrete-looking products that have not been surface treated after baking.

In order to give this feature, technological materials that give this feature are applied during glaze applications.

Different test methods used to determine slip resistance classes according to usage needs until December 2021,

It was combined under the TS EN 16165 standard published on this date. According to this standard;

- TS EN 16165 Annex A bare foot ramp test for tiles to be used in relatively low traffic in wet areas

  According to the method, the tiles are wetted with water and the slope on which the barefoot individual walks on them is determined.

  and this angle is reported. Since the test method applied before this standard is similar to DIN 51097

  ABC classification corresponding to the angle our customers are used to (from the lowest A to the highest limit C

  old classification) can be given as a recommendation.

- When use is required in heavy traffic and industrial facilities, TS EN 16165 Annex B shoe ramp test

  According to the method, standard oil is applied on the tiles and a fixed weight individual with special shoes is walked and

  The slip angle is found and this angle is reported. The test method applied before this standard is similar to DIN 51130

  R classification corresponding to the angle our customers are used to (minimum lower limit R9 to maximum slip

  resistive value up to R13) can be given as a recommendation.

- In places where non-slip measurement with pendulum friction is required, TS EN 16165 Annex C Pendulum pendulum and Two surfaces

  TS EN 16165 Annex D Tribometer test methods where non-slip measurement is required with friction between

  Accordingly, the dry and wet friction coefficients of the tiles are determined with special devices and the determined

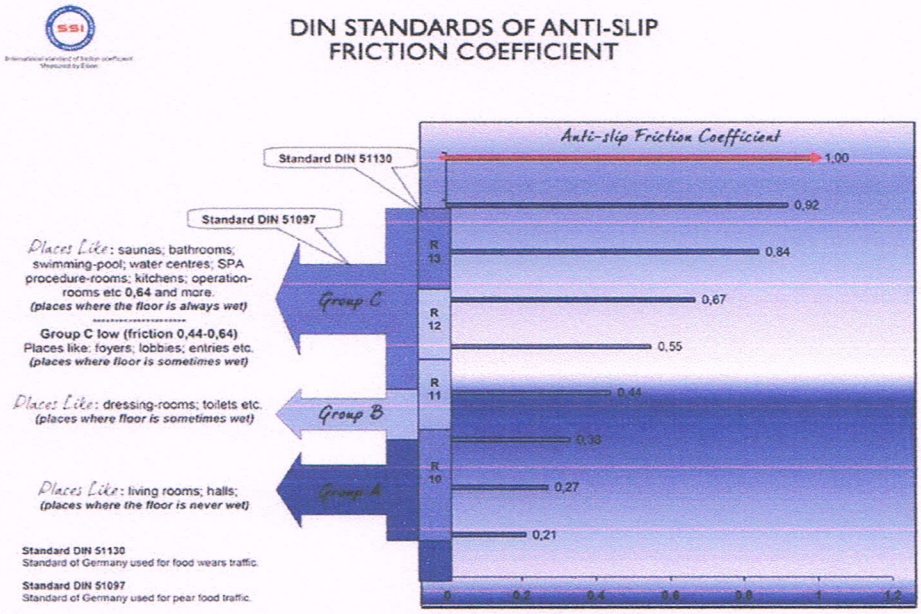
  The friction coefficient value is reported. These are the previous ANSI Dynamic friction, ASTM Static friction

  Similar tests with different test methods such as coefficients are similar tests.

Comparisons of these mentioned test results are summarized by SSI in Diagram 1.

HSE (Health and safety Executive) https://www.hse.gov.uk/pubns/geis2.pdf All updates on the page

Slip resistance measurements are explained.



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10. TRANSPORTATION AND STORAGE

Boxed ceramic tiles are stacked on wooden pallets so that they can be transported without being damaged.

Completed pallets are covered with shrink nylon to protect them from external factors.

Pallets are moved with the help of a forklift.

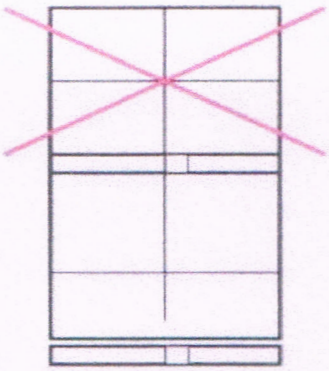
During loading, the pallets are arranged so that their side faces touch each other.

The transportation vehicle should be loaded with a maximum of two pallets on top of each other.

When storing, pallets are placed neatly on a smooth surface.

4 pallets can be stacked on top of each other as they will not be subject to movement in the warehouse.

WARNING: When stacking on top of each other, pallets should be placed in the same direction.



11. FLOORING INSTRUCTIONS

• Inspect the area to be covered with ceramic coating materials. Is there a miter error? Can it be fixed?

If possible, start by eliminating the errors you observe on the ground.

• Check whether the ceramic coating materials you will lay are suitable for the place of use.

If necessary, warn the consumer about this.

• Make sure that the temperature of the volume you will coat is not below 10 °C. If you have to cover

Take precautions.

• Calculate the square footage by measuring the area you will cover.

• Clean the area you will be working on.

• Before starting work, examine **the color tone and size** markings on the tile boxes. Different color tones

With the letters "A, B, C, D,.."; The dimensions are indicated by the letters "X, Q, Z". Tiles you use in the same space

It should be in the same color tone and in the same size range. •

The ceramics to be applied should not be wet, as there will be no good adhesion when in aqueous state, after drying

should be used.

• If there is dust on the back of the tile that will prevent adhesion, it should be used after removing the dust with a brush.

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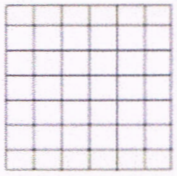
• When cutting ceramic tiles, use cutting tools and diamond bits designed for this purpose.

• Prepare the ceramic mortar, spread it on the entire floor in the same thickness and level it with a leveling gauge.

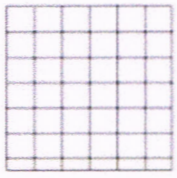
• If there are defects such as glaze scratches or overglaze pieces on the surfaces of the tiles you took out of the box, these tiles should be repaired more thoroughly.

Set aside to evaluate later. By cutting the faulty surfaces of these tiles on the edges where you need to use pieces

you can place it.



Proper cut



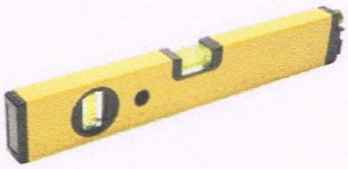
improper cutting, processing
left to one side

• When cutting ceramic tiles, use cutting tools and diamond bits designed for this purpose.

• Prepare the ceramic mortar, spread it on the entire floor in the same thickness and level it with a leveling gauge.

• From the moment you start covering, make sure that every tile you replace is on the same level.

move forward.



Spirit level for level accuracy

Laser level measuring device

• When arranging tiles side by side, make sure that you always keep the same distance by placing a joint between them.

• Joint spacing should not be less than 3 mm.

• Fill the gaps between the tiles with grouting material 24 hours after the laying process is completed.

• Do not scrape the grout that gets on the tiles with hard objects. Remove residues and residues using a damp cloth or sponge.

remove contamination.

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• In the form of print on the boxes that directly concerns sellers, users, practitioners and implementers

There is information. It is extremely important that the relevant person or persons read and take this information into consideration.

Apply the thoroughly mixed mortar to the floor.

Comb the surface.

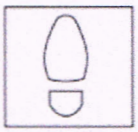
Place the first tile as a guide.

Proceed regularly by placing a joint layer between the tiles.

Level the surface with the help of a wooden gauge and rubber mallet.

• Markings and explanations on the box should be examined to ensure that ceramics suitable for the application area and purpose are used.

must be sure



It is suitable for laying on the ground.

It is resistant to frost.

It is suitable for mounting on the wall.

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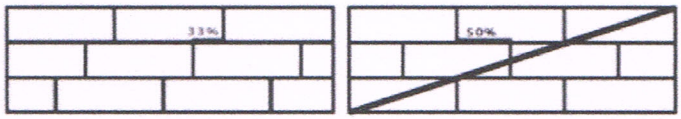
• As we stated on the product boxes, for products with an aspect ratio of more than 2 times (120/30 = 4), such as 30x120

1/3 of the applications should be staggered. Information on the box is as follows. This is 120cm

For a product with a long side of 120 cm x (1 / 3) = 40 cm offset.



ANSI A108.02 Section 4.3.8.2- For running bond/b
utilizingtiles (square or rectangular) where the side b
than 18"(nominal dimension),the running bonc
maximum of 33%unless otherwise specifed by the til
an of set greater than 33% is specifed,specifer and ow
mock-up and lippage.

12. TECHNICAL INSPECTION, METHODS FOR COMPLAINTS

Products must be checked before application. Products with the same product code and production date should not be placed in the same area.

In order to be used, products must be determined from the beginning according to the application area.

In order to properly evaluate possible complaints about the ceramics to be applied, each code and dated product

Box information should be stored until the process is completed.

There is information in the form of print on the boxes that directly concerns sellers, users, applicators and implementers. It is extremely important

that the relevant person or persons read and take this information into consideration. of these

mentioned above.

A general check for breaks and cracks should be made by opening a few boxes of the specified tiles and laying them on the ground to determine possible color.

difference or surface defect should be checked, if detected, they should be separated without being used and the authorized person should be informed.

If the detected defect is large enough to affect the flooring, the process should not be started until a response is received.

If a problem occurs during application, the dealer from whom the product was purchased should be contacted.

The work should be stopped, and the work should be started according to the recommendation after obtaining information from the authorized person depending on the situation of the problem.

should be continued. Replacing the faulty product after installation causes much more time and labor loss.

causes costs. In accordance with the standards, such errors will occur after obvious products are installed.

Complaints are not accepted.

Unwanted images may occur due to incorrect applications. Made during application

Detection prevents the formation of unwanted images and loss of workforce. That's why Licensed professional

It is recommended to work with installers and craftsmen who are familiar with the products that work in accordance with the laying instructions.

is done.

If unsolvable defects are detected during product controls, the product must be removed before continuing the process.

The dealer or seller from whom it was purchased should be contacted, a clear explanation of the problem, photographs and product box information, if any.

and technical service should be obtained from the factory.

When a problem is reported to our technical service unit

First of all, the incoming information is quickly checked,

Records on the product production date are examined,

If it can be done remotely,

If deemed necessary and appropriate, the product will be examined at the customer's address and

A solution is produced quickly.

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Our customer complaints evaluation system is monitored by the senior management with the VerimPortal program, and
We meet the needs of our customers by producing solutions. In this way, we have a close relationship with our customers
The correct use of our products is guided and important problems, if any, are solved at the source.
is produced. In addition, if the problems are product-related, our technical team working closely with the production will inform you.
Permanent solutions are created during the production stages.

13. WARNING SIGNS

LIFT THE BOXES WITH SUPPORT FROM YOUR LEGS, NOT YOUR WAIST.

CHECK THE QUALITY CLASS - COLOR TONE - SIZE RANGE OF THE TILES.

USE WORK GLOVES WHEN CARRYING AND LAYING.

USE GLASSES WHEN CUTTING TILES.

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14. MAINTENANCE

The surface of ceramic tiles is extremely smooth, even on matte surfaces with very low light transmittance. Therefore Cleaning and maintenance is very easy. They are not damaged by any acid or base other than hydrofluoric acid. Highly concentrated acids and hard cleaning tools such as brushes and sandpaper as cleaning agents Use is not recommended. The table below lists cleaning agents that can be used for various types of stains. are listed.

Additionally, there may be deterioration or damage to the joint fillings, especially in environments exposed to heavy traffic and humidity. It should be checked whether there is any, and if necessary, the joint application should be repeated.

15. RECOMMENDED CLEANING CRITERIA

Stain Type	Recommended Cleaning Material
Alcoholic and non-alcoholic beverages	Hot water, daily detergent
Vegetable oil	liquid detergents
synthetic oil	liquid detergents
machine oil	Carbonated water, alcohol
cellulosic oil paint	Cellulosic thinner
synthetic oil paint	synthetic thinner
plastic paint	This
Tire/rubber	Nail polish remover
rust stain	lime remover
iodine stain	Ammonia
Candle	Thinner, turpentine
cement mortar	Sulfuric acid
Ink stain and marker	hot water, alcohol

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11. TECHNICAL SPECIFICATIONS

Table 11.1. Technical Specifications of Glazed Porcelain

Theme		BIEN Standarts	TS EN 14411 Annex-G		Test Method
	Length and Width	± 0,5 %	± 0,6 %	± 2,0 mm	TS EN ISO 10545-2
	Thickness	± 5 %	± 5 %	± 0,5 mm	TS EN ISO 10545-2
	Straightness of Sides	± 0,3 %	± 0,5 %	± 1,5 mm	TS EN ISO 10545-2
	Rectangularity	± 0,5 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Center Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Edge Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Warpage	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
φ	Surface Quality	5 % defective	5 % defective		TS EN ISO 10545-2
	Water Absorption	Max. 0,5 %	Max. 0,5 %		TS EN ISO 10545-3
	Breaking Strength (≥ 7,5 mm)	Min 1300 N	Min 1300 N		TS EN ISO 10545-4
	Breaking Strength (< 7,5 mm)	Min 700 N	Min 700 N		TS EN ISO 10545-4
	Modulus of Rupture	Min. 35 N/mm²	Min. 35 N/mm²		TS EN ISO 10545-4
	Impact Resistance	Resistant	Required		TS EN ISO 10545-5
	Abrasion Class	Min II	as declared		TS EN ISO 10545-7
	Thermal Shock Resistance	Resistant	Required		TS EN ISO 10545-9
	Crazing Resistance	Resistant	Required		TS EN ISO 10545-11
	Frost Resistance	Resistant	Required		TS EN ISO 10545-12
	Resistance to Acids/Alkalis	Class LB-HB	as declared		TS EN ISO 10545-13
	Resistance to Household Chem.	Min. Class B	Min. Class B		TS EN ISO 10545-13
	Resistance to Staining	Min. Class 3	Min. Class 3		TS EN ISO 10545-14

Table 11.2 Technical Specifications of Floor Tiles (Mat)

Theme		BIEN Standarts	TS EN 14411 Annex-H		Test Method
	Length and Width	± 0,5 %	± 0,6 %	± 2,0 mm	TS EN ISO 10545-2
	Thickness	± 5 %	± 5 %	± 0,5 mm	TS EN ISO 10545-2
	Straightness of Sides	± 0,3 %	± 0,5 %	± 1,5 mm	TS EN ISO 10545-2
	Rectangularity	± 0,5 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Center Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Edge Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Warpage	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
φ	Surface Quality	5 % defective	5 % defective		TS EN ISO 10545-2
	Water Absorption	0,5 % < E ≤ 3,0 %	0,5 % < E ≤ 3,0 %		TS EN ISO 10545-3
	Breaking Strength (≥ 7,5 mm)	Min 1100 N	Min 1100 N		TS EN ISO 10545-4
	Breaking Strength (< 7,5 mm)	Min 700 N	Min 700 N		TS EN ISO 10545-4
	Modulus of Rupture	Min. 30 N/mm²	Min. 30 N/mm²		TS EN ISO 10545-4
	Impact Resistance	Resistant	Required		TS EN ISO 10545-5
PEI	Abrasion Class	Min II	as declared		TS EN ISO 10545-7
	Thermal Shock Resistance	Resistant	Required		TS EN ISO 10545-9
	Crazing Resistance	Resistant	Required		TS EN ISO 10545-11
	Frost Resistance	Resistant	Required		TS EN ISO 10545-12
	Resistance to Acids/Alkalis	Class LB-HB	as declared		TS EN ISO 10545-13
	Resistance to Household Chem.	Min. Class B	Min. Class B		TS EN ISO 10545-13
	Resistance to Staining	Min. Class 3	Min. Class 3		TS EN ISO 10545-14

Table 11.3 Technical Specifications of Floor Tiles(Glossy)

Theme		BIEN Standarts	TS EN 14411 Annex-J		Test Method
	Length and Width	± 0,5 %	± 0,6 %	± 2,0 mm	TS EN ISO 10545-2
	Thickness	± 5 %	± 5 %	± 0,5 mm	TS EN ISO 10545-2
	Straightness of Sides	± 0,3 %	± 0,5 %	± 1,5 mm	TS EN ISO 10545-2
	Rectangularity	± 0,5 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Center Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Edge Curvature	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Warpage	± 0,3 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
φ	Surface Quality	5 % defective	5 % defective		TS EN ISO 10545-2
	Water Absorption	3,0 % < E ≤ 6,0 %	3,0 % < E ≤ 6,0 %		TS EN ISO 10545-3
	Breaking Strength (≥ 7,5 mm)	Min 1000 N	Min 1000 N		TS EN ISO 10545-4
	Breaking Strength (< 7,5 mm)	Min 600 N	Min 600 N		TS EN ISO 10545-4
	Modulus of Rupture	Min. 22 N/mm²	Min. 22 N/mm²		TS EN ISO 10545-4
	Impact Resistance	Resistant	Required		TS EN ISO 10545-5
	Abrasion Class	Min II	as declared		TS EN ISO 10545-7
	Thermal Shock Resistance	Resistant	Required		TS EN ISO 10545-9
	Crazing Resistance	Resistant	Required		TS EN ISO 10545-11
	Frost Resistance	Resistant	Required		TS EN ISO 10545-12
	Resistance to Acids/Alkalis	Class LB-HB	as declared		TS EN ISO 10545-13
	Resistance to Household Chem.	Min. Class B	Min. Class B		TS EN ISO 10545-13
	Resistance to Staining	Min. Class 3	Min. Class 3		TS EN ISO 10545-14

Table 11.4. Technical Specifications of Wall Tiles

Theme		BIEN Standarts	TS EN 14411 Annex-L		Test Method
	Length and Width	± 0,4 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Thickness	± 10 %	± 10 %	± 0,5 mm	TS EN ISO 10545-2
	Straightness of Sides	± 0,2 %	± 0,3 %	± 1,5 mm	TS EN ISO 10545-2
	Rectangularity	± 0,4 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
	Center Curvature	+ 0,4 % - 0,2 %	+ 0,5 % - 0,3 %	+ 2,0 mm - 1,5 mm	TS EN ISO 10545-2
	Edge Curvature	+ 0,4 % - 0,2 %	+ 0,5 % - 0,3 %	+ 2,0 mm - 1,5 mm	TS EN ISO 10545-2
	Warpage	± 0,4 %	± 0,5 %	± 2,0 mm	TS EN ISO 10545-2
φ	Surface Quality	5 % defective	5 % defective		TS EN ISO 10545-2
	Water Absorption	10 % < E ≤ 20 %	10 % < E ≤ 20 %		TS EN ISO 10545-3
	Breaking Strength (≥ 7,5 mm)	Min 600 N	Min 600 N		TS EN ISO 10545-4
	Breaking Strength (< 7,5 mm)	Min 200 N	Min 200 N		TS EN ISO 10545-4
	Modulus of Rupture	Min. 15 N/mm²	Min. 15 N/mm²		TS EN ISO 10545-4
	Thermal Shock Resistance	Resistant	Required		TS EN ISO 10545-9
	Crazing Resistance	Resistant	Required		TS EN ISO 10545-11
	Resistance to Acids/Alkalis	Class LB-HB	as declared		TS EN ISO 10545-13
	Resistance to Household Chem.	Min. Class B	Min. Class B		TS EN ISO 10545-13
	Resistance to Staining	Min. Class 3	Min. Class 3		TS EN ISO 10545-14

17. BIEN SERAMİK WARRANTY CERTIFICATE

bien

Konu: Seramik karo üretimlerinin garanti şartları ve garanti süresi hakkında

14.07.2023

EN 14411 standardına göre; CE etiketlemesi şartını sağlayan karoların kullanım ömrü binanın kullanım süresiyle özdeştir. Bununla birlikte, kaplama malzemelerinin dayanımında etken olan pek çok faktör söz konusudur.

Bunlardan en önemlisi ihtiyaçlara yönelik doğru karo seçiminin yapılmasıdır.

Bu aşamada mukavemet, dona dayanım, aşınma dayanımı ve asit dayanımı gibi teknik özellikler göz önünde bulundurulmalı; yer veya duvar, iç mekan veya dış mekan, düşük veya yüksek yoğunluklu trafik, evsel veya endüstriyel uygulamalar için farklı ürün grupları tercih edilmeli, gerekiyorsa danışmanlık hizmeti alınmalıdır.

Karo seçimi kadar, döşeme işleminde kullanılan malzemeler ve döşeme işçiliği de kritik önemdedir. İyi mastarlanmış zemin üzerinde uygun yapıştırıcı ve uygun derz malzemesi kullanılarak itinayla çalışılmalıdır.

Tüm üretimini EN 14411 standartları uyarınca kontrol altında tutan Bien, yukarıda belirtilen ve standartta tarif edilen şartlara uyulduğu taktirde ürünlerini 10 yıl süresince garanti kapsamında tutacağını taahhüt eder.

Ahmet Pehlivan
Kalite Güvence Müdürü

bien

Subject: About the warranty terms and warranty period of ceramic tile productions

14.07.2023

According to EN 14411 standard; The lifetime of the tiles that meet the CE labeling requirement is identical to the lifetime of the building. However, there are many factors that affect the strength of coating materials.

The most important of these is choosing the right tile for the needs.

At this stage, technical features such as strength, frost resistance, abrasion resistance and acid resistance should be considered; Different product groups should be preferred for floor or wall, indoor or outdoor, low- or high-density traffic, domestic or industrial applications, and consultancy service should be obtained if necessary.

The materials used in the flooring process and the flooring workmanship are as critical as the tile selection. It should be carefully worked on by using suitable adhesive and suitable joint material on a well-studied floor.

Keeping all of its production under control in accordance with EN 14411 standards, Bien offers its products under warranty for 10 years, provided that the conditions specified above and described in the standard are complied with.

promises to keep.

Ahmet Pehlivan
Quality Assurance Manager

PREPARER	APPROVED BY
QUALITY ASSURANCE	MANAGEMENT REPRESENTATIVE

18. R&D PERIODIC TESTS INSTRUCTIONS

For frost resistance, slip resistance, Pb/Cd dissolution tests, dilatometric analysis and chemical analysis Support is received from the organizations in the "Working with Laboratories" list in Article 13.

The products on which these tests will be applied and how often are shown in the table below:

Test Subject	Test Method	Related Products	Test Period
Frost Resistance	ISO 10545-12	Glazed granite, floor tiles	once a year
anti-slip	DIN 51130	Glazed granite, floor tiles	once a year
Pb/Cd Solubility	ISO 10545-15	decor, border	once a year
Dilatometric Analysis	DTA	All production recipes	For each new production recipe
Chemical analysis	XRF semi-quantitative	Frites and masse hammd. once a year	

Apart from these tests carried out with external support, tests will be followed within the R&D laboratory.

periodic tests are tabulated below:

Test Subject	Test Method	Related Products	Test Period
Deformation Measurement	ISO 10545-2	ÿ 330x330 mm dimensions	once a year
Wear Resistance	ISO 10545-7	Matte glazed floor coverings	For each new production recipe
Dilute Acids	ISO 10545-13	All matte glaze recipes	For each new production recipe

Dilatometric analysis and chemical analysis results are in the relevant analysis folders; frost resistance, anti-slip, Pb/Cd dissolution, deformation measurement, abrasion resistance and dilute acid resistance results are archived in the "Factory Production Controls" file.

19. LIST OF WORKING WITH LABORATORIES

LAB	CONTACT INFORMATION	TEST TOPIC	TEST METHOD
CERAMIC RESEARCH CENTRAL	Anadolu University Eng.-Architect. Faculty ÿki Eylül Campus ESKÿÿEHÿR Tel: 0.222.323.8276 Fax: 0.222.322.29.43 mail@seramikarastirma.com.tr	Frost Resistance	ISO 10545-12
		anti-slip	DIN 51130
		Dilatometric Analysis	DTA
		Chemical analysis	XRF semi-quantitative
MATEL RAW MATERIAL SINGING. AND TRADE Inc.	Organized industrial Zone 11100 BILECIK Tel: 0.228.216.0565 Fax: 0.228.216.0569 factory@matel.com.tr	Dilatometric Analysis	DTA
		Chemical analysis	XRF
INTERTEK TESTING SERVICES	Fatih Cad. Dereboyu Street No: 4/2 34303 Halkalÿ / ISTANBUL Tel: 0.212.471.1172 Fax: 0.212.471.1112 labtest.turkey@intertek.com	Pb Dissolution	ISO 10545-15
		CD Resolution	ISO 10545-15
EXPERTS CALIBRATION SERVICE	Nilüfer Trade Center Part 2, 635th Street Automation Plaza No:7 Nilüfer / BURSA Tel: 0.224.4415577 Fax: 0.224.441.7252 uks@kalibration.com.tr	Thermocouple Calibration	Deviation detection by comparison
		Scale Calibration	EA 10-18
		Oven Calibration	9-point homogeneity test
		Tensile/Compression Calibration TS EN ISO 7500-1	
		Manometer Calibration	DKD R6-1
		Moisture Meter Calibration	With reference to compare
		Caliper Calibration	VDI/VDE/DGQ 2618 Blatt 9.1
		Sieve Calibration	ISO 3310-1
		Stopwatch Calibration	With reference to compare
		Flow Vessel Calibration	With reference to compare

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