



Design for real life

Industrial Floors

A great solution for
a big challenge

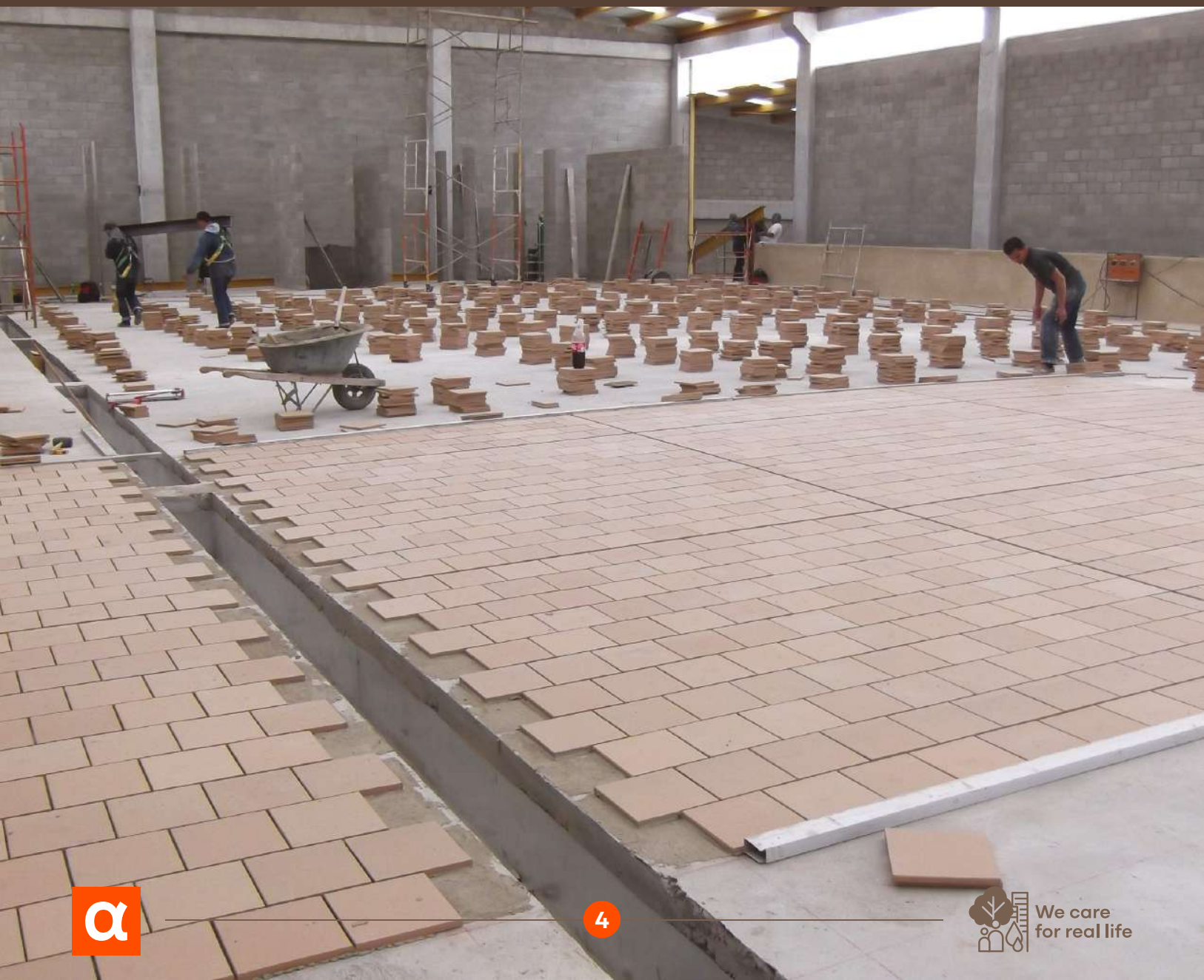


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More than just a floor...

Manufacturing processes and industrial food handling protocols subject industrial flooring and surfaces to a constant onslaught of chemicals, rough-and-tough handling and exacerbated wearandtear. The right kind of flooring and surfaces can stand up to such a daily assault, if they comply with the proper array of key technical specifications: low absorption, chemical resistance, nonskid surfaces, crack-free formation, easy-to-clean surfaces, durability and so forth. Before settling on a final investment in the right industrial flooring and surfaces for your industrial needs, run a comprehensive analytical checklist on your requirements for technical, functional, installation and economic factors.



Product attributes

- Flexible options for an industrial quarry solution with more than 10 years of experience in the market and 55 years producing quarry tile.
- High mechanical and chemical resistance.
- Impact Resistance.
- Not affected by cycles of ice/de-icing.
- Solvent free.
- Excellent adhesion in installation.
- Wide range of operating temperatures.
- Non-skid options.
- Durability.
- Easy to clean and maintain.
- Contributes to a professional image with an aesthetic appearance.

Information



Floor



Commercial+



Unglazed, extruded paste tile following all ASTM tests. Size variation is an inherent characteristic of all extruded products.



Unglazed

Shade Variation V3: Random color variation from tile to tile.

Characteristics



Absorption



Anti - Slippery



How to identify a project?

Any floor that is exposed to an industrial process of any kind is a great setting for Alfagres' Industrial Quarry. We have experience in the food and beverage industry such as dairy, meat processing, beer, wine; as well as restaurant kitchens and settings where freezing temperatures are required.

To be able to know what technical specifications are needed, identify what type of industry the installation is in, what substances or chemicals are used in each step of the process and how much weight is the floor submitted to (transport or impact gear). Evaluate each phase in the industry process to specify product and needs for specific areas.

What if it's a pre-existing installation?

Knowledge of the industrial process is of great importance when changing an existing floor. Proper planning of installation will help reduce inconveniences of operational businesses. Evaluate actual floor condition: tile, grout, floor substrate (concrete plate); flaws will give you an idea of where the weak points are.

Common problems with industrial floors

Cracks or holes on actual tile may be due to poor mechanical resistance. Tile and grout can be cracked because of chemical attack and this might affect the concrete plate or substrate. Many times this leads to bad odors because of decomposition of cement. Bad adherence of floor to substrate and a bad draining system may cause the floor to pop up.



Regulatory compliance

Current regulatory compliance for industrial functioning and operations seeks to ensure that areas where manufacturing processes are performed meet technical criteria, such as:

- Mechanical and chemical resistance.
- Non-toxic emissions.
- Non-skid surfaces.
- Crack-free formation, defect-free and easy-to-sanitize finishes.
- Resistance to regular cleaning and disinfecting abrasive chemicals products.
- Stain resistance.
- Rounded finishing molding for floor and wall corners/angles to prevent contamination focal points.





Industry

The wear and damage industrial flooring and surfaces are subjected to during manufacturing processes, generate expensive repairs and impact safety and manufacturing protocols. With this in mind, ALFA has come up with the affordable functional integrated Alfa Solution that meets even the most demanding industrial conditions.





Industrial tile

Extruded ceramic product specially designed for harsh industrial and high-traffic commercial areas where durability really counts.

Thickness



(7/10 in)



(1/2 in)



Sahara sand

4 3/4" x 9 3/4"

Sku. 225000419

Sku. 225005692



Sahara sand

9 3/4" x 9 3/4"

Sku. 225008701

Sku. 225011738



Sahara sand abrasive

4 3/4" x 9 3/4"

Sku. 225000420

Sku. 225005700



Demarcation tile

4 3/4" x 9 3/4"

Sku. 225013432



Floor



Anti - Slippery



Commercial+



Unglazed



Absorption

Special trim pieces

Corner edge tile



1 Outside

9 3/4"

Sku. 225000448



2 Inside

9 3/4"

Sku. 225000466



3 Inside upper

Sku. 225000449



4 Outside lower

Sku. 225000450



5 Inside lower

Sku. 225000451



6 Outside upper

Sku. 225000452



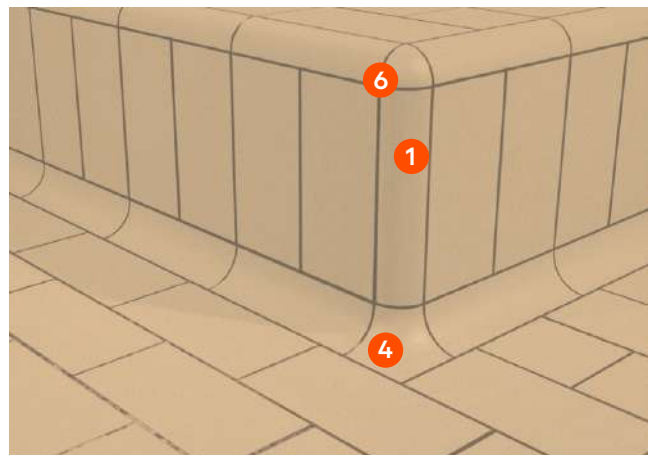
Floor / Wall



Anti - Slippery

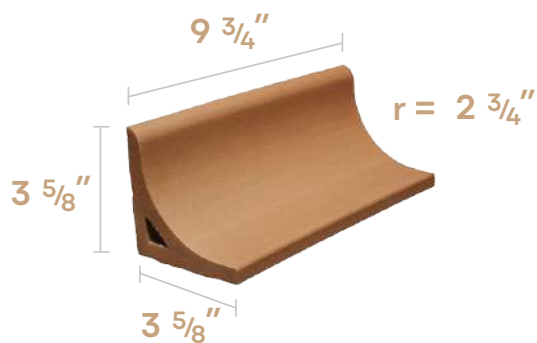


Commercial+



Special trim pieces

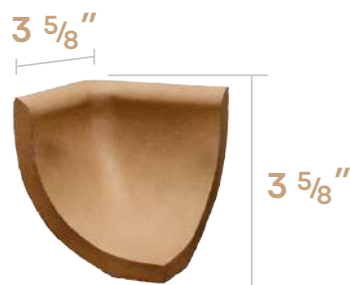
Corner edge tile



Cove R70

3 5/8" x 9 3/4"

Sku. 225007770



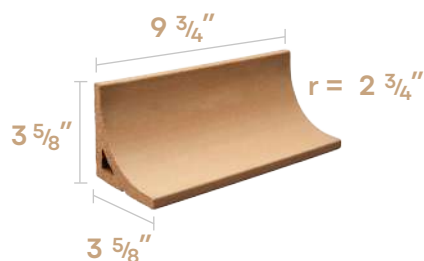
Inside lower R70

Sku. 225008060



Outside lower R70

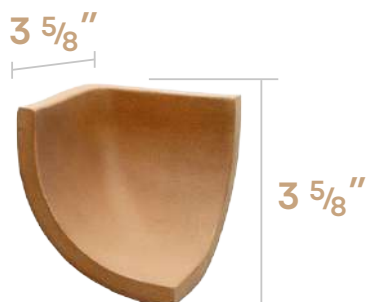
Sku. 225008062



Cove RF70

3 5/8" x 9 3/4"

Sku. 225008575



Inside lower RF70

Sku. 225008597



Outside lower RF70

Sku. 225008599



7 Baseboard tile

6" x 9 3/4"

Sku. 225000461



8 Drain bed tile

6" x 9 3/4"

Sku. 225000457



9 Drain support tile

4 3/4" x 9 3/4"

Sku. 225000459



Half-pipe baseboard tile

6" x 9 3/4"

Sku. 225000440



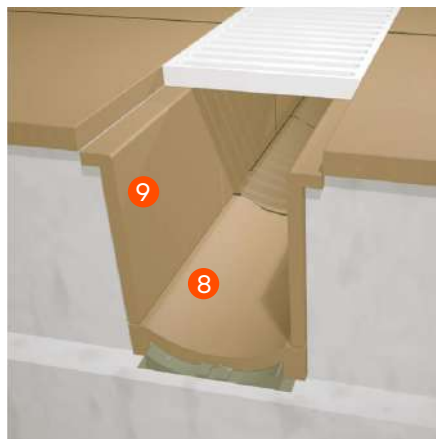
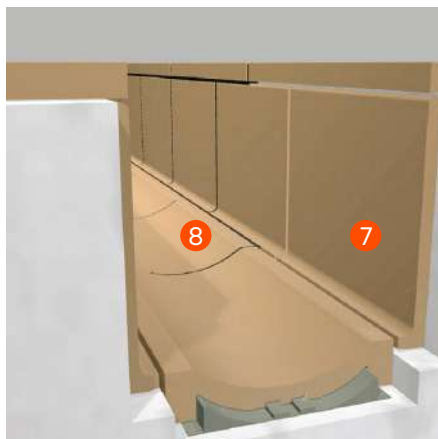
Floor



Commercial+



Unglazed







Kitchens

Floors used in **institutional kitchens**, such as restaurants, hotels and cafeterias get exposed to a real problem of endless food processing, furniture sliding, dirt and contamination build-up, nicks and blows to angles, surface staining and endless cleanup procedures. ALFA's affordable functional integrated Alfa Solution stands up to the toughest industrial conditions, while providing superior performance, so you can get down to business. Bring us on board!



Abrasive quarry tile

Includes a chemically inert texturizing surface component. Grout joints add to the abrasive tile surface to make an effective non-skid floors.



Sahara sand abrasive

6" x 6"

Sku. 225000388



Spanish red Abrasive

6" x 6"

Sku. 225000386



2/5 in



Floor



Anti - Slippery



Commercial+

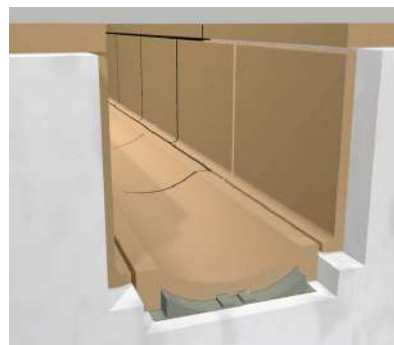
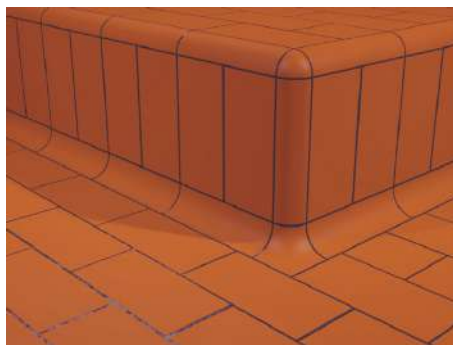
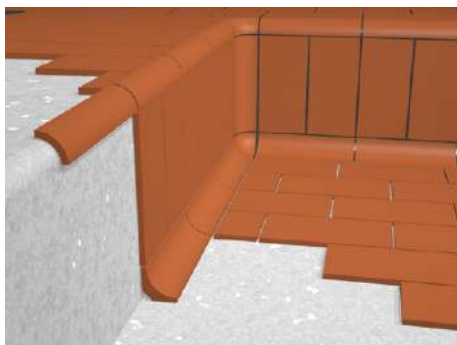


Unglazed



Special trim pieces

These parts have been designed from the self-same industrial stoneware tiling material to provide decorative finish molding, sumps, gutters, corners, shower fittings, etc.



Corner 6"

Sku. 225000345 Inside
Sku. 225000348 Outside

Other colors inside:

Red - Ref. 225000344
Salmon - Ref. 225000346

Other colors outside:

Red - Ref. 225000347
Salmon - Ref. 225000349



Cove 6" x 6"

Sku. 225009180

Other colors:

Red - Ref. 225009181
Salmon - Ref. 225009182



Floor



Anti - Slippery



Commercial+



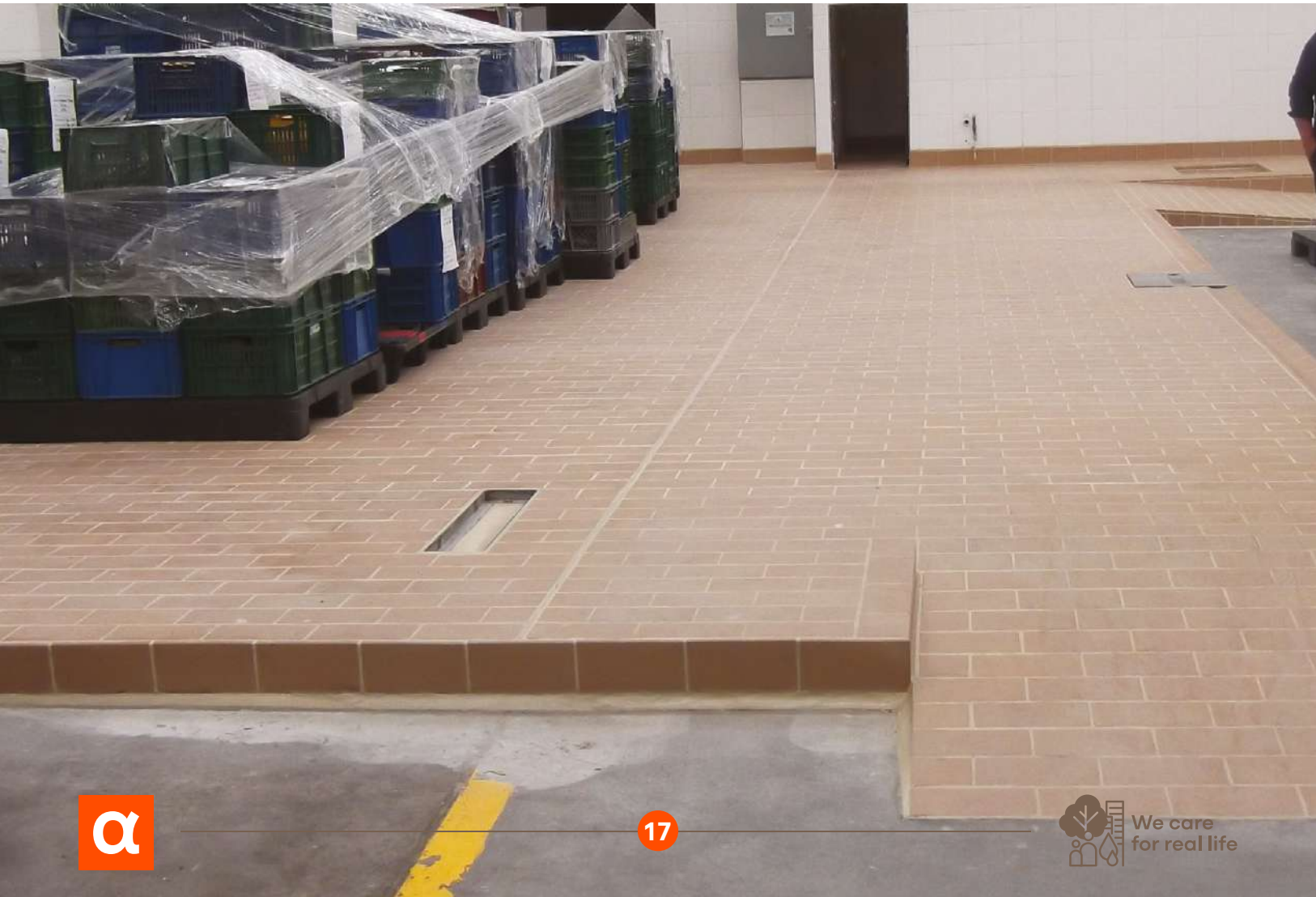
Unglazed



Installation

Make sure floor levels and slopes are correct before installing ALFAGRES' quarry tile. Professional installation is of utmost importance; knowledge and skill to handle and store material in a correct manner will decrease breakage normal to material handling.

The grout selection is determined by the industrial process that the floor will be exposed to. An epoxy grout may be used according to the exposure to chemicals or acids (could be milk, sugar, etc) in the industrial process.



Industrial tile

Extruded ceramic tiles with low water absorption $0,5\% < E_b \leq 3\%$ Group Alb - Precision

Specification	Test	Standard	Alfagres
Water absorption	ISO 10545-3	Eb ≤ 3%, Individual maximum 3.3%	E ≤ 3%
Length and width	ISO 10545-2	± 1,0%Work size,maximum ±2mm (± 1,0% Average size)	< ± 0,75%
Rectangularity	ISO 10545-2	± 1%	< ±1%
Surface flatness	ISO 10545-2	±0,5% / ±0,5% / ±0,8%	< ± 0,75%
Thickness	ISO 10545-2	± 10 %	< ± 3 %
Surface quality	ISO 10545-2	A minimum of 95 % of the tiles are to be free from visible defects	> 95%
Modulus of rupture	ISO 10545-4	Minimum 23 N/mm2 , individual minimum 18 N/mm2	> 24 N/mm2
Breaking strength	ISO 10545-4	Minimum 1100 N	> 2500 N(12mm.) > 5000 (18mm.)
Deep abrasion	ISO 10545-6	Maximum 275 mm3	< 123 mm3
Frost resistance	ISO 10545-12	Required	Resistant
Friction coefficient static	NTC 4321-17	Manufacturer is to state classification	>0,5 smooth >0,7 abrasive (Class 2)
Resistance to chemicals	ISO 10545-13		
· Ammonium chloride 100 gr/lt	Household chemicals and swimming pool salts	Minimum UB	UA
· Sodium hypochlorite 20 mg/lt	Household chemicals and swimming pool salts	Minimum UB	UA
· Hydrochloric acid solution 3% V/V	Low concentrations of acids and alkalis	Manufacturer is to state classification	ULA
· Citric acid 100 gr/lt	Low concentrations of acids and alkalis	Manufacturer is to state classification	ULA
· Potassium hydroxide 30 gr/lt	Low concentrations of acids and alkalis	Manufacturer is to state classification	ULA
· Hydrochloric acid solution 18% V/V	High concentrations of acids and alkalis	Test method available	UHA
· Lactic acid al 5% V/V	High concentrations of acids and alkalis	Test method available	UHA
· Potassium hydroxide 100 gr/lt	High concentrations of acids and alkalis	Test method available	UHA

UA-ULA-UHA No visible effect / UB Visible effects on cut sides / N/A Not applicable

Note: Prolonged exposure to hydrofluoric acid and caustic soda or other alkaline solutions at temperatures above 140 ° F, causes severe attack in the product. EXPOSURE TO OTHER SUBSTANCES OR HIGHER LEVELS. CONSULT OUR TECHNICAL DEPARTMENT.

ANSI A 137.1

Specification	Test	Standard	Alfagres
Water absorption	ASTM C373	< 5%	< 3%
Caliber range (variation from average facial dimension of sample)	ASTM C499	Minimum -0.75% or -0.09 in (-2.3 mm) Maximum 0.75% or 0.09 in (2.3 mm)	< ± 0,75%
Wedging	ASTM C502	Minimum -1.00% or -0.12 in (-3.1 mm) Maximum 1.00% or 0.12 in (3.1 mm)	< ±1%
Warpage edge	ASTM C485	Minimum -1.50% or -0.18 in (-4.6 mm) Maximum 1.50% or 0.18 in (4.6 mm)	< ±0,75%
Warpage diagonal	ASTM C485	Minimum -1.00% or -0.17 in (-4.3 mm) Maximum 1.00% or 0.17 in (4.3 mm)	< ±0,75%
Thickness	ASTM C499	Range: 0.050 in (1,27 mm)	< 0.040inch (1,02mm)
Examination for facial and structural defects	ANSI A 137.1	2.5% AQL Inspection Level 2 Normal sampling plan	Pass
Breaking strength (Lb)	ASTM C648	Average > 250 lbf. (1,11kN) Individual > 225 lbf. (1,00kN)	> 420 lbf (1,87kN) (12 mm) > 1400 lbf (6,23kN) (18mm)
Deep abrasion	ASTM C1343	(Class E2) Loss < 0,017 inch3 (275mm3)	< 0,008 inch3 (131mm3)
Resistance to freeze/thaw cycling	ASTM C1026	Observations after 300 cycles. No visible damage.	not affected
Coefficient of friction (SCOF)	ASTM C1028	As reported	>0,5 smooth >0,7 abrasive
Scratch hardness	MOHS	No industry standard	6-8
Resistance to chemical attack	ASTM C650	As reported	
· Acetic acid, 3 % (v/v) 99.7 % glacial acetic acid 30 ml 970 ml	Common household and cleaning chemicals		Class A, not affected
· Acetic acid, 10 % (v/v) 99.7 % glacial acetic acid 100 ml 900 ml	Common household and cleaning chemicals		Class A, not affected
· Ammonium chloride, 100 g/l 99.5 % ammonium chloride 100 g 900 ml	Common household and cleaning chemicals		Class A, not affected
· Citric acid solution, 30 g/L 99.5 % citric acid 30 g 970 mL	Common household and cleaning chemicals		Class A, not affected
· Citric acid solution, 100 g/L 99.5 % citric acid 100 g 900 mL	Common household and cleaning chemicals		Class A, not affected
· Lactic acid, 5 % (v/v) 85 % lactic acid 50 mL 950 mL	Common household and cleaning chemicals		Class A, not affected
· Phosphoric acid, 3 % (v/v) 85 % phosphoric acid 30 mL 970 mL	Common household and cleaning chemicals		Class A, not affected
· Phosphoric acid, 10 % (v/v) 85 % phosphoric acid 100 mL 900 mL	Common household and cleaning chemicals		Class A, not affected
· Sulfamic acid, 30 g/L 99 % sulfamic acid 30 g 970 mL	Common household and cleaning chemicals		Class A, not affected
· Sodium hypochlorite solution, 20 mg/L technical grade sodium hypochlorite with 13 % active chlorine 20 mg 980 mL	Common household and cleaning chemicals		Class A, not affected
· Hydrochloric acid solution, 3 % (v/v) 38 % hydrochloric acid 30 mL 970 mL	Swimming pool chemicals		Class A, not affected
· Hydrochloric acid solution, 18 % (v/v) 38 % hydrochloric acid 180 mL 820 mL	Acids and bases		Class A, not affected
· Potassium hydroxide, 30 g/L 90 % potassium hydroxide 33.33 g 967 mL	Acids and bases		Class A, not affected
· Potassium hydroxide, 100 g/L	Acids and bases		Class A, not affected

Note: Prolonged exposure to hydrofluoric acid and caustic soda or other alkaline solutions at temperatures above 140 ° F, causes severe attack in the product.

Abrasive quarry tile

Extruded ceramic tiles - 3% < Eb ≤ 6% Group Alla-1 - Natural

Specification	Test	Standard	Alfagres
Water absorption	ISO 10545-3	3% < Eb ≤ 6%, individual maximum 6,5%	< 6 %
Length and width	ISO 10545-2	± 2% Work size, maximum ±4mm (± 1,5% average size)	< 1%
Rectangularity	ISO 10545-2	± 1%	< ± 1%
Surface flatness	ISO 10545-2	±1,5% / ±1,5% / ±1,5%	< ± 1%
Thickness	ISO 10545-2	± 10 %	< ± 10%
Surface quality	ISO 10545-2	A minimum of 95 % of the tiles are to be free from visible defects	> 95%
Modulus of rupture	ISO 10545-4	Minimum 20 N/mm2, individual minimum 18 N/mm2	> 20 N/mm2
Breaking strength	ISO 10545-4	Minimum 950 N	> 1500 N
Deep abrasion	ISO 10545-6	Maximum 393 mm3	< 393 mm3
Frost resistance	ISO 10545-12	Test method available	Resistant
Friction coefficient static	ISO 10545-13	Manufacturer is to state classification	>0,5 Class 2
Resistance to chemicals	ISO 10545-17	Minimum UB	UA, ULA, UHA

ANSI A 137.1

Specification	Test	Standard	Alfagres
Water absorption	ASTM C373	< 5%	< 5%
Caliber range (Variation from average facial dimension of sample)	ASTM C499	Minimum -0.75% or -0.09 in (-2.3 mm) Maximum 0.75% or 0.09 in (2.3 mm)	< ±0,75%
Wedging	ASTM C502	Minimum -1.00% or -0.12 in (-3.1 mm) Maximum 1.00% or 0.12 in (3.1 mm)	< ±1%
Warpage edge	ASTM C485	Minimum -1.50% or -0.18 in (-4.6 mm) Maximum 1.50% or 0.18 in (4.6 mm)	< ±0,75%
Warpage diagonal	ASTM C485	Minimum -1.00% or -0.17 in (-4.3 mm) Maximum 1.00% or 0.17 in (4.3 mm)	< ±0,75%
Thickness	ASTM C499	Range: 0.050 in (1,27 mm)	< 0.040 inch (1,02mm)
Examination for facial and structural defects	ANSI A 137.1	2.5% AQL inspection level 2 normal sampling plan	Pass
Breaking strength (Lb)	ASTM C648	Average > 250 lbf. (1,11kN) Individual > 225 lbf. (1,00kN)	> 250 lbf (1,11kN)
Deep abrasion	ASTM C1343	(Class E3) Loss < 0,024 inch3 (393 mm3)	< 0,024 inch3 (393 mm3)
Resistance to freeze/thaw cycling	ASTM C1026	Observations after 300 cycles. No visible damage	Not affected
Coefficient of friction (SCOF)	ASTM C1028	As reported	>0,5 smooth > 0,7 abrasive
Scratch hardness (MOHS)	UNE-EN 15771:2011	No industry standard	6-8
Resistance to chemical attack	ASTM C650	As reported	Class A, not affected

UA-ULA-UHA No visible effect / UB Visible effects on cut sides / N/A Not applicable

Note: Prolonged exposure to hydrofluoric acid and caustic soda or other alkaline solutions at temperatures above 140 ° F, causes severe attack in the product.

Special trim pieces

Quarry Tiles

Specification	Alfagres
Water absorption	< 6%
Length and width	± 2% work size / ± 1,5% average size
Rectangularity	± 1%
Surface flatness	±1,5% / ±1,5% / ±1,5%
Thickness	± 10 %
Surface quality	95% free from visible defects
Modulus of rupture	Mínimum13 N/mm2, Individual 11 N/mm2 - Applicable only to regular forms
Breaking strength	Mínimo 600 N - Applicable only to regular forms
Deep abrasion	Maximum 541 mm3
Surface abrasion of glazed	3 - 4 - Applicable only glazed
Crazing resistance	Resistant - Applicable only glazed
Frost resistance	Resistant
Resistance to chemicals	Room temperature resistant substances - Not resistant to hydrofluoric acid
Resistance to staining	Not applicable
Friction coefficient Static	> 0,5

Trims	Trims
Health Zocalo R70 and RF70	Cove quarry
Internal health corner R70 and RF70	Internal and external cove quarry
External corner health R70 and RF70	Upper inner corner and outer
Carcamo fund	Lower inner corner and outer
Grid support	Internal and external corner
Industrial duct	Mosaic - Fatto glazed

Environmental specification sheet

Quarry Tile

Our commitment to sustainable development

Foster actions geared toward minimizing and preventing environmental impact generated from our business and manufacturing practices.



We care
for real life

LEED Criteria (Leadership in Energy & Environmental Design)

Our products are viable options for LEED-criteria compliance on new construction, existing construction, schools, core and shell.

MR Credit 4: Recycled Content

1-2 Points. Applicable for: NC – SC – CS1

Aim: Foster tapping into a variety of recycled content for raw materials to reduce virgin raw material consumption.

Quarry Tile from ALFAGRES S.A. contains 34% pre-consumer recycled content, as reflected in our 2013 records.

Pre-consumption material comes from two sources: products re-routed from common waste generated from breakage or poor firing, and from industrial brick waste "grog", which gets re-incorporated into the raw material during the milling process.

SS Credit 7.1 Non-roof

Heat Island Effect

1 Point. Applicable for: NC – SC – CS1

Aim: Offset eco-system micro-climates by reducing heat islands.

Quarry Tile from ALFAGRES S.A. installed on exteriors can reach a Solar Reflectance Index (SRI) of greater than 29: reports available to the public upon request.

IEQ Credit 4.3:

Low-emitting Materials: Flooring Systems

1 Point. Applicable for: NC – SC – CS1

Aim: Guarantee pollutant-free indoor air to foster better health.

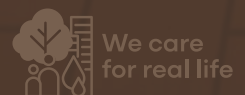
Quarry Tile from ALFAGRES S.A. is a non-enameled product fired at above 1,100 °C. Eliminating all Volatile Organic Compounds (VOC) to guarantee that once installed, Quarry Tile products will not seep VOC's.

ID Credit 1: Innovation in Design

1-5 Points. Applicable for: NC – SC – CS1

Aim: Provide products that enable our clients to surpass LEED system requirements.

Working side-by-side with our clients on LEED projects, we can help them obtain superior Innovation and design performance that exceeds the LEED system.





Design for real life

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