

PAVIMENTI INDUSTRIALI ANTIACIDO

# PROGETTO INDUSTRIA



antiacid industrial floorings | planchers industriels antiacides pisos  
industriales antiácidos | säurebeständige Bodenbeläge für die Industrie



COSTRUIRE CON CIPA GRES

## What is required by law - Law 155/97 of Ministry of Health

### As implementation of directive number 93/43 of the EEC

This law introduces in food field the concept of self-control better known in the U.S. A. as Hazard Analysis and Critical Control Points. The food business operators are obliged to identify in its production process the critical phases for health and hygiene of the product manufactured and adopt best practices to ensure safety and safeguard of the same food.

### FLOOR IN PORCELAIN STONEWARE, WHY?

One floor in water-proof material and resistant, easy to clean and disinfect, so arranged in order to facilitate the drainage of water and not only. Walls with smooth surfaces easy to clean, resistant and water-proof, cladded with light color materials. Porcelain tile floor manufactured by CIPA GRES S.p.A. facilitates the regular maintenance of floors and the possible substitution of some pieces without necessarily stopping the production for a long time.

### CHOICE OF COLOURS

The choice of colours and laying patterns for the realisation of floor or wall floor in porcelain stoneware manufactured by CIPA GRES S.p.A. must take into account various factors including the size of the environment (height, natural or artificial light) in addition to the style and laying that will be realised. The final result might vary according to certain optical effects-led by the colours and laying patterns-which are subject to the human eye:

- 1. Spaces of equal dimensions seem different according to the way they are filled in:

- black and dark colours reduce space as they absorb light;
- white and bright colours spread the light and therefore enlarge space;
- vertical lines extend the space whereas horizontal lines enlarge it.

- 2. Black or dark surfaces seem smaller than white or bright ones, even when they have same dimensions. These are, in fact, indicated for machine shops and warehouses.

- 3. One bright and uniform floor visually enlarges a room. It is particularly suited for small rooms whereas different shades reduce the perceived sizes. A contrasting combination between floor and wall coverings guarantees a perception of the room wider than actual size; particularly well suited for environments, food production, hallways and utility rooms. Colours can also be used to distinguish work areas from traffic areas and facilitate orientation.

### CHOICE OF SIZES AND THICKNESSES

When thinking about industrial floor it is fundamental that the product used can withstand both static and dynamic stress to a great extent. The thickness of the tiles plays a key role in the resistance to such stresses. In addition, the thickness also ensures the tightness of joints, holding a larger amount of epoxy filler. The HI-TECH CIPA GRES S.p.A. range is realised in different thicknesses and sizes, offering to designers a great variety of technical as well as aesthetical solutions that could satisfy all requests. Small sizes facilitate the execution of any liability for the discharge of process liquids and washing.

### ADVANTAGES OF PORCELAIN TILE FLOORS

- **Hygiene and Safety:** Floors in porcelain tile from company CIPA GRES S.p.A. are continuous, filled with epoxy in order to prevent from the buildup of bacteria in cracks and joints. They can be cleaned with detergents and sanitizers. They comply with extreme hygienic conditions that require frequent and focused cleaning with steam or hot water and harsh chemical cleaners. Floors in porcelain tile are used in places where food products are manufactured or stored, as in these places must be employed very specific items or systems that might take into account the risk of absorption of odours developed during the construction phase. During the phase of laying the porcelain tile manufactured by CIPA GRES S.p.A. does not pollute with unpleasant odours the food, as it does not contain volatile organic compounds. Skirtings with special trims are realised in order to avoid bacterial accumulation between the sharp edge and the wall. By means of its porcelain tile, company CIPA GRES S.p.A. manufactures anti-slip floors in highest safety complying with existing laws for the safety of workers (Law 626 on safety in working and work places) and the law BGR 181 DIN 51130 (R9-R10-R11-R12-R13). Several industrial plants, drug industries, food companies, chemical and electronical industries must meet very important technical requirements; they need, in fact, spaces with floors completely without dust and sharp edges, easy to clean and that could satisfy other requirements such as chemical resistance.
- **Chemical Resistance:** Porcelain tiles manufactured by CIPA GRES S.p.A. are the ideal solution to realise surfaces subject to chemical attack, with the exception of hydrofluoric acid. The correct choice depends from various factors, such as: the aggressive nature and its concentration, temperature contact, occasional or continuous frequency.
- **Mechanical Resistance:** Concentrated heavy loads, frequent and heavy traffic (forklifts), impact resistance and abrasion resistance. You will have to take into account all loads both static and dynamic expected during the construction, operation and maintenance. The finish of industrial floor will be able to resist such stresses only in the measure of the quality of the substrate on which it will be applied and considering a proper laying along with the right thickness of the laid product.
- **Thermal Resistance:** Floors can withstand processing temperatures between -40°C (frozen departments) and +120°C (steam sterilization). It is important to consider not only the temperature of the working machines and the products used in the processes, but also the adjacent areas. The areas in which activities are carried out in autoclave heating, the firing, the sterilisation and freezing might be subject to rapid changes of temperatures.
- **Thermal Conductivity:** Regardless of the ambient temperature and the floor, thermal conductivity of the substrate has a positive influence on the feeling of well-being. In the case of underfloor heating, porcelain tile performances excellently in comparison with other products that are good conductors, as it allows the complete system with lower water temperatures and as a consequence energy saving for the entire plant.
- **Surface Finish:** The choice of porcelain tile for easy maintenance should also meet the requirements of hygiene, safety and durability. Company CIPA GRES S.p.A. has a wide range of products able to satisfy both technical and aesthetic requirements.
- **Anti-Slip Properties:** The areas of pedestrian traffic may require various degrees of slip resistance evaluating the degree of humidity in which it operates (predominantly dry or wet environment).
- **Impermeability:** Compact and non-porous, fully vitrified porcelain tile is water-proof, resistant to stains and is easy to clean. It protects and finally prevents toxic substances from polluting the ground water of the subsoil.
- **Fire Resistance:** Porcelain tile manufactured by CIPA GRES S.p.A. complies with current fire regulations for specific areas, such as emergency exit routes, depots of explosive materials, public areas and underground parkings. Unlike many other materials, porcelain tiles are incombusible, do not release smoke or toxic gases in the case of combustion and have the power to inhibit the flames, reducing damages caused by fires to a certain extent. Therefore, it is equivalent to the class O.
- **UV Resistance:** Colours fastness to light and UV rays. It complies to DIN 541094 rule.
- **Odorless and volatile organic compounds free:** The series HI-TECH "technical porcelain tile GRANITI-GRANATI-COLOUR STYLE" is a fully vitrified product with low water absorption, - AA~ 0.03% - fired at 1200° C temperature (materials with low emission according to credit EQ - 4.2) is completely VOC-free (volatile organic compounds). Moreover, it does not release VOC in any condition of use.
- **Antibacterial:** Products from CIPA GRES S.p.A. do not promote the proliferation of bacteria. Hence, provide that all items are treated with specific products, they can be considered antibacterial.
- **Resistance to salt:** Since this material does not show porosity, it cannot be damaged even from the shedding of salt used for production (fish, tanneries) OR FOR EXTERNAL USE. Salt distributed in the winter to prevent ice from forming on sidewalks and lanes or to increase the resistance to the passage.
- **Installation speed:** The porcelain tile flooring manufactured by CIPA GRES S.p.A. allows a fast execution compared to other systems. The floors are made by countless pieces that can be replaced with the use of new glues, adhesives and grouts without the interruption of the activities of the establishment. Can be walked after about 12 hours and fully operational after one day (completion of physical chemical characteristics).
- **Supports in existing applications:** Floors in porcelain tile manufactured by CIPA GRES S.p.A. could be applied on new supports or existing ones. The substrates are typically made of concrete blocks, cast in place (screeds) or precast (plates). They are however also of different materials, for example anhydrite, magnesite, asphalt, metal, wood, brick, old resins, stone materials and etc.
- **Nature of materials used:** A proper design must think about the use of materials and solutions that allow greater continuity between different surfaces in both horizontal and vertical ways.
- **Type of materials:** Materials usually used in food industry are as follows: Epoxies (EP), Expansion joints and Adhesive and sealers of class C2.
- **Coating:** A porcelain tile floor produced by CIPA GRES S.p.A. which meets the requirements of the customer is the result of proper planning that leads to the choice of most appropriate technical and aesthetical solutions.

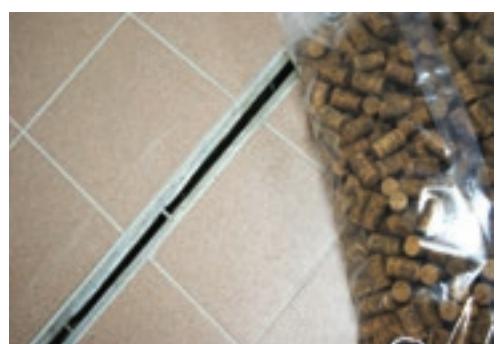
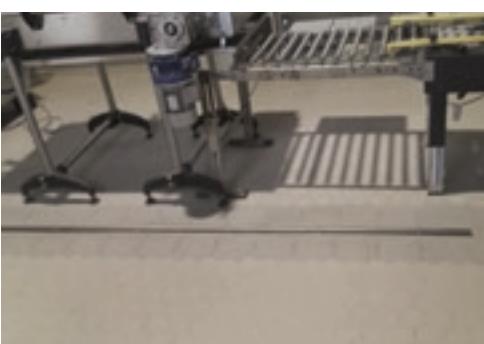
## DESTINAZIONI D'USO | REFERENZE

use destination | References / destinations de j'emploie | Références / distintos usos | Referencias / Endverwendungen | Referenzen

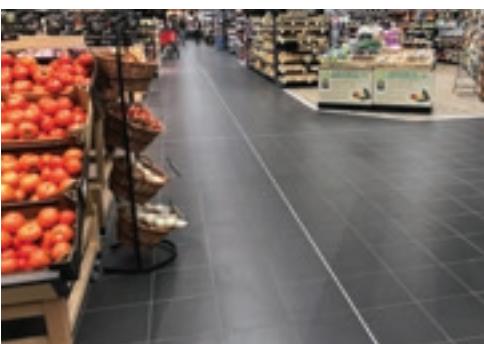
### CASEIFICI Dairies / Laiteries / Lecherías / Käserien



### CANTINE Wineries / Caves / Cuevas / Weinkeller



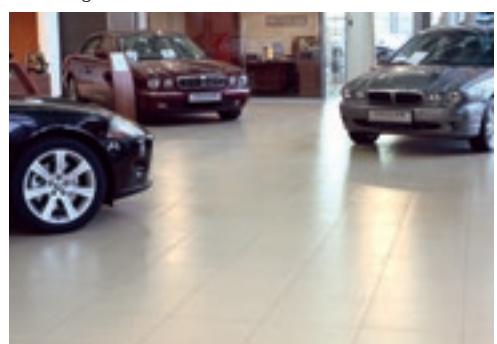
### SUPERMERCATI Shopping malls / Supermarchés / Supermercados / Supermärkte



### BIRRIFICI Breweries / Brasseries / Cervecerías / Brauereien



### AUTOSALONI Car show rooms / Salles d'exposition pour voitures / Salas de exposición para coches / Ausstellungsräume für Autos



# GALLERIA DI ALCUNI SETTORI (DESTINAZIONI D'USO)

Imagenes de algunos sectores de destino / Galerie von einigen Sektoren (Verwendungszweck)



## Imbottigliamento

Bottling  
Embouteillage  
Embotellado  
Abfüllung



## Chimico

Chemical plants  
Usines chimiques  
Talleres químicos  
Chemische Industrie



## Meccanico

Mechanical  
Mécanique  
Mecánico  
Mechanisch



## Mense

Canteens  
Cantines  
Cantines  
Kantinen



## Palestre

Gyms  
Gymnases  
Gimnasios  
Sporthallen



## Farmacie

Pharmacies  
Pharmacies  
Farmacias  
Apotheiken



## Uffici Pubblici

Public offices  
Bureaux publics  
Oficinas públicas  
Öffentliche Ämter



## Magazzino

Warehouse  
Dépôts  
Almacén  
Lager



## Corridoi

Corridors  
Couloirs  
Pasillos  
Flure



## Spedizioni

Shipping houses  
Expéditions  
Expediciones  
Versandhäuser



## Basamenti

stands  
Stands  
Stands  
Stände



## Caserme

Barracks  
Gendarmeries  
Cuartel  
Kaserne

# PROGETTO INDUSTRIA



**Supermercati**  
Supermarkets  
Hypermarchés  
Hipermercados  
Verkaufshäuser



**Locali di vendita**  
Sell places  
Lieux de vente  
Lugares de venta  
Verkaufsziele



**Collettività**  
Public places  
Collettivité  
Colectividad  
Gemeinschaft



**Locali di servizio**  
Local service  
Service sur place  
Servicio local  
Wirtschaftsräumen



**Latte, Formaggi**  
Milk, Cheese  
Lait, Fromage  
Leche, Queso  
Milch, Käse



**Olio**  
Oil  
Huile  
Aceite  
Öl



**Piscine**  
Pools  
Piscines  
Piscinas  
Schwimmmbad



**Vino, Birra, Bevande**  
Wine, Beer, Drinks  
Vin, Bière, Boissons  
Vino, Cerveza, Bebidas  
Wein, Bier, Getränke



**Sottaceti**  
Pickles  
Cornichons  
Encurtidos  
Gurken



**Spogliatoi**  
Dressing rooms  
Vestiaires  
Guardarropas  
Garderobe



**Pesce**  
Fish  
Poisson  
Pescado  
Fisch



**Carni, Salumi**  
Meat, Cold cuts  
Viandes, Charcuterie  
Carne, Fiambres  
Fleisch, Aufschnitt



**Gastronomia**  
Kitchens  
Gastronomie  
Cocinas  
Küchen



**Pasta**  
Pasta  
Pâtes  
Pasta  
Pasta



**Frutta, Verdura**  
Fruit, Vegetables  
Fruit, Légumes  
Frutas, Verduras  
Obst, Gemüse

## SUPERFICI DISPONIBILI SU RICHIESTA:

surfaces available on request / les surfaces disponibles sur demande / superficies disponibles bajo pedido / Oberflächen auf Anfrage erhältlich



## COLORI DISPONIBILI SU RICHIESTA:

colors available on request / couleurs disponibles sur demande / colores disponibles bajo pedido / Farben auf Anfrage erhältlich

GRANITI	POMPEI	GARDA	CEFALU'	CANAZEI	RIMINI	POSITANO	CADORE	GAVELLO	TAORMINA
GRÈS FINE PORCELLANATO A TUTTA MASSA									
Full body fine porcelain stoneware Gres cerame fin vitrifie a pleine masse Gres porcelánico fino a toda mas In der Masse durchgefärbtes Feinsteinzeug	RAL 1015	RAL 1015	RAL 7038	RAL 7030	RAL 3012	RAL 7032	RAL 1015	RAL 9002	RAL 1019
GRANATI	VULCANO	GIGLIO	PANAREA	PIANOSA	STROMBOLI	PANTELLERIA	LINOSA	MALTA	ISCHIA
GRÈS FINE PORCELLANATO A TUTTA MASSA									
Full body fine porcelain stoneware Gres cerame fin vitrifie a pleine masse Gres porcelánico fino a toda mas In der Masse durchgefärbtes Feinsteinzeug	RAL 1013	RAL 1001	RAL 1014	RAL 1015	RAL 7039	RAL 8019	RAL 8004	RAL 7044	RAL 7000
COLOURSTYLE	GHIACCIO	FUMO	MATITA	OCRA	AVORIO	PANNA	ANTRACITE NEW	COBALTO NEW	CIELO
GRÈS FINE PORCELLANATO A TUTTA MASSA									
Full body fine porcelain stoneware Gres cerame fin vitrifie a pleine masse Gres porcelánico fino a toda mas In der Masse durchgefärbtes Feinsteinzeug	RAL 7035	RAL 7003	RAL 7038	RAL 1006	RAL 1015	RAL 9001	RAL 9004	RAL 5024	RAL 6034
NODOTS	MONTBLANC	K2	BERNINA	MAKALU	BROMO	GRIZZLY PEAK	GLACIER PEAK	NEPAL	
GRÈS FINE PORCELLANATO A TUTTA MASSA									
Full body fine porcelain stoneware Gres cerame fin vitrifie a pleine masse Gres porcelánico fino a toda mas In der Masse durchgefärbtes Feinsteinzeug	RAL 9001	RAL 1013	RAL 1015	RAL 1019	RAL 7006	RAL 7004	RAL 7038	RAL 7022	

## **PROGETTO INDUSTRIA**



# THROUGHBODIED

**Gres porcellanato tutta massa**  
Through-bodied porcelain stoneware  
Grès cérame pleine masse  
Gres porcelánico a toda masa  
Durchgefäßbartes Feinsteinzeug

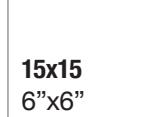


12 mm  
14 mm  
20 mm

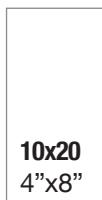


EN 14411 Gruppo Bla  
UGL Appendice G

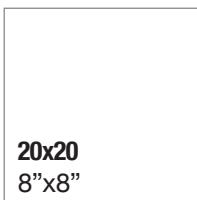
~ 0.03%



15x15  
6" x 6"



**10x20**  
**4" x 8"**



**20x20**  
**8" x 8"**



12,5x25  
5" x 10"



**15x30**  
**6" x 12"**



10x11.5

**3<sup>15/16</sup>" x 4<sup>17/32</sup>"**



CORTINA	PORTOFINO	ELBA	SIENA	MAREMMA	PALMI	ASCIANO	AMELIA	TROPEA	AVOLA	ANGHIARI	OLBIA	SOLERO
RAL 9001	RAL 7044	RAL 8014	RAL 8011	RAL 6011	RAL 3012	RAL 8004	RAL 1015	RAL 1034	RAL 9004	RAL 6028	RAL 7001	RAL 8004

MARINA	SMERALDO	OUMI	COTTO NEW
RAL 6021	RAL 6000	RAL 1015	RAL 8004

<b>BLANC</b>	<b>BIANCO PURO</b>
	

## ARTICOLI IN GAMMA

standard range items / produits disponibles en stock / productos disponibles en el almacén / An Lager erhältliche Produkte



SLR R11  
14MM



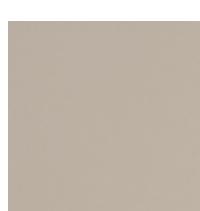
BLANC



POMPEI EXTRA



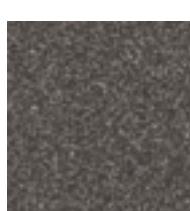
NATURALE  
14MM



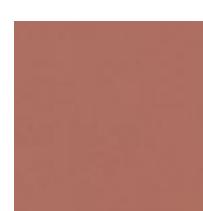
BLANC



CADORE



ELBA



COTTO NEW



RUSTICO R11  
14MM



BLANC



CADORE



ELBA



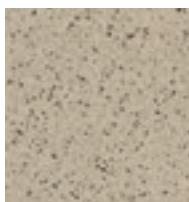
COTTO NEW



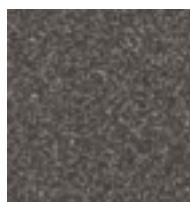
NATURALE  
12MM



CANAZEI



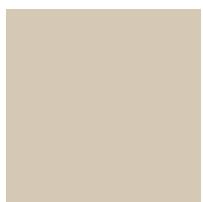
CEFALÚ



ELBA



GARDA



OUMI



POMPEI



NATURALE  
14MM



BLANC

10x11,5  
 $3\frac{15}{16}'' \times 4\frac{17}{32}''$



R10  
14MM



BLANC



POMPEI EXTRA

# PROGETTO INDUSTRIA



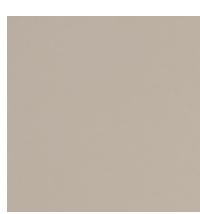
## THROUGHBODIED

### Gres porcellanato tutta massa

Through-bodied porcelain stoneware  
Grès cérame pleine masse  
Gres porcelánico a toda masa  
Durchgefäßtes feinsteinzeug



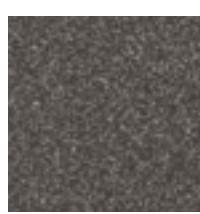
NATURALE  
20MM



BLANC



CADORE



ELBA



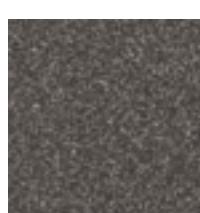
RUSTICO R11  
20MM



BLANC



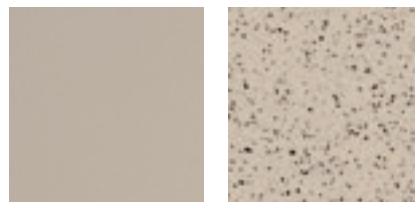
CADORE



ELBA



SLR R11  
14MM



BLANC

POMPEI EXTRA

			ISO 13006 EN 14411 - ANNEX G Bla - UGL completamente grigificato - fully sintered		
			~ 0,03%	non gelivi frost proof	

	mm	€ Pz.
<b>MODULO A/B</b> 20x20 - 8"x8"	14	▲ A5
A      B		
<b>Zoccolo a Raccordo Becco Civetta (Z.B.C)</b> Cove base - Plinthe a gorge - Hohlkehsockel 12,5x25 - 5"x10"	14	▲ A3
raggio 25		
<b>Spigolo Zoccoli (Z.B.C)</b> External angles - Angle extérieur - Aussenecke 4x12,5 - 1,6"x5"	14	▲ A4
raggio 25		
<b>Angolo Zoccoli (Z.B.C)</b> Internal angles - Angle intérieur - Innenecke 4x12,5 - 1,6"x5"	14	▲ A4
raggio 25		

### Formato nominale

Nominal size

Format nominal

Tamaño nominal

Nennformat

## STRUTTURE

Textures  
Structures  
Estuchuras  
Strukturen

**CIPA GRES S.p.A.** offre una gamma di superfici consentendo di pavimentare e rivestire tutti gli ambienti interni ed esterni sia in ambito residenziale, commerciale e industriale. Un fattore determinante all'eliminazione del rischio di scivolosità in particolari ambienti è dato dall'impiego di pavimenti antisdrucchio a superficie strutturata.

**CIPA GRES S.p.A.** offers a wide range of surface textures including matt, stone, bush-hammered and polished. This means that all indoor and outdoor environments in both residential business and industrial spheres can be paved and clad. Use of non-slip floor tiles with their textured surfaces are a decisive choice when it comes to eliminating the risk of slipping in certain environments.

**CIPA GRES S.p.A.** offre une gamme de surfaces qui permettent de carreler tous les environnements aussi bien extérieurs qu'intérieurs, résidentiels, commerciaux et industriels. Un facteur déterminant à l'élimination du risque de glissage de certains environnements qui nécessitent la pose de sols antidérapants à surface structurée.

**CIPA GRES S.p.A.** ofrece una gama de superficies que permiten pavimentar y cubrir todos los ambientes interiores y exteriores tanto en entornos residenciales, comerciales e industriales. Un factor decisivo para eliminar el riesgo de deslizamiento en entornos particulares es el uso de pisos estructurados antideslizantes de superficie.

**CIPA GRES S.p.A.** bietet eine Reihe von Oberflächen, mit denen alle Innen- und Außenbereiche in Wohn-, Gewerbe- und Industrienumgebungen abgedeckt und abgedeckt werden können. Ein entscheidender Faktor zur Beseitigung des Risikos von Rutschgefahr in bestimmten Umgebungen ist die Verwendung von rutschfesten Oberflächenböden.

**POINT**

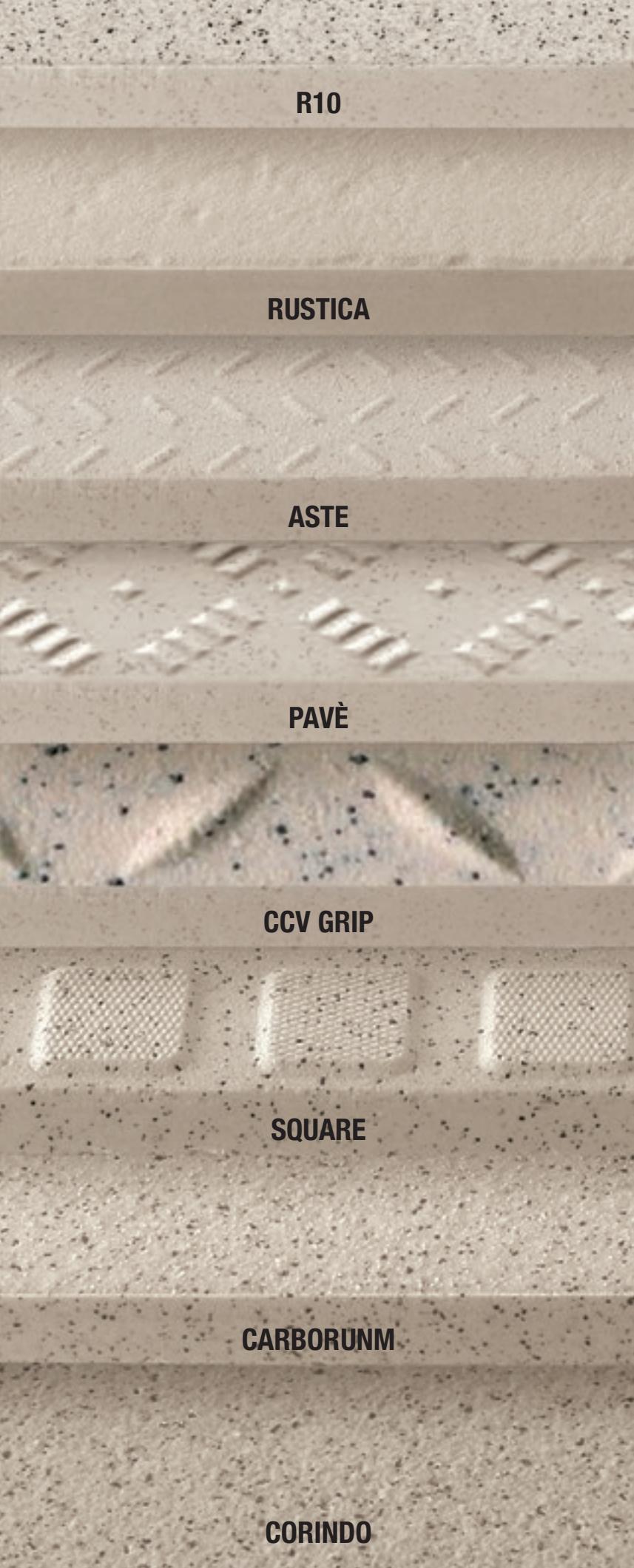
**QUADRI**

**SLR**

**STAR**

**LINE**

**ROCCIA**



**R10**

**RUSTICA**

**ASTE**

**PAVÈ**

**CCV GRIP**

**SQUARE**

**CARBORUNM**

**CORINDO**

#### **TAB 1 DIN 51130**

	oltre 6° e fino a 10°	R9
	oltre 10° e fino a 19°	R10
	oltre 19° e fino a 27°	R11
	oltre 27° e fino a 35°	R12
	oltre 35°	R13

#### **TAB 2**

	cm³ / dm² 4	V4
	cm³ / dm² 6	V6
	cm³ / dm² 8	V8
	cm³ / dm² 10	V10

**Volume cavità deflusso**  
Run-of cavity volume  
Volume cavite d'ecoulement  
Volumen cañad de escurrimento  
Wasserableitende Verlegung

**Gruppo di valutazione**  
Evaluation category  
Groupe d'évaluation  
Grupo de valoración  
Beurteilungsgruppe

#### **TAB 3 DIN 51097**

	medio $\geq 12^\circ$	A
	buono $\geq 18^\circ$	B
	buono $\geq 24^\circ$	C

**Proprietà antiscivolo**  
Non-slip properties  
Propriétés antidérapantes  
Propiedad antideslizante  
Rutschhemmung

#### **TAB 4 B.C.R.A.**

**Il coefficiente di attrito dà una indicazione del grado di scivolosità di una pavimentazione. Il metodo B.C.R.A. (inglese) misura il coefficiente di attrito dinamico ( $\mu$ ) di una superficie e classifica:**

The coefficient of friction provides an indication of the degree of floor slipperiness. The B.C.R.A. method (english) measure the coefficient of dynamic friction ( $\mu$ ) of a surface and classifies:

Le coefficient de glissement exprime la nature glissante d'un carrelage. La méthode B.C.R.A. (anglaise) mesure le coefficient de frottement dynamique ( $\mu$ ) d'une surface et établit la classification suivante:

El coeficiente de roce proporciona una indicación del grado de resbalamiento de un pavimento. El método B.C.R.A. (inglés) mide el coeficiente de roce dinámico ( $\mu$ ) de una superficie y se clasifica en:

Der Reibungskoeffizient gibt einen Hinweis auf die Glätte eines Bodenbelags. Die englische Methode B.C.R.A. misst den dynamischen Reibungskoeffizient ( $\mu$ ) einer Oberfläche mit folgender Klassifikation:

$\mu < 0,20$	<b>Scivolosità pericolosa</b> Dangerous slipperiness / Nature glissante dangereuse Resbalamiento peligroso / Gefährliche Glätte
$0,20 \leq \mu < 0,40$	<b>Scivolosità eccessiva</b> Excessive slipperiness / Nature glissante excessive Resbalamiento excesivo / Übermäßige Glätte
$0,40 \leq \mu < 0,74$	<b>Attrito soddisfacente</b> Satisfactory friction / Frottement satisfaisant Roce satisfactorio / Zufriedenstellende Reibung
$\mu \geq 0,74$	<b>Attrito eccellente</b> Excellent friction / Frottement excellent Roce excelente / Ausgezeichnete Reibung

## PEZZI SPECIALI

Special Pieces / Piezas Especiales / Piezas Especiales / Formstücke

**La collezione Pezzi speciali Hi-Tech è caratterizzata da un'ampia gamma di colori che possono essere abbinati tra loro grazie alla fedeltà cromatica che le caratterizza, per generare proposte dall'alto valore estetico - progettuale. La collezione è formata da diversi formati e pezzi speciali perfettamente modulari tra loro.**

**CIPA GRES S.p.A. che vuole collocarsi su di un segmento di mercato medio alto, non può più fare a meno di una gamma completa di pezzi speciali che qualifichi il materiale di normale produzione, conferendogli di conseguenza maggior valore aggiunto.**

**Da non trascurare inoltre che la legislazione in materia di igiene e di sicurezza impone sempre più spesso l'utilizzo di pezzi speciali allo scopo di prevenire situazioni di pericolo (superficie scivolose, spigoli vivi, ecc.) e di possibili danni alla salute (angoli e zone difficilmente pulibili, piani di contenimento ecc.).**

**I pezzi speciali proposti hanno le stesse caratteristiche tecniche ed estetiche del prodotto a cui andranno abbinati.**

The Hi-Tech Special Pieces collection features a wide range of colours that can be matched together to create stylish and design-oriented proposals. The collection includes various different formats and special pieces that are all perfectly modular and can be used together.

CIPA GRES S.p.A. proposes medium-high products, thus the complete range of special pieces is designed to enhance the normal products and achieve a consequently higher added value.

Moreover, the laws that govern hygiene and safety increasingly require the use of special pieces to prevent dangerous situations (slippery surfaces, sharp edges, etc.) and health danger (corners that are difficult to clean, surfaces on which liquids are able to stagnate, etc.).

These special pieces possess the same technical specifications and appearance as the products to which they are matched.

La collection Pièces Spéciales Hi-Tech est caractérisée par une ample gamme de couleurs qui peuvent être associées entre elles grâce à la fidélité chromatique qui les caractérise, pour réaliser des propositions de haute valeur en termes d'esthétique et de conception. C'est une collection qui réunit différents formats et types de pièces spéciales parfaitement modulaires entre-eux.

Pour se placer dans un segment de marché moyen-haut, CIPA GRES S.p.A. ne peut plus faire abstraction d'une gamme complète de pièces spéciales qui qualifie le matériau de la production normale, en lui apportant une plus grande valeur ajoutée.

Il ne faut pas oublier d'autre part la législation en matière d'hygiène et de sécurité qui impose de plus en plus souvent l'utilisation de pièces spéciales dans le but de prévenir les situations de danger (surfaces glissantes, arêtes vives, etc.) et les atteintes possibles à la santé (angles et endroits difficiles à nettoyer, barrages, etc.).

Les pièces spéciales proposées ont les mêmes caractéristiques techniques et esthétiques que le produit auquel elles seront associées.

La colección piezas especiales Hi-Tech se caracteriza por una amplia gama de colores, que pueden combinarse entre sí gracias a la fidelidad cromática que las caracteriza, generando así propuestas con elevado valor estético-proyectual. La colección está formada por diversos formatos y piezas especiales, perfectamente modulares entre sí.

CIPA GRES S.p.A., que desea posicionarse en un segmento de mercado medio-alto, no puede prescindir de una gama completa de piezas especiales, que cualifican el material de la producción normal, confiriendo de este modo un mayor valor agregado a su producción.

No olvidemos, por otra parte, que la legislación en materia de higiene y seguridad impone cada vez más frecuentemente la utilización de piezas especiales para prevenir situaciones de peligro (superficies resbaladizas, aristas vivas, etc.) y eventuales perjuicios para la salud (ángulos y zonas difíciles de limpiar, planos de contención de agua, etc.).

Las piezas especiales propuestas tienen las mismas características técnicas y estéticas del producto con el cual se combinarán.

Die Kollektion Formstücke Hi-Tech zeichnet sich durch eine sehr große Palette von Farben aus, die dank der Farbtreue, die sie kennzeichnet, miteinander kombiniert werden können, um Gestaltungen hohen ästhetischen und planerischen Werts zu erhalten. Die Kollektion setzt sich aus verschiedenen Formaten und Formstücken zusammen, die untereinander perfekt modular gestaltet sind.

CIPA GRES S.p.A., ein Unternehmen, das sich in einem oberen Marktsegment platzieren will, kann nicht auf eine vollständige Reihe von Formstücken verzichten, die das Material der normalen Produktion qualifiziert und ihm einen höheren Wertzuwachs verleiht.

Außerdem darf nicht vergessen werden, dass die Gesetzgebung in Sachen Hygiene und Sicherheit immer öfter die Verwendung von Formstücken vorschreibt, um Gefahrensituationen (rutschige Oberflächen, spitze Kanten etc.) und mögliche Gesundheitsschäden (schlecht zu reinigende Ecken und Bereiche etc.) zu vermeiden.

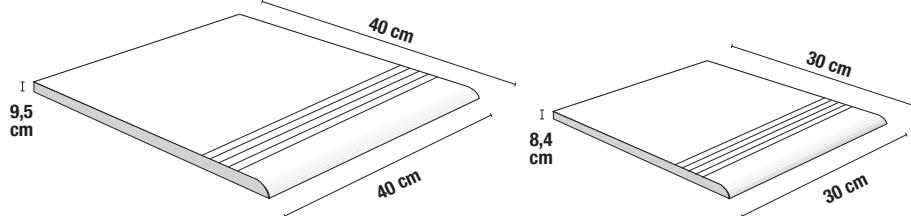
Die vorgeschlagenen Formstücke haben die gleichen technischen und ästhetischen Eigenschaften wie das Produkt, mit dem sie zu kombinieren sind.



# PROGETTO INDUSTRIA

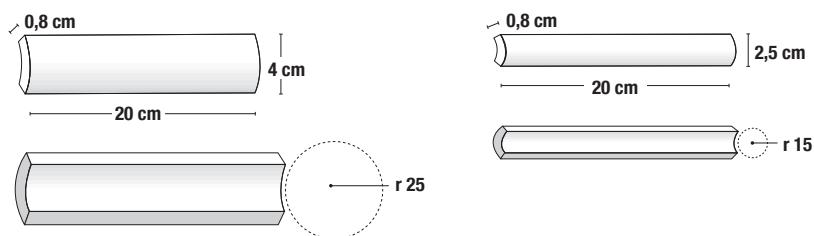
## GRADINO

GRADINO 40x40 cm - 16"x16"  
GRADINO 30x30 cm - 12"x12"



## CANALETTA

CANALETTA 4x20 cm - 1,6"x8"  
CANALETTA 2,5x20 cm - 1"x8"



**A richiesta disponibile varie dimensioni (Lunghezza max 30 cm)**

A request available various sizes (max 30 cm Length)

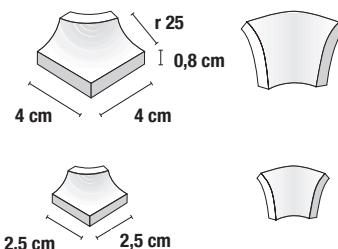
À la demande disponible différentes tailles (max 30 cm Longueur)

En las solicitudes disponibles diversos tamaños (max 30 cm de longitud)

Eine Anfrage verschiedene Größen (maximal 30 cm Länge)

## PIÈ D'OCA

PIÈ D'OCA 4x4 cm - 1,6"x1,6"  
\* PIÈ D'OCA 2,5x2,5 cm - 1"x1"



### \* Ricavato dal taglio dello spigolo ZTR - ZBC

Manufactured from the cutting edge of "ZTR - ZBC" external angles

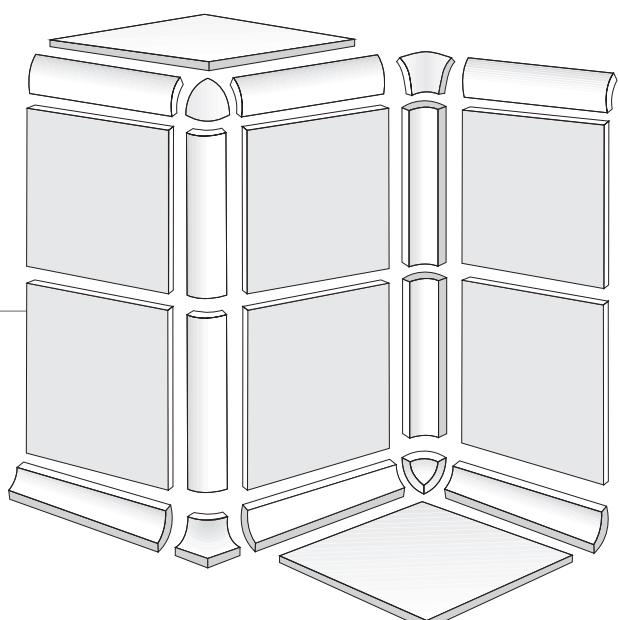
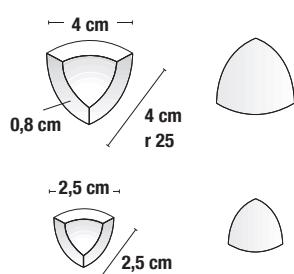
Produit de la coupe droite des angles sortants "ZTR - ZBC"

Sacado del corte de la esquina "ZTR - ZBC"

Hergestellt aus gerader Kante von Außenwinkel "ZTR - ZBC"

## CONCHIGLIA

CONCHIGLIA 4x4 cm - 1,6"x1,6"  
CONCHIGLIA 2,5x2,5 cm - 1"x1"



## SCHEMA DI POSA

**Le quote riportate sono dimensioni nominali**

The values refer to nominal sizes

Les valeurs indiquées se réfèrent aux dimensions nominelles

Los valores indicados pertenecen a las dimensiones nominales

Die angezogenen Werte beziehen sich auf nominelle Größen

# PEZZI SPECIALI

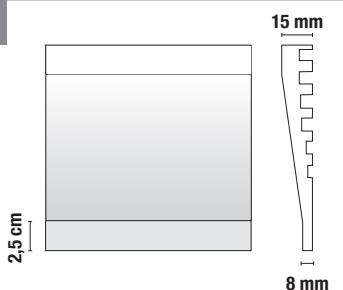
Special Pieces / Pièces Spéciales / Piezas Especiales / Formstücke

## SPA LINEARE

SPA LINEARE SLR 15x15 cm - 6"x6"

**Articolo disponibile su richiesta**

This article is available upon request  
Cet article est disponible sur demande  
Este artículo está disponible a petición  
Dieser Artikel ist auf Anfrage erhältlich

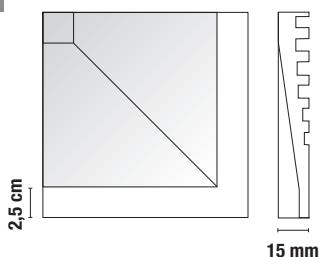


## SPA ANGOLO

SPA ANGOLO SLR 15x15 cm - 6"x6"

**Articolo disponibile su richiesta**

This article is available upon request  
Cet article est disponible sur demande  
Este artículo está disponible a petición  
Dieser Artikel ist auf Anfrage erhältlich



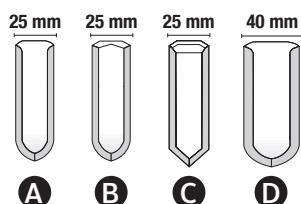
## ANGOLO

ANGOLO ZBC 2,5x10 cm - 1"x4"

ANGOLO ZTR 2,5x10 cm - 1"x4"

ANGOLO FRANCESE 2,5x10 cm - 1"x4"

ANGOLO ZBC R 25 4x12,5 cm - 1,6"x4"



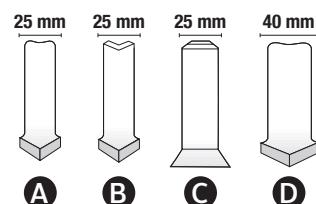
## SPIGOLO

SPIGOLO ZBC 2,5x10 cm - 1"x4"

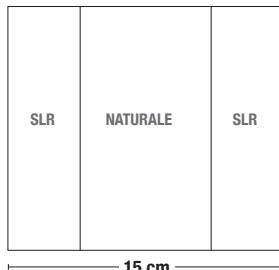
SPIGOLO ZTR 2,5x10 cm - 1"x4"

SPIGOLO FRANCESE 2,5x10 cm - 1"x4"

SPIGOLO ZBC R 25 4x10 cm - 1,6"x4"

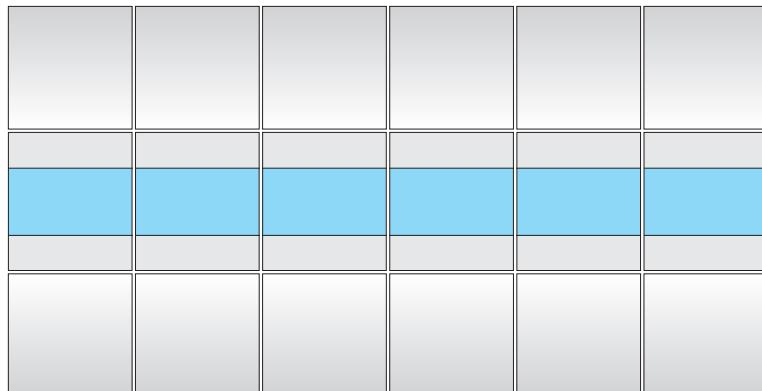


## CANALETTA SCOLO ACQUA



**Articolo disponibile su richiesta**

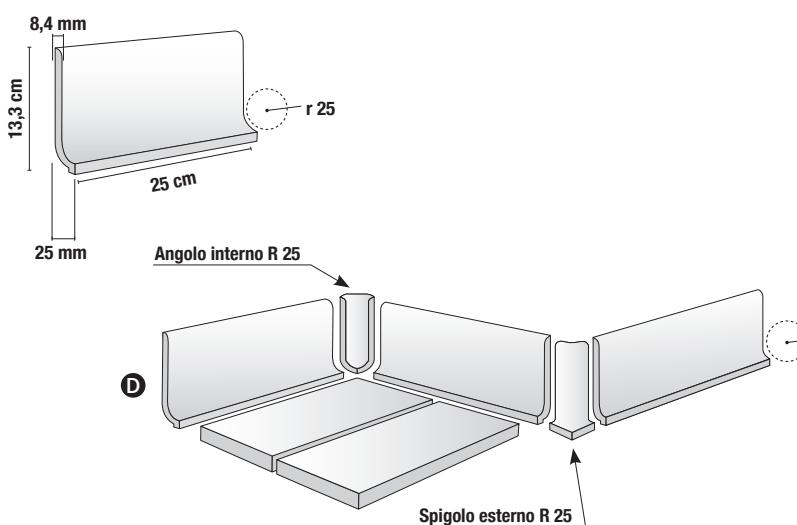
This article is available upon request  
Cet article est disponible sur demande  
Este artículo está disponible a petición  
Dieser Artikel ist auf Anfrage erhältlich



## ZBC R 25

ZBC R 25 12,5x25 cm - 5"x10"

Zoccolo a raccordo a becco civetta / Cove base / Plinthe à gorge / Hohlkehlsockel



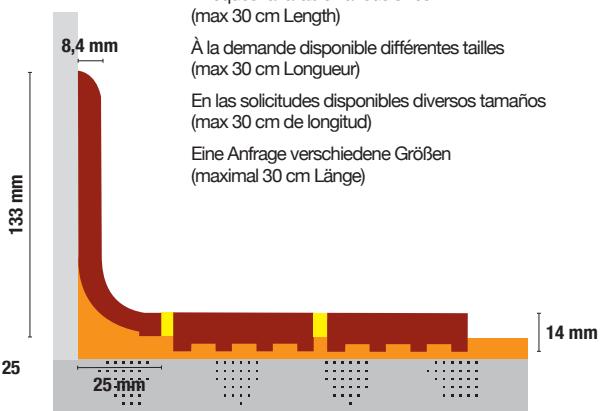
**A richiesta disponibile varie dimensioni (Lunghezza max 30 cm)**

A request available various sizes (max 30 cm Length)

À la demande disponible différentes tailles (max 30 cm Longueur)

En las solicitudes disponibles diversos tamaños (max 30 cm de longitud)

Eine Anfrage verschiedene Größen (maximal 30 cm Länge)

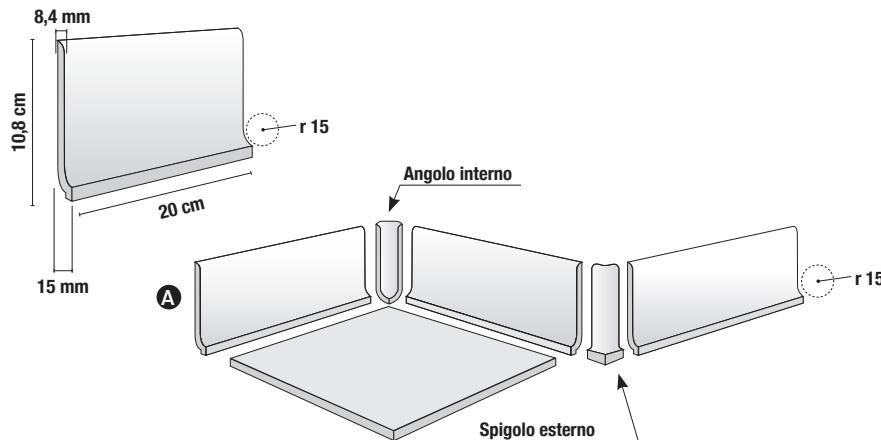


- Pavimento Floor / Étage / Piso / Boden
- Rivestimento Coating / Revêtement / Revestimiento / Wandfliesen
- Parete Wall / Mur / Pared / Wand
- Fuga Joint / Joint / Junta / Fuge
- Colla Glue / Colle / Cola / Klebstoff
- Massetto Screed / Chape / Capa / Estrich

# PROGETTO INDUSTRIA

## ZBC

**ZBC 10x20 cm - 4"x8"**  
Zoccolo a raccordo a becco civetta / Cove base / Plinthe à gorge / Hohlkehlsockel



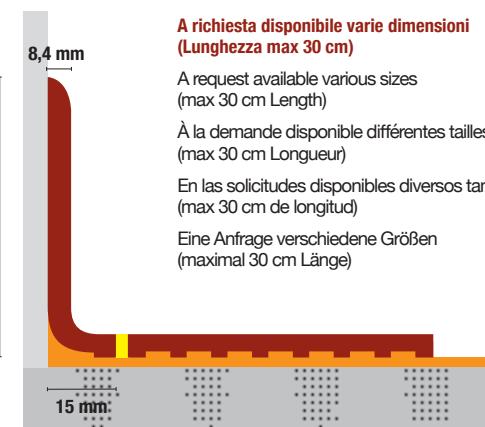
A richiesta disponibile varie dimensioni  
(Lunghezza max 30 cm)

A request available various sizes  
(max 30 cm Length)

À la demande disponible différentes tailles  
(max 30 cm Longueur)

En las solicitudes disponibles diversos tamaños  
(max 30 cm de longitud)

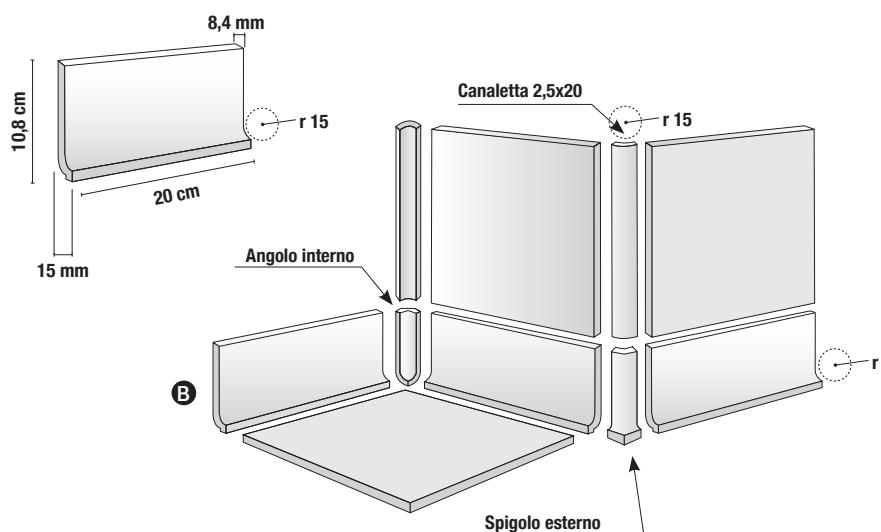
Eine Anfrage verschiedene Größen  
(maximal 30 cm Länge)



Pavimento Floor / Étage / Piso / Boden  
Parete Wall / Mur / Pared / Wand  
Fuga Joint / Joint / Junta / Fuge  
Colla Glue / Colle / Cola / Klebstoff  
Massetto Screed / Chape / Capa / Estrich

## ZTR

**ZTR 10x20 cm - 4"x8"**  
Zoccolo a raccordo taglio retto / Straight top / Bord vif / Mit gerader Kante



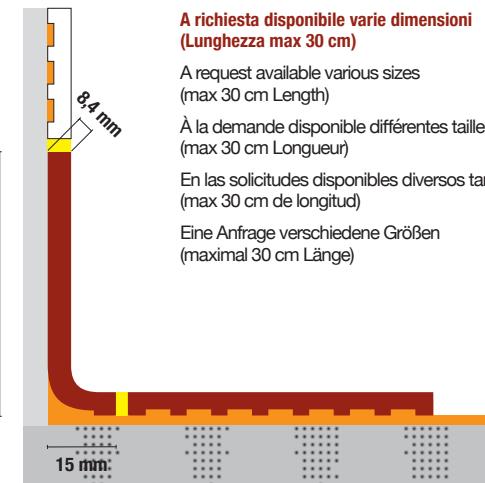
A richiesta disponibile varie dimensioni  
(Lunghezza max 30 cm)

A request available various sizes  
(max 30 cm Length)

À la demande disponible différentes tailles  
(max 30 cm Longueur)

En las solicitudes disponibles diversos tamaños  
(max 30 cm de longitud)

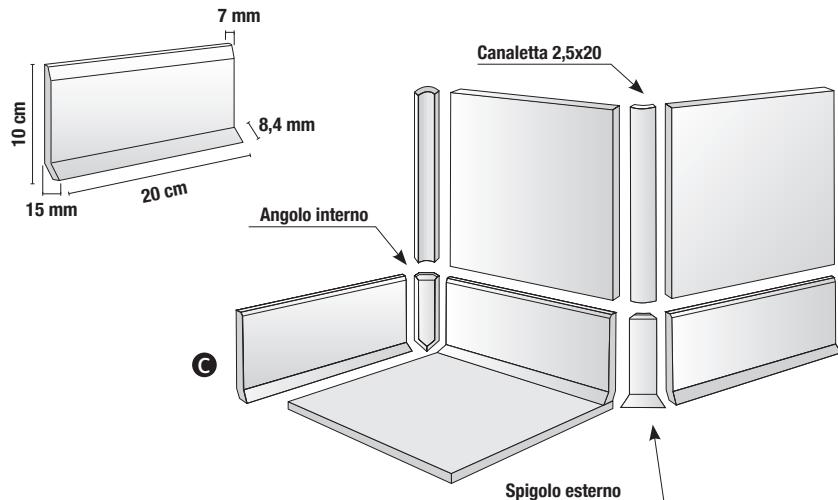
Eine Anfrage verschiedene Größen  
(maximal 30 cm Länge)



Pavimento Floor / Étage / Piso / Boden  
Rivestimento Coating / Revêtement / Revestimiento / Wandfliesen  
Parete Wall / Mur / Pared / Wand  
Fuga Joint / Joint / Junta / Fuge  
Colla Glue / Colle / Cola / Klebstoff  
Massetto Screed / Chape / Capa / Estrich

## Z FRANCese

**ZBCF 10x20 cm - 4"x8"**  
Zoccolo ad appoggio francese / Sit on skirting / Plinthe à talon / Stehsockel



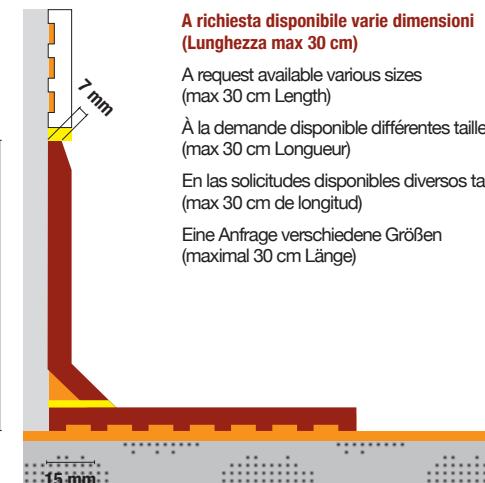
A richiesta disponibile varie dimensioni  
(Lunghezza max 30 cm)

A request available various sizes  
(max 30 cm Length)

À la demande disponible différentes tailles  
(max 30 cm Longueur)

En las solicitudes disponibles diversos tamaños  
(max 30 cm de longitud)

Eine Anfrage verschiedene Größen  
(maximal 30 cm Länge)



Pavimento Floor / Étage / Piso / Boden  
Rivestimento Coating / Revêtement / Revestimiento / Wandfliesen  
Parete Wall / Mur / Pared / Wand  
Fuga Joint / Joint / Junta / Fuge  
Colla Glue / Colle / Cola / Klebstoff  
Massetto Screed / Chape / Capa / Estrich

# CERTIFICAZIONI

Certifications / Certifications / Certificaciones / Zertifizierungen



## QB-UPEC

**Marchio di conformità del prodotto riferito alle norme QB UPEC con correlazione delle caratteristiche tecniche alla destinazione d'uso.**  
Per i prodotti certificati QB UPEC consultare il sito web.  
**U:** Resistenza all'usura da calpestio  
**P:** Resistenza meccanica agli spostamenti di oggetti mobili e fissi  
**E:** Comportamento in presenza di acqua  
**C:** Resistenza agli agenti chimici correnti

Marque de conformité du produit visée aux règles QB UPEC avec corrélation des caractéristiques techniques à l'utilisation prévue.

Pour les produits QB UPEC merci de visiter la page web.

**U:** Résistance à l'usure due à la marche

**P:** Résistance mécanique au poinçonnement dû au mobilier et autres objets fixes ou mobiles

**E:** Comportement à l'eau

**C:** Résistance aux agents chimiques courants

Per i prodotti QB UPEC consultare il sito.

Pour les produits QB UPEC merci de visiter la page web

<http://evaluation.cstb.fr/certifications-produits-services/produit/carreaux-ceramiques-pour-revetements-de-sol/>

## KUCAS - KUWAIT (PAI)

La certificazione attesta la conformità dei prodotti importati agli standard obbligatori del Kuwait (Public Authority for Industry of the State of Kuwait - PAI). Per permettere lo sdoganamento della merce a destino, ogni spedizione deve essere accompagnata da un Certificato TIR (Technical Inspection Report) che può essere emesso solo a seguito di un'ispezione fisica e per articoli già presenti su un TER (Technical Evaluation Report) ancora in corso di validità.

The certification certifies the compliance of imported products with the mandatory standards of Kuwait (Public Authority for Industry of the State of Kuwait - PAI). To allow the customs clearance of the goods at destination, each shipment must be accompanied by a TIR Certificate (Technical Inspection Report) which can only be issued following a physical inspection and for items already present on a still valid TER (Technical Evaluation Report).

La certification atteste de la conformité des produits importés avec les normes obligatoires du Koweït (Autorité publique pour l'industrie de l'Etat du Koweït - PAI). Pour permettre le dédouanement des marchandises à destination, chaque expédition doit être accompagnée d'un certificat TIR (rapport de contrôle technique), qui ne peut être délivré qu'après un contrôle physique et pour les articles déjà présents sur un TER (Rapport d'évaluation technique) encore en cours de validité.

La certificación certifica el cumplimiento de los productos importados con los estándares obligatorios de Kuwait (Autoridad Pública para la Industria del Estado de Kuwait - PAI). Para permitir el despacho de aduana de las mercancías en el destino, cada envío debe ir acompañado de un Certificado TIR (Informe de Inspección Técnica) que solo se puede emitir después de una inspección física y para los artículos ya presentes en un TER (Informe de evaluación técnica) aún válido.

Die Zertifizierung bescheinigt die Konformität von importierten Produkten mit den verbindlichen Standards von Kuwait (Behörde für Industrie des Staates Kuwait - PAI). Um die Zollabfertigung der Ware am Bestimmungsort zu ermöglichen, muss jeder Sendung ein TIR-Zertifikat (Technical Inspection Report) beigefügt sein, das nur nach einer physischen Inspektion und für Artikel ausgestellt werden kann, die sich bereits in einer noch gültigen TER befinden.



## CCC CHINA

La marcatura CCC attesta che i prodotti Ceramica CIPA GRES S.p.A. possiedono la più bassa radioattività naturale. In questo modo i prodotti CIPA GRES S.p.A. sono adatti per la posa in ambienti pubblici come scuole e asili. La certificazione CCC si ottiene dopo un test incrociato da differenti laboratori sullo stesso campione una visita dell'ente di certificazione che garantisce la conformità dei prodotti certificati. Il marchio CCC suddivide i prodotti in due classi a seconda della percentuale di radioattività: classe A e B. Tutti i prodotti CIPA GRES S.p.A. appartengono alla classe A che è la più sicura, indicata all'utilizzo in tutti i luoghi pubblici. Per ulteriori informazioni [www.ctc.ac.cn](http://www.ctc.ac.cn)

The CCC marking certifies that the Ceramica CIPA GRES S.p.A. products have the lowest natural radioactivity. In this way CIPA GRES S.p.A. products are suitable for installation in public places such as schools and kindergartens. The CCC certification is obtained after a cross-test by different laboratories on the same sample a visit of the certification body that guarantees the conformity of certified products. The CCC brand divides the products into two classes according to the percentages of radioactivity: class A and B. All CIPA GRES S.p.A. products belong to the class A which is the safest, indicated for use in all public places. For more information [www.ctc.ac.cn](http://www.ctc.ac.cn)



## SONCAP – NIGERIA

L'Organizzazione Nigerianiana degli Standard (SON) tramite il programma SONCAP per esportare piastrelle verso la Nigeria. Tutte le spedizioni comprendenti prodotti regolati devono essere accompagnate da un Certificato di Conformità (CoC) emesso da un'agenzia indipendente e accreditata dal SON, come Intertek e un Certificato SONCAP emesso dal SON.

The Nigerian Standards Organization (SON) through the SONCAP program to export tiles to Nigeria. All shipments including regulated products must be accompanied by a Certificate of Conformity (CoC) issued by an independent agency accredited by SON, such as Intertek and a SONCAP Certificate issued by SON.

La Organización de Normas de Nigeria (SON) a través del programa SONCAP, d'exportation de tuiles au Nigéria. Tous les envois, y compris les produits réglementés, doivent être accompagnés d'un certificat de conformité délivré par un organisme indépendant accrédité par SON, tel qu'Intertek, et d'un certificat SONCAP délivré par SON.

Die Nigerian Standards Organization (SON) hat über das SONCAP-Programm Fliesen nach Nigeria exportiert. Alle Sendungen, einschließlich regulierter Produkte, müssen von einer von SON akkreditierten unabhängigen Stelle wie Intertek und einem von SON ausgestellten SONCAP-Zertifikat mit einem Konformitätszertifikat (Certificate of Conformity, CoC) versehen sein.



## PHZ (CERTIFICAZIONE DI IGIENE POLONIA)

PHZ (CERTIFICATION OF HYGIENE POLAND)



## ASTM INTERNATIONAL

ASTM International è un ente di standardizzazione statunitense, acronimo di American Society for Testing and Materials International.

ASTM International is a US standardization body, acronym of American Society for Testing and Materials International.

ASTM International est un organisme de normalisation américaine, acronyme de Société américaine pour les essais et les matériaux internationaux.

ASTM International es un organismo de normalización de los EE. UU., Acrónimo de American Society for Testing and Materials International.

ASTM International ist eine US-amerikanische Normungsorganisation, die Abkürzung für American Society for Testing and Materials International.



## SASO - ARABIA SAUDITA

SASO ISO-13006 L'Organizzazione degli Standard Saudi, per esportare piastrelle in Arabia Saudita. Per ulteriori informazioni sulle esportazioni in Arabia Saudita potete consultare agenzia Intertek.

SASO ISO-13006 The Saudi Standards Organization, to export tiles to Saudi Arabia. For more information on exports to Saudi Arabia, you can consult Intertek agency.

SASO ISO-13006 L'organisation saoudienne de normalisation, pour exporter des carreaux en Arabe saoudite. Pour plus d'informations sur les exportations vers l'Arabie Saoudite, vous pouvez consulter l'agence.

SASO ISO-13006 La Organización de Normas Sauditas, para exportar fichas a Arabia Saudita. Para obtener más información sobre las exportaciones a Arabia Saudita, puede consultar la agencia Intertek.

SASO ISO-13006 Die saudische Normungsorganisation, um Fliesen nach Saudi-Arabien zu exportieren. Weitere Informationen zu Exporten nach Saudi-Arabien erhalten Sie von der Intertek-Agentur.



Dal 2017 lo certifica ufficialmente l'EPD di prodotto, la Dichiarazione Ambientale di Prodotto, certificazione indipendente che attesta l'impatto ambientale del ciclo di vita per la fabbricazione di un prodotto (ISO 14025). L'EPD prende in esame il consumo di materie prime, di energia e di acqua oltre alla produzione di emissioni inquinanti e di rifiuti derivanti dal processo di fabbricazione CIPA GRES S.p.A. La certificazione inoltre ha confermato che il prodotto finale stesso può vantare proprietà di estrema durabilità nel tempo, riciclabilità, igienicità e assenza di tossicità.

ISO 14025 - EN 15804

From 2017 we officially certified the EPD product, the Environmental Product Declaration, an independent certification attesting the environmental impact of the life cycle for the manufacture of a product (ISO 14025). The EPD examines the consumption of raw materials, energy and water in addition to the production of polluting emissions and waste deriving from the CIPAGRES S.p.A manufacturing process. The certification also confirmed that the final product itself has properties of extreme durability, recyclability, hygiene and absence of toxicity.

A partir de 2017 certifie officiellement le produit EPD, l'Environmental Product Declaration, une certification indépendante attestant l'impact environnemental du cycle de vie pour la fabrication d'un produit (ISO 14025). L'EPD examine la consommation de matières premières, d'énergie et d'eau en plus de la production d'émissions polluantes et de déchets issus du processus de fabrication. CIPA GRES S.p.A. La certification a également confirmé que le produit final lui-même peut se targuer de propriétés extrêmement durables au fil du temps, la recyclabilité, l'hygienie et l'absence de toxicité.

Desde 2017 certifica oficialmente el producto EPD, la Declaración de Producto Ambiental, una certificación independiente que certifica el impacto ambiental del ciclo de vida para la fabricación de un producto (ISO 14025). El EPD examina el consumo de materias primas, energía y agua, además de la producción de emisiones contaminantes y residuos derivados del proceso de fabricación. CIPA GRES SPA La certificación también confirmó que el producto final en sí mismo puede presumir de propiedades de extrema durabilidad con el tiempo, reciclabilidad, higiene y ausencia de toxicidad.

Ab 2017 zertifiziert es offiziell die Produkt-EPD, die Umweltproduktdeklaration, eine unabhängige Zertifizierung, die die Umweltauswirkungen des Lebenszyklus für die Herstellung eines Produktes bescheinigt (ISO 14025). Die EPD untersucht den Verbrauch von Rohstoffen, Energie und Wasser sowie die Produktion von Schadstoffemissionen und Abfällen aus dem Herstellungsprozess. CIPA GRES S.p.A. Die Zertifizierung bestätigt auch, dass das Endprodukt selbst extrem landesweit sein kann im Laufe der Zeit. Recyclability. Hygiene und Abwesenheit von Toxizität.



COV: le ceramiche sono infatti prodotti essenzialmente nei materiali a base di solventi come vernici, adesivi, trattamenti per il legno, ecc. Le piastrelle ceramiche, per la loro stessa natura, non contengono alcuna della chimica minerale e non di quella organica, inoltre la cottura a più di 1200 °C garantisce la distruzione totale di ogni eventuale residuo organico e in particolare dei COV. Per queste sempre classificate A+, dal momento che non emettono nell'ambiente alcuna sostanza tossica.

This classification allows us to evaluate the pollution a certain product creates in an indoor ambient. In recent years the desire to measure the impact of products on the environment and the wellbeing of people increased dramatically; air pollution, even in indoor environments, has become a recurring theme that all players in the construction industry have to take into consideration. A new label of environmental classification has emerged that allows being able to assess the level of air pollution of an indoor environment caused by a given product, including in particular and not only, Volatile Organic Compounds pollutants (VOCs). These compounds, particularly harmful to the environment and the wellbeing of humans, are extremely volatile and may therefore easily spread into the environment. They are basically found in solvent-based materials such as paint, adhesives, wood treatments, etc. Ceramic tiles, by their very nature, do not contain any VOCs; ceramics are in fact a mineral products, and their firing at more than 1200 °C degrees guarantees the total destruction of any possible organic residue, specifically of the VOCs. For this reason ceramic tiles are always classified as A+, since they do not release any toxic substance into the environment.

La préoccupation majeure de ces dernières années est l'impact des produits sur l'environnement mais aussi sur la santé humaine. La pollution de l'air intérieur est un thème récurrent que tous les acteurs du bâtiment doivent désormais prendre en compte. Depuis quelques années, est apparu sur les produits de décoration intérieure un étiquetage environnemental. Cet étiquetage permet d'évaluer le niveau de pollution de l'air intérieur qu'est susceptible d'apporter un produit donné. Sous cet étiquetage, se cachent, entre autres, les COV ou Composés Organiques Volatils. Ces composés peuvent facilement passer à l'état gazeux dans l'air ambiant, peuvent donc se propager facilement et impliquer des impacts plus ou moins néfastes pour l'environnement et la santé humaine. Ces produits sont facilement volatils et se retrouvent essentiellement dans les matériaux à base de solvants (ex : peintures, adhésifs, traitement du bois, ...). Les carreaux céramiques, de par leur constitution ne contiennent pas de COV: les céramiques sont issues de la chimie minérale (et non la chimie organique) et la cuisson à plus de 1 200 °C implique la destruction totale de tous les produits organiques et en particulier des COV. C'est pourquoi, les carreaux céramiques ont un étiquetage A+ car aucune substance toxique n'est émise dans l'air ambiant par les carreaux.

Esta clasificación permite evaluar el nivel de contaminación que un producto en particular es capaz de hacer que el aire de un ambiente cerrado. En los últimos años, la sensibilidad al impacto de los productos en el medioambiente y en la salud de las personas ha aumentado enormemente: la contaminación del aire en ambientes cerrados es ahora un tema recurrente que todos los actores del sector de la construcción deben tener en cuenta. Desde hace algunos años, ha aparecido una etiqueta de clasificación ambiental que permite evaluar el nivel de contaminación del medio ambiente interno causado por un producto determinado y, en particular, entre otros contaminantes, los Compuestos Orgánicos Volátiles o COV. Estos compuestos peligrosos para el medio ambiente y la salud son extremadamente volátiles y, por lo tanto, pueden propagarse fácilmente al medio ambiente. Se encuentran principalmente en materiales a base de solventes, como pinturas, adhesivos, tratamientos de madera, etc. Las baldosas cerámicas, por su propia naturaleza, no contienen ningún COV; las cerámicas son, de hecho, productos de la química mineral y no de la química orgánica, ademá s cocinar a más de 1200 °C garantiza la destrucción total de cualquier residuo orgánico y, en particular, de VOCs. Por esta razón, los azulejos de cerámica están siempre clasifican como A +, ya que no emite sustancias tóxicas en el ambiente.

In den letzten Jahren ist die Sensibilität gegenüber den negativen Auswirkungen von Produkten auf die Umwelt und auf die menschliche Gesundheit stark angestiegen: Die Luftverschmutzung auch in Innenräumen ist ein wiederkehrendes Thema geworden, dass alle Akteure im Bausektor berücksichtigen müssen.

Seit einigen Jahren gibt es ein Umweltleistungssiegel, das das Niveau der Luftverschmutzung beurteilt, die in Innenräumen durch ein bestimmtes Produkt, insbesondere, neben anderen Schadstoffen, durch die flüchtigen organischen Verbindungen, die VOCs verursacht wird. Diese für die Umwelt und die Gesundheit schädlichen Verbindungen sind extrem flüchtig und können sich in der Umwelt leicht verbreiten. Sie finden sich im Wesentlichen in lösungsmittelhaltigen Materialien wie Farben, Klebstoffe, Holzbehandlungsmittel etc. Die Keramikfliesen enthalten ihrem Wesen nach keine VOCs: Keramikfliesen sind in der Tat Produkte der Mineralchemie und sind nicht organisch. Außerdem sorgt das Brennen bei mehr als 1200 °C für die vollständige Zersetzung aller organischen Reste und insbesondere der VOCs. Keramikfliesen werden immer als A+ klassifiziert, da sie keine toxischen Stoffe in die Umwelt abgeben.

## **ANALISI MICROBATTERICA**



# CARATTERISTICHE TECNICHE



Technical Specifications / Caractéristiques Techniques / Características Técnicas / Technische Eigenschaften

CARATTERISTICA TECNICA TECHNICAL FEATURES CARACTÉRISTIQUES TECHNIQUES		METODO DI PROVA TESTING METHOD MÉTHODE D'ESSAI	VALORE RICHIESTO DALLE NORME REQUIRED STANDARDS VALEUR EXIGÉE PAR LES NORMES	VALORE PRODOTTO PRODUCT VALUES VALEUR DU PRODUIT
	Dimensioni Sizes Dimensions	EN ISO 10545-2	190<S≤410 Lunghezza e larghezza - Length and width - Longueur et largeur Spessore - Thickness - Épaisseur Rettilineità spigoli - Straightness - Rectitude des arêtes Ortogonalità - Wedging - Angularité Planarità - Warpage - Planéité Aspecto: percentuale di piastrelle accettabili nel lotto Aspect: pourcentage de carreaux acceptables dans le lot: 95% min 95% min	NATURALE NON RETTIFICATO MATTE NOT RECTIFIED BRUT NON RECTIFIE
			± 0,75% ± 5,0% ± 0,5% ± 0,6% ± 0,5% 95% min	Conforme * Conforming * Conforme *
	Assorbimento d'acqua % Water absorption Absorption d'eau		E ≤ 0,5%	Medio - Average - Moyenne E ~ 0,03%
	Resistenza alla flessione Modulus of rupture Résistance à la flexion		Valore medio - Average - Valeur moyenne 35 N/mm² min.	Medio - Average - Moyenne ≥ 50 N/mm²
	Forza di rottura Breakage resistance Résistance à la force de rupture		sp.> 7,5mm: min 1300 N sp.< 7,5mm: min 700 N	Conforme Conforming Conforme
	Resistenza alla compressione Strength compressive Résistance à la compression			Resistenza media a compressione (N/mm²) 351 - (Kg/cm²) 3578 Media compression resistance (N/mm²) 351 - (Kg/cm²) 3578 Media compression resistance (N/mm²) 351 - (Kg/cm²) 3578
	Resistenza all'abrasione profonda Scratch resistance Résistance à l'abrasion profonde	EN ISO 10545-6	175 mm³ max	Medio - Average - Moyenne ≤ 150 mm³
	Coefficiente di dilatazione termica lineare Thermal expansion coefficient Coefficient de dilatation thermique linéaire	EN ISO 10545-8	≤ 9 MK⁻¹	6,2 MK⁻¹
	Resistenza agli sbalzi termici Thermal shock resistance Résistance au choc thermique	EN ISO 10545-9	—	Resistente Resistant Résistant
	Resistenza al gelo Frost resistance Résistance au gel	EN ISO 10545-12	Richiesta Required Demandée	Resistente Resistant Résistant
	Resistenza a basse concentrazioni di acidi, alcali Resistance to low concentrations of acid and alkali Résistance aux faibles concentrations d'acides, d'alcalins	EN ISO 10545-13	Secondo le indicazioni del produttore Following producer's guidelines Suivant les indications du producteur	Resistente Resistant Résistant
	Resistenza ad alte concentrazioni di acidi, alcali Resistance to high concentrations of acid and alkali Résistance aux fortes concentrations d'acides, d'alcalins		UB min.	Resistente Resistant Résistant
	Resistenza ai prodotti chimici di uso domestico e agli additivi per piscina Resistance to domestic chemicals and additives for swimming pools Résistance aux produits chimiques d'usage courant et aux additifs pour piscine		UA	
	Pulibilità e analisi Microbatterica Cleanability and mycobacterial analyzes Les analyses de nettoyabilité et mycobactériennes			Carica microbica dopo contaminazione artificiale (u.f.c./cm²): 10200 Carica microbica dopo igienizzazione (u.f.c./cm²): 0 Microbial contamination charge from artificial (u.f.c./cm²): 10200 Microbial hygiene after charge (u.f.c./cm²): 0 Contamination microbienne charge de artificielle (u.f.c./cm²): 10200 Microbienne hygiène après charge (u.f.c./cm²): 0
	Conducibilità termica Thermal Conductivity conductivité thermique			ca. μ 1W/mk
	Resistenza alla diffusione del vapore Resistance to water vapor diffusion Résistance à la diffusion de vapeur d'eau	DIN EN ISO 12572	ca. μ 120.000	ca. μ 120.000
	Resistenza alle macchie Stain resistance Résistance aux taches	EN ISO 10545-14	Metodica di prova disponibile Testing method available Méthode d'essai disponible	Resistente Resistant Résistant
	Resistenza dei colori alla luce Color resistance to light Résistance des couleurs à la lumière	DIN 51094	Non devono presentare apprezzabili variazioni di colore No noticeable color change Il ne doivent pas présenter de variations importantes de la couleur	Materiale inalterato dopo il test No alteration after testing Matériau inaltéré après le test
	Coefficiente di attrito (scivolosità) Friction coefficient (slipperiness) Coefficient de frottement (glissance)	DIN 51130 "R"		Vedi pag. 35 / See on page 35 / voir la page 35
		BOOT 3000 (DCOF) ANSI A 137.1: 2012	WET DCOF ≥ 0,42	Naturale: ≥ 0,42 Roccia, Line, Star, SLR, R10: ≥ 0,60
		PENDULUM TESTERS BS 7976-2 : 2012		Naturale: DRY 52 / WET 32 R10: DRY 65 / WET 57 SLR: DRY 68 / WET 60 Roccia: DRY 62 / WET 59 Star: DRY 69 / WET 64
		Pendulo ENV12633		Classe 1: Naturale / Classe 2: R10 Classe 3: Rustico, SLR, Roccia, Quadrì, Point, Star, Line, Corindo
		BCRA	≥ 0,40 Cuoio - Asciutta / ≥ 0,40 Gomma STD - Acqua ≥ 0,40 Leather - Dry / ≥ 0,40 Rubber STD - Water ≥ 0,40 Cuir - Dry / ≥ 0,40 Caoutchouc STD - Eau	Conforme Conforming Conforme



CARACTERÍSTICAS TÉCNICAS TECHNISCHE EIGENSCHAFTEN		METODOLOGÍA DE PRUEBAS TESTMETHODE	VALOR ESTÁNDAR EXIGIDO POR LAS NORMAS VON DEN NORMEN VERLANGTER WERT	VALOR PRODUCTO WERT DES ARTIKELS
 Dimensiones Größe	Dimensiones Größe	EN ISO 10545-2	Longitud y anchura - Länge und Breite Espesor - Stärke Rectitud des arêtes - Geradlinigkeit der Kanten Ortogonalidad - Rechtwinkligkeit Planitud - Ebenflächigkeit Aspecto: porcentaje de azulejos aceptables en el lote Aussehen: Anteil der akzeptablen Fliesen in der Partie	190<S≤410 ± 0,75% ± 5,0% ± 0,5% ± 0,6% ± 0,5% 95% min 95% min
				<b>MATE NO RECTIFICADO</b> <b>NATURBELASSEN, NICHT GEGLÄTTET</b>
				Conforme * Erfüllt die Anforderungen *
	Absorción del agua % Wasseraufnahme	EN ISO 10545-3	E ≤ 0,5%	Media - Durchschnittlich E ~ 0,03%
	Resistencia a la flexion Bruchmodul	EN ISO 10545-4	Promedio - Durchschnittlicher Wert 35 N/mm² min.	Media - Durchschnittlich ≥ 50 N/mm²
	Resistencia a la rotura Bruchfestigkeit		sp.> 7,5mm: min 1300 N sp.< 7,5mm: min 700 N	Conforme Erfüllt die Anforderungen
	Resistencia a la compresión Widerstand Ein Kompression			Medios de resistencia a la compresión (N/mm²) 351 - (Kg/cm²) 3578 Medien Druckfestigkeit (N/mm²) 351 - (Kg/cm²) 3578
	Resistencia a la abrasión profunda Tiefenabriebfestigkeit	EN ISO 10545-6	175 mm³ max	Media - Durchschnittlich ≤ 150 mm³
	Coeficiente de dilatación térmica lineal Wärmeausdehnungskoeffizient	EN ISO 10545-8	≤ 9 MK⁻¹	6,2 MK⁻¹
	Resistencia a los cambios bruscos de temperatura Temperaturwechselbeständigkeit	EN ISO 10545-9	—	Resistentes Beständig
	Resistencia a las heladas Frostbeständigkeit	EN ISO 10545-12	Requerida Erforderlich	Resistentes Beständig
	Resistencia a bajas concentraciones de ácidos y alcalos Beständigkeit gegen niedrige Säure- und Laugenkonzentrationen	EN ISO 10545-13	Según las indicaciones del fabricante Nach den Herstellerhinweisen	
	Resistencia a altas concentraciones de ácidos y alcalos Beständigkeit gegen hohe Säure- und Laugenkonzentrationen		Resistentes Beständig	
	Resistencia a los productos químicos de uso doméstico y a los aditivos para piscina Beständigkeit gegen chemische Haushaltssreiniger und Schwimmbeatzsätze		UB min.	UA
	Análisis y facilidad de limpieza de micobacterias Reinigbarkeit Und Analyse mykobakteriellen			Microbica contaminación de carga artificial (u.f.c./cm²): 10200 Microbica higiene después de la carga (u.f.c./cm²): 0 Mikrobielle kontamination charge von artificial (u.f.c./cm²): 10200 Mikrobielle hygiene after charge (u.f.c./cm²): 0
	Conductividad Térmica Wärmeleitfähigkeit			ca. μ 1W/mk
	Resistencia a la difusión de vapor de agua Dampfdiffusionswidersatnd	DIN EN ISO 12572	ca. μ 120.000	ca. μ 120.000
	Resistencia a las manchas Fleckbeständigkeit	EN ISO 10545-14	Metodología de pruebas disponibles Verfügbare Testmethoden	Resistentes Beständig
	Resistencia de los colores a la luz Lichtechtheit der Farben	DIN 51094	No deben presentar variaciones de color apreciables Die Farben dürfen keine bemerkbaren Veränderungen erfahren	Ninguna alteración encontrada Nach dem Test unveränderte Ware
    Coeficiente de antideslizamiento Reibungskoeffizient	DIN 51130 "R"  BOOT 3000 (DCOF) ANSI A 137.1: 2012	PENDULUM TESTERS BS 7976-2 : 2012	WET DCOF ≥ 0,42	ver página 35 / siehe Seite 35  Naturale: ≥ 0,42 Roccia, Line, Star, SLR, R10 : ≥ 0,60
				Naturale: DRY 52 / WET 32 R10: DRY 65 / WET 57 SLR: DRY 68 / WET 60 Roccia: DRY 62 / WET 59 Star: DRY 69 / WET 64
		Pendulo ENV12633		Classe 1: Naturale / Classe 2: R10 Classe 3: Rustico, SLR, Roccia, Quadri, Point, Star, Line, Corindo
		BCRA	≥ 0,40 Cuoio - Asciutta / ≥ 0,40 Gomma STD - Acqua ≥ 0,40 Leather - Dry / ≥ 0,40 Rubber STD - Water ≥ 0,40 Cuir - Dry / ≥ 0,40 Caoutchouc STD - Eau	Conforme Erfüllt die Anforderungen

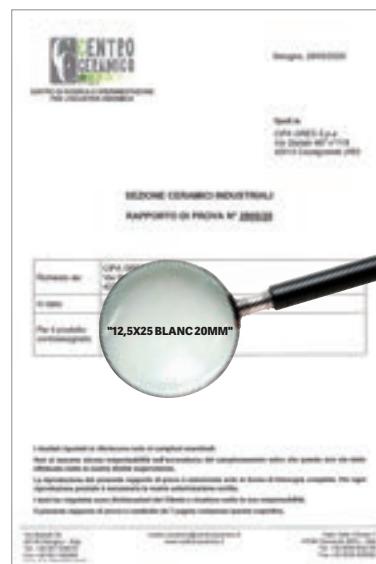
# PROVA ROBINSON | RESISTENZA AI CARICHI DINAMICI

Robinson test | Dinamic Load Resistance

Il Robinson test è una prova effettuata secondo la **Norma ASTM C67:2018**, per prevedere le prestazioni di una pavimentazione posata (ad esempio da massetto, adesivo, piastrelle e materiale per fughe), sottoponendola a vari cicli di sollecitazione con diverse tipologie di ruote (gomma morbida, gomma dura e infine acciaio) su ciascuna delle quali vengono applicati dei carichi crescenti a partire da 45 Kg. fino a 136 Kg.

Durante la prova il carrello ruota con una velocità di 15 rev/min.

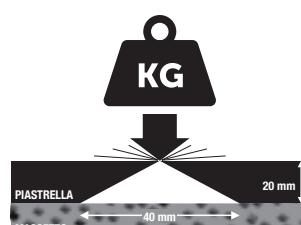
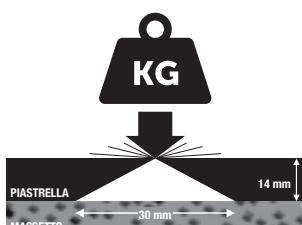
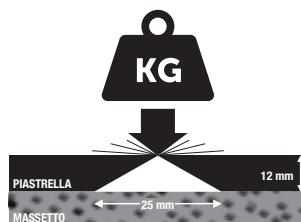
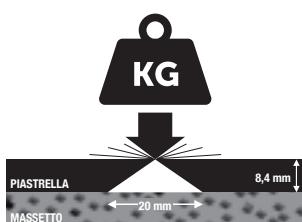
La classificazione è suddivisa in 14 steps e la prova si conclude nel momento in cui si osservano le tipologie di danneggiamento prescritte.



## Risultato test Robinson ASTM C67:2018

## DISTRIBUZIONE DEL CARICO

Load distribution / Répartition de la charge / Distribución de la carga / Verteilung Last



**RESISTENZA ALLA COMPRESSIONE MEDIA DI UN BUON SOTTOFONDO IN CEMENTO ARMATO**  
 COMPRESSION STRENGTH MEDIA OF A GOOD FOUNDATION CONCRETE 450 Kg/cm<sup>2</sup>  
 COMPRESSION RÉSISTANCE MÉDIA D'UN BETON BON FONDATION 450 Kg/cm<sup>2</sup>  
 FUERZA MEDIA COMPRESIÓN DE UN HORMIGÓN DE BUENA FUNDACIÓN 450 Kg/cm<sup>2</sup>  
 DRUCKFESTIGKEIT MEDIEN EINE GUTE GRUNDLAGE BETON 450 Kg/cm<sup>2</sup>







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We provided with this catalogue the most accurate information, but they are not legally binding. For any further queries the Company reserves the right to bring all changes necessary. Weight, colours and measures may be subject to inevitable variations typical of the process of firing in tiles production cycle. Colours are as close as possible to the real ones, with all the limits of the printing process.

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**CIPA GRES S.p.A.**  
100% MADE IN ITALY

**Per qualsiasi informazione contattare il nostro ufficio tecnico**

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Ceramics of Italy

