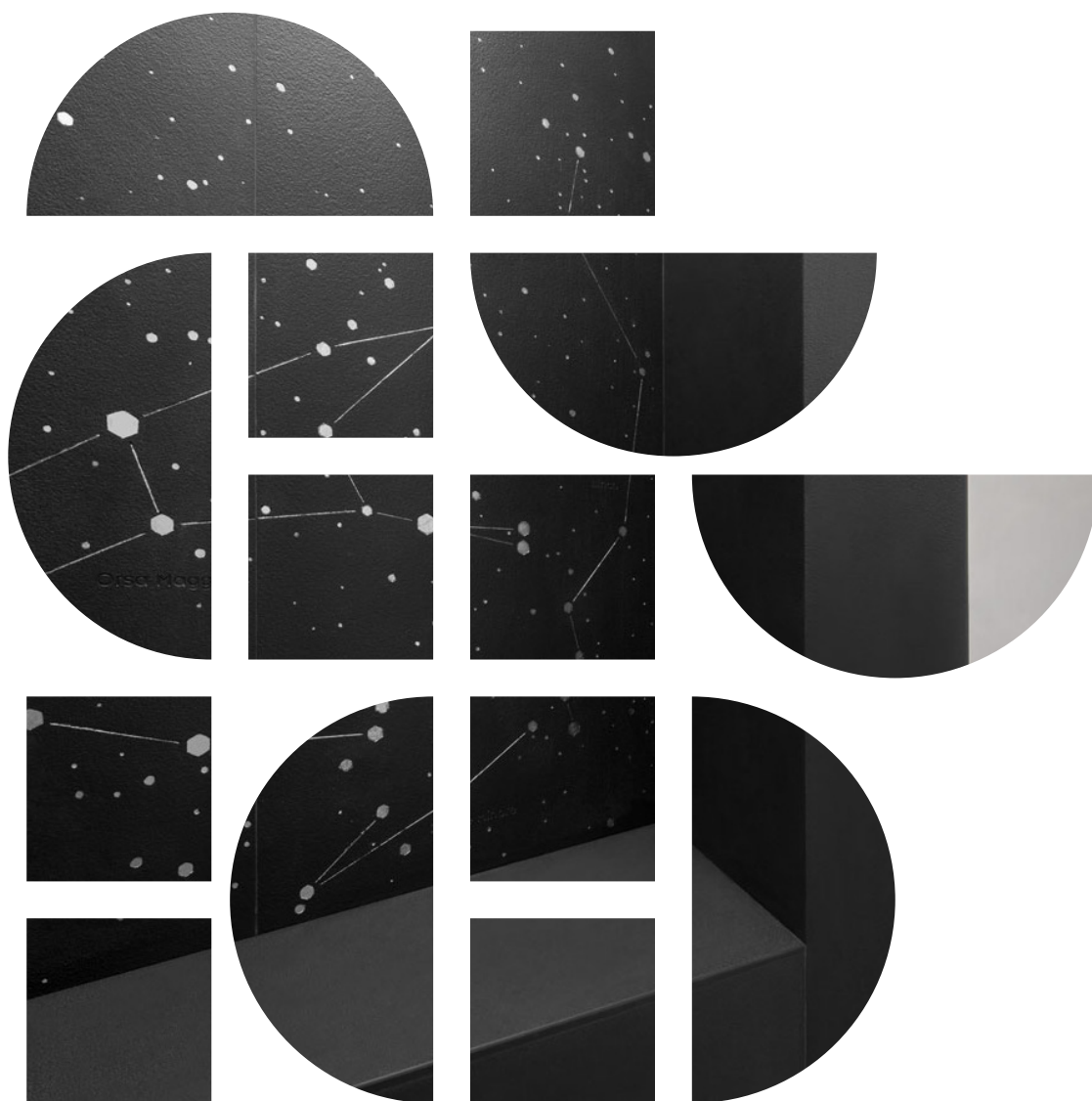


Dossier Product

Vers. 0/2020



LAPITEC



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arabescato
perla

arabescato
michelangelo

1. LAPITEC PRODUCT

1.1/ CHARACTERISTICS

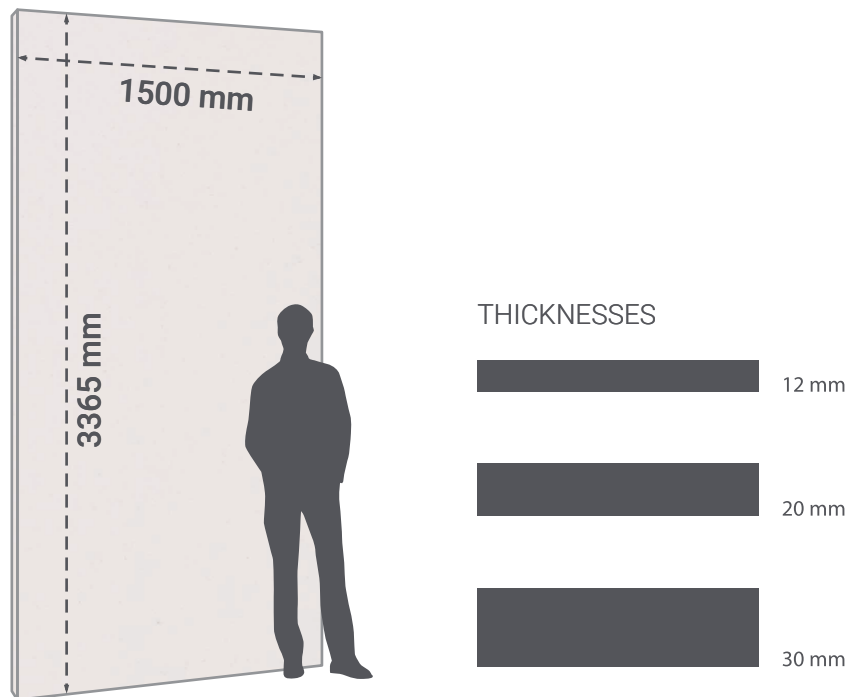
Lapitec® is a sintered stone, an innovative material produced in large slabs using an exclusively patented technology, which can be used for both indoor and outdoor applications.

Lapitec® sintered stone is resistant to wear, weather, UV exposure, heat, frost and absorption.

The different surface finishes of **Lapitec®** make it perfect for use on both floors and walls.

Lapitec® is compatible with a broad range of adhesives and binders, thus allowing it to be installed on various types of supports; it can be used without limits in different environments, including those that are particularly harsh (humidity, salinity, presence of aggressive pollutants...).

Standard dimensions



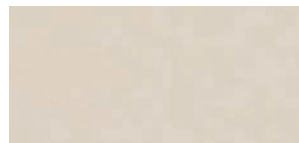
1.2/ THE LAPITEC RANGE



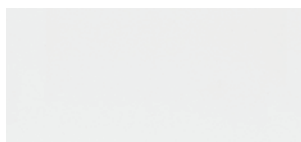
ARABESCATO MICHELANGELO



ARABESCATO PERLA



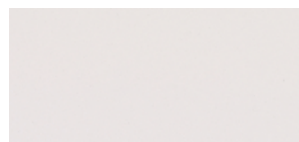
ARABESCATO CORALLO



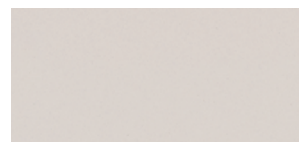
BIANCO ASSOLUTO



ARTICO



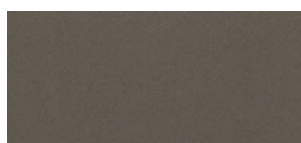
BIANCO POLARE



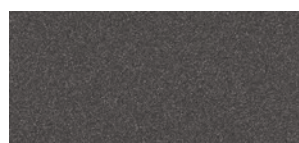
BIANCO CREMA



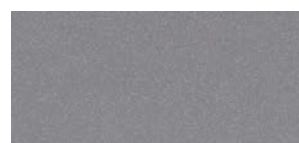
AVANA



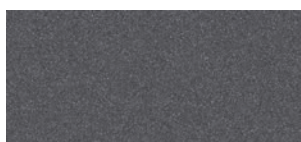
MOCA



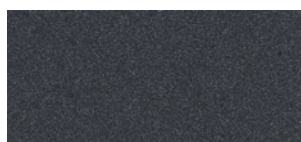
EBANO



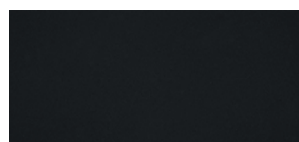
GRIGIO CEMENTO



GRIGIO PIOMBO



NERO ANTRACITE



NERO ASSOLUTO



BIANCO AURORA



BIANCO ELETTRA

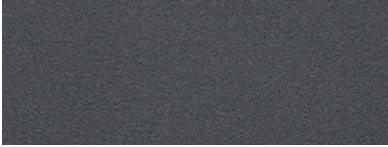


BIANCO VITTORIA



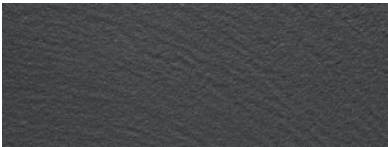
FOSSIL

A coarse-grained surface finish, with a roughness similar to split stone or mottled natural stone surfaces.



ARENA

A smooth sanded finish, with a regular grain that gives a natural dynamism to the entire slab.



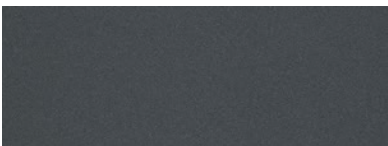
DUNE

A finish that evokes the desert sand, where the wind delicately models the panorama.



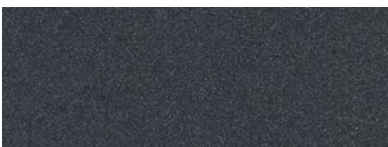
VESUVIO

A structured finish soft to the touch - similar to the velvet (Leather) finish developed on granite.



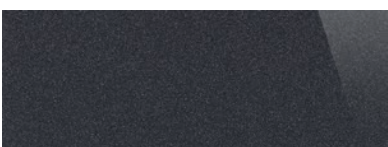
LITHOS

A finely rough surface, ideal for kitchen worktops and the exterior decking of yachts and pools.



SATIN

A silky shine with imperceptible roughness.






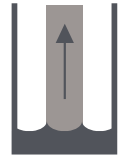
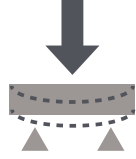


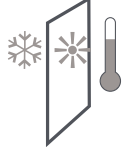
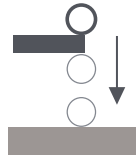


LUX

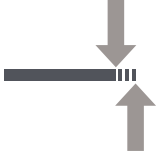

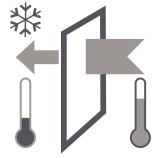



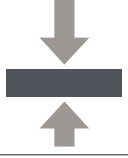
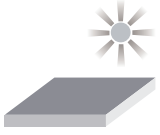

A polished and highly reflective finish.

7



1.3/ TECHNICAL DATA SHEET

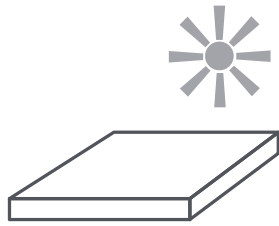
TECHNICAL SPECIFICATIONS		STANDARD	VALUE
	Standard dimensions	EN 14617-16	3365x1500 (12-20 mm) 3365x1460 (30 mm)
	Thicknesses	EN 14617-16	12 – 20 – 30 mm
	Density	EN 14617-1	2,4 kg/dm ³
	Water absorption	EN 14617-1	0.02%
	Flexural strength (R_{tf}) after 25 freeze-thaw cycles (R_{Mf}) after 20 thermal shock cycles (R_{sf})	EN 14617-2	55 N/mm ² 54.1 N/mm ² 54.3 N/mm ²
	Deep abrasion resistance	EN 14617-4	140 mm ³
	Frost resistance	EN 14617-5	Resistant
	Coefficient of thermal shock resistance (after 20 cycles)	EN 14617-6	0.9%
	Impact resistance	EN 14617-9	1.97 Joule (thickness 12 mm) 3.3 Joule (thickness 20 mm)
	Acid and alkali resistance	EN 14617-10	C4 - Resistant
	Coefficient of linear thermal expansion	EN 14617-11	$5.8 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$

TECHNICAL SPECIFICATIONS	STANDARD	VALUE	
	Dimensional stability	EN 14617-12	A
	Fire reaction	EN 13501-1	A1
	Thermal conductivity	EN ISO 10456	1,3 W / m · °K
	Specific heat capacity	EN ISO 10456	840 J/kgK
	Aqueous vapour diffusion resistance	EN ISO 10456	no value (dry) ∞ (wet)
	Non-slip properties	DIN 51130	R10 (Vesuvio, Lithos, Dune) R13 (Fossil, Arena)
	Compressive strength	ASTM C170	439 N/mm ² (dry) 483 N/mm ² (wet)
	Colour resistance to light	DIN 51094	No variation
	Water absorption - capillary	EN 1925	0,006 g/m ² s _{0,5}

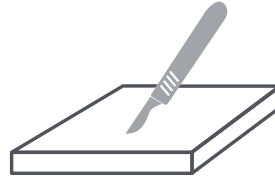
Lapitec® is a fireproof material, classified A1. When exposed to fire it does not ignite, does not release fumes and does not spread flames.

Violent thermal fluctuations such as direct exposure to a flame may cause the material to break.

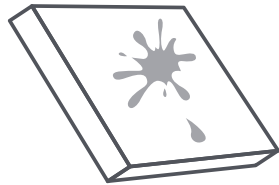
1.4/ PLUS LAPITEC



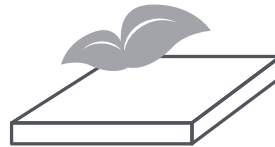
Non-sensitive to UV rays
Does not fade



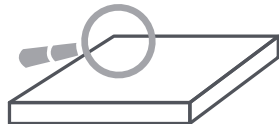
Highly resistant
to scratches



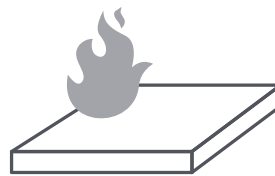
Non-porous and
stain-resistant



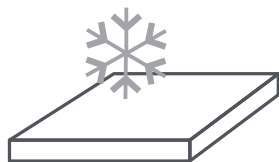
100% natural



Antibacterial



Resistant to high
temperatures

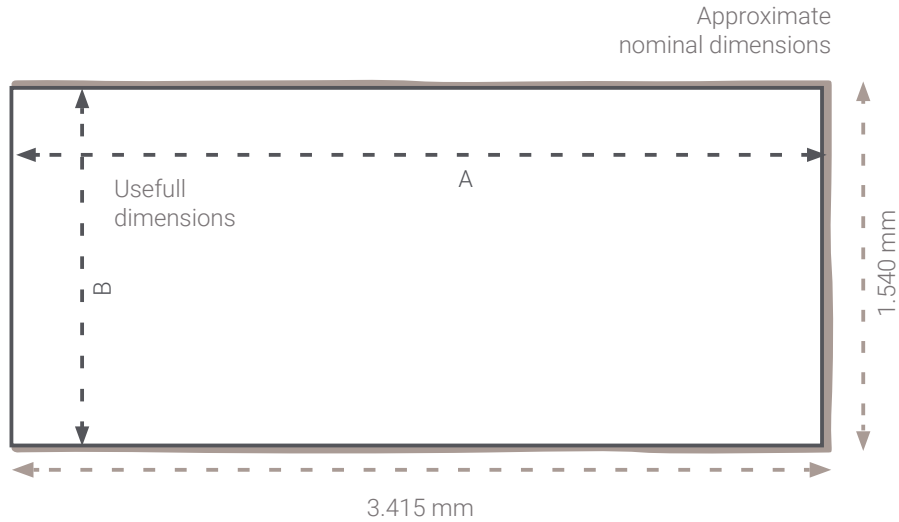


Resistant to low
temperatures



Resistant to acids
and alkali

1.5/ DIMENSIONS



Dimensions	Value	Length mm	Width mm
Nominal	Indicative	3415	1540
Effective for 12 mm	Minimum guaranteed	3365 (A)	1500 (B)
Effective for 20 mm	Minimum guaranteed	3365 (A)	1500 (B)
Effective for 30 mm	Minimum guaranteed	3365 (A)	1460 (B)

Note: the effective area for the Lithos finish is 3365x1350mm, with a surface area of 4.54 m².

Technical information	U.M.	12 mm	20 mm	30 mm
Slab surface	m ²	5,05	5,05	4,91
Slab weight	kg	160	260	370
Weight per m ²	kg	29	48	72

1.5.1/ Cut to size – Modular formats

On request, **Lapitec®** slabs can be supplied in modular formats, which can be used in different combinations in respect of different alignments on the joints.

The proposed formats are intended as suggestions to optimise the factory sizes of **Lapitec®** slabs. We remind you that the slabs can be cut and used in any other format.

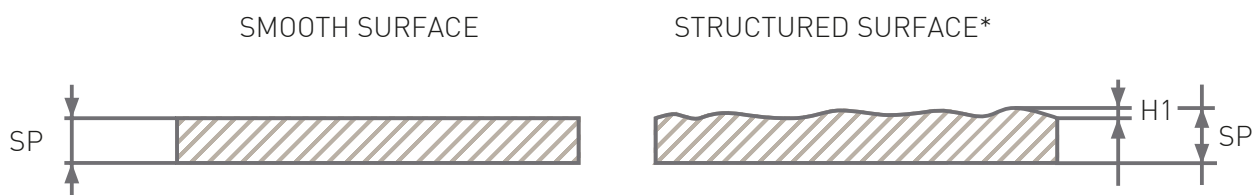


Attention: the indicated modular formats only refer to thicknesses of 12 and 20 mm. For modular formats with thickness 30 mm, contact Lapitec SpA.

1.6/ TOLERANCES

1.6.1/ Thickness

Nominal thickness TH	Tolerance mm	H1 mm
12	-0/+1	< 2
20	±0,5	< 2
30	±0,5	< 2



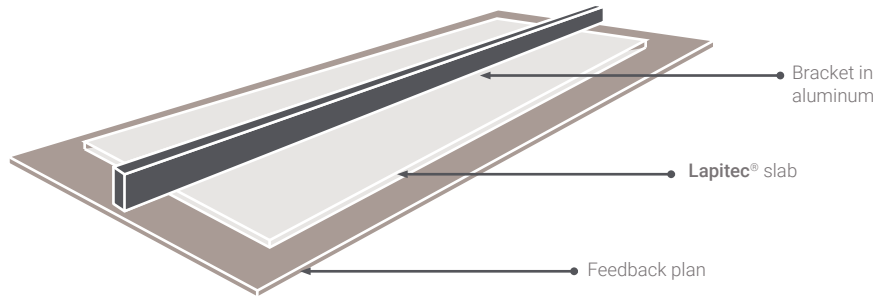
*STRUCTURED SURFACE: Fossil, Arena, Vesuvio, Dune, Urban

1.6.2/ Gloss grades

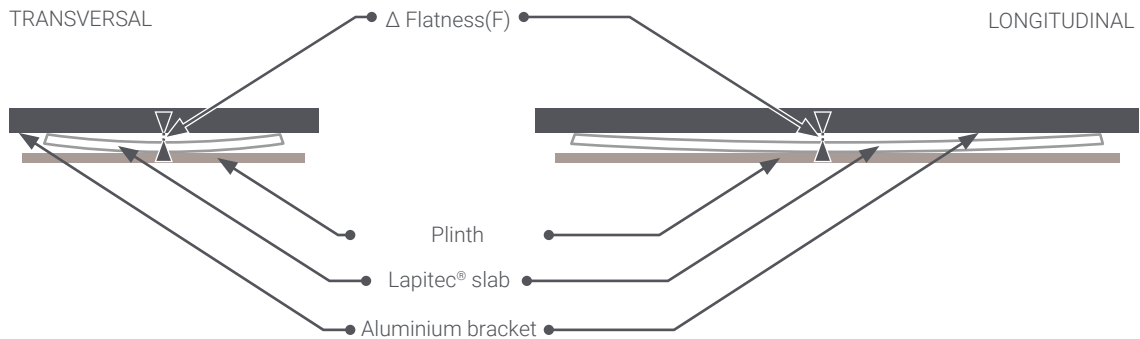
Finish	GLOSS	
	Minimum	Variation on same slab
Lux	> 65	< 10
Satin	< 16	< 3
Vesuvio	< 5	< 3
Fossil	< 5	< 3
Arena	< 5	< 3
Lithos	< 5	< 3
Dune	< 5	< 3

The gloss grades are measured using a glossmeter on the processed surface. The gloss variation on the same slab is checked by measuring along the edges and at the centre of the slab itself.

1.6.3/ Flatness



Thicknesses mm	TRANSVERSAL		LONGITUDINAL	
	Width mm	F mm	Length mm	F mm
12-20-30	1500	≤ 1,5	3365	≤ 3,4



To accurately measure the flatness, the slab must be rested on a perfectly horizontal and stable surface, therefore not on an A-frame or with the slab suspended. Flatness is measured with an aluminium bar and feeler gauges at the centre of the sides: 750 mm and 1700 mm.



1.6.4/ Tone

Lapitec® is a natural sintered material, which although developed by means of an industrialised and controlled process, maintains its natural appearance. **Lapitec®** slabs are similar to natural stone, the appearance of which may enhance their similarity with the authenticity of natural products.

It is therefore recommended to check the colour uniformity of the slabs, also when part of the same batch, as the colour may vary due to the effect of cooking. The colour of the material varies depending on the selected finish, and therefore depending on the type of mechanical surface machining.

1.6.5/ Aesthetic conformity

Aesthetic conformity - Vesuvio, Fossil, Arena, Lithos, Dune

Type of non-conformity	Size mm
Different coloured spot	> 0,6
Uneven area	> 3
White grains on dark background	Acceptable up to 1 mm

Aesthetic conformity - Lux and Satin

Type of non-conformity	Size mm
Different coloured spot	> 0,6
Similar coloured spot	> 5
Hole	> 0,6
Uneven area	> 3
Scratch / Shading	If visible in a perpendicular direction to the slab, at a distance of one metre, in natural light
White grains on dark background	Acceptable up to 1 mm

*Bianco Assoluto/Nero Assoluto:

the size tolerance is reduced to ≤ 0.5 mm for white grains on a black background and for black grains on a white background.

We advise our customers to thoroughly clean and inspect the slab before processing. This procedure guarantees best processing of the material and is a means of checking that all the qualitative standards have been met.

Tip: this should be standard practice. Claims will not be accepted for materials installed with defects that already existed at the time of delivery.

1.7/ CHOICE OF FINISH - CLEANING INDEX

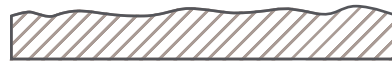
The choice of a certain type of finish implies a careful evaluation also of the ease-of-cleaning during use. The different finishes will facilitate or otherwise cleaning operations. Generally speaking, smoother surfaces are preferable in cases requiring regular cleaning and the impossibility to use equipment (e.g. pressure cleaners, industrial cleaners...). **Lapitec®** can be exposed to most substances found in common environments, however certain products are particularly harsh and their removal from the surface of the slabs requires very deep cleaning cycles.

In the worst case scenario, the only solution is mechanical removal by way of abrasion with the subsequent repair of the surface treatment (Bio-Care). As a guide, a table is provided for the choice of finish based on the cleaning index of the surface. This index is attributed based on the context and therefore the ease-of-cleaning in the environment where **Lapitec®** is applied.

SMOOTH SURFACE



STRUCTURED SURFACE *



Finish	Kitchen worktop	Indoor flooring	Outdoor flooring	On vertical walls
Lux	A	A	A	A
Satin	A	A	A	A
Vesuvio	B	B	B	B
Fossil	N/A	N/A	C	C
Arena	N/A	N/A	C	C
Lithos	B	B	B	B
Dune	B	B	B	B
Urban	N/A	N/A	C	C
Velvet	A	A	A	A

KEY:

- A. Easy cleanability
- B. Normal cleanability
- C. Cleanability with the use of equipment
- N/A. Not applicable

1.8/ SAFETY OF USE

Various evaluation criteria exist to determine non-slip properties. Below is a list of the different classifications based on the standard of reference.

FINISH	DIN 51130	DIN 51097	UNI EN 14231 USRV
Lux	N.C.	N.C. (3,9°)	-
Satin	N.C.	N.C. (11°)	38 dry; 22 wet
Vesuvio	R10	A+B+C (24°)	49 dry; 30 wet
Lithos	R10	A+B (19°)	42 wet
Dune	R10	A+B (20°)	37 wet
Arena*	R13	A+B+C (>24°)	66 wet
Fossil*	R13	A+B+C (>35°)	81 dry; 64 wet

*Considering the non-slip properties of surfaces with a slip rating $R \geq 12$, these should only be applied in fields of use where high-pressure water cleaning is possible.

DIN 51130

Slip rating with reference primarily to commercial and industrial environments.

Key

N.C.: not classified; applications with slopes $<6^\circ$

R9: Entranceways and stairs with access from outside, shops, hospitals, schools, restaurants and canteens; applications with slopes between 6° and $\leq 10^\circ$

R10: Public bathrooms and showers, catering businesses, garages and basements; applications with slopes between 10° and $\leq 19^\circ$

R11: Catering businesses, work environments with a strong presence of water and mud, laboratories, laundries; applications with slopes between 19° and $\leq 27^\circ$

R12: Catering businesses (industrial kitchens); food industry (oils, grease, dairy products and their derivatives; industrial processing involving the use of slippery substances, car parks; applications with slopes between 27° and $\leq 35^\circ$

R13: Food industry with heavy presence of grease; applications with slopes $\geq 35^\circ$

DIN 51097

Specific test for environments with bare foot traffic.

Key

N.C.: Not classified; applications with slopes $<12^\circ$

A: Change rooms, areas with bare foot access between 12° and $\leq 18^\circ$

B (A+B): Public showers, poolsides; applications with slopes between 18° and $\leq 24^\circ$

C (A+B+C): Immersed poolsides, submerged stairs, wash tanks, environments with stagnant water; applications with slopes $\geq 24^\circ$

UNI EN 14231

Determination of slip resistance by means of the pendulum tester.

Key

0–24 Potentially slippery. Suitable for commercial environments

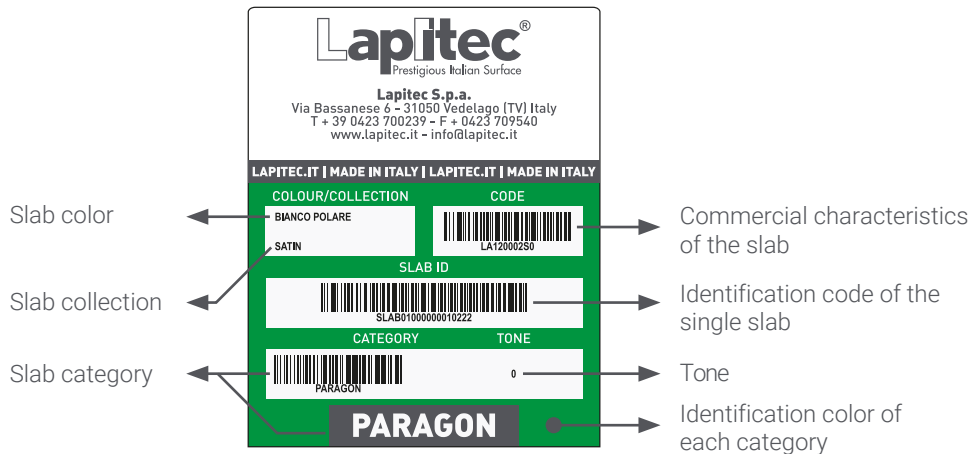
24–34 Limited resistance. Suitable for bathrooms and warehouses

35–64 Adequate. Suitable for exteriors and interiors, commercial areas and walkways including stairs

>65 Very resistant. Suitable for exteriors and slopes

1.9/ IDENTIFICATION LABEL

At the end of the production line, each slab is identified with a unique adhesive label containing all the production information of each single slab.



1.10/ TESTING AND CERTIFICATION

CATEGORY	COUNTRY	DESCRIPTION
Quality	INT	UNI EN ISO 14001
EPD	INT	ISO 14025 e EN 15804
LCA	INT	LCA as per EN15804
SRI	INT	secondo ASTM E 1980-11; ASTM E 903-12; ASTM C 1371-15. Disponibile per diversi colori e finiture.
Chemical emissions	INT	Green Guard e Green Guard Gold
Fire reaction	EU	A1 as per EN 13501-1
Environmental performance	INT	HK-G-PASS Platinum
Antibacterial properties	INT	Conformity as per ISO 22196:2007 and ISO 7218:2007
Food Equipment Standard	US	Certification as per NSF/ANSI 51
NKBA	US	National Kitchen & Bath Association member

2. PACKAGING AND HANDLING

2.1/ PACKAGING

Wooden bundle racks: standard packaging for container shipment.

A-frames clad in wood: provided by the customer for shipping by road.

Non-standard packaging: for material supplied cut to size. The packaging is selected based on the format, in either crates or pallets.

The values indicated below are merely illustrative.

Technical information	U. M.	THICKNESS 12 mm Valori	THICKNESS 20 mm Valori	THICKNESS 30 mm Valori
Delivery	/	FCA - Lapitec S.p.A. Vedelago (TV) ITALY	FCA - Lapitec S.p.A. Vedelago (TV) ITALY	FCA - Lapitec S.p.A. Vedelago (TV) ITALY
Slab area	m ²	5,05	5,05	4,91
Slab weight	kg	160	260	370
Weight per m ²	kg	29	48	72
Slabs per bundle	nr.	20 - 18*	12 - 11*	8 - 7*
m ² per bundle	m ²	101	60,6	40,4
Wooden bundle rack weight	kg	Approx 80	Approx 80	Approx 80
Full bundle rack weight	kg	Approx 3.300	Approx 3.300	Approx 3.300
Bundle rack dimensions including packaging	mm	3.420 x 350 h 1.600	3.420 x 350 h 1.600	3.420 x 350 h 1.600

* The variation in the number of slabs per bundle is due to the difference in thickness of the chosen collections.

Lapitec® slabs are packaged with the processed surface protected by a polyethylene film. The carrier must properly secure the material during loading.

2.2/ TRANSPORT

During transportation and warehouse and/or worksite storage, **Lapitec®** slabs must be housed on suitable supports or metal structures such as A-frames or dedicated shelving. These supports must be in good condition and properly treated to prevent any type of oxidation phenomena that may dirty the slabs.

They must also be fitted with suitable wooden, rubber or plastic protection to prevent any impacts on the edges of the slabs or surface abrasions during the transportation, handling and storage of the material.

If plastic elements are used to separate or protect the slabs, avoid direct exposure to sources of heat or prolonged periods of exposure to solar irradiation.

Lapitec® is not affected by atmospheric agents and can be stored outdoors, however water stagnation on the surfaces or edges of the slabs (rain, snow or condensate) may cause water stains, which are difficult to remove. If it becomes necessary to store the slabs outdoors for prolonged periods, it is recommended to cover them with an outdoor sheet protector.

2.2.1/ Truck

Load: 14,000 kg

Technical information	U. M.	THICKNESS 12 mm Valori	THICKNESS 20 mm Valori	THICKNESS 30 mm Valori
Total possible slabs	nr.	87	53	37
Total weight with packaging	kg	13.990	13.850	13.760
Total m ²	m ²	439,35	267,65	186,85

2.2.2/ Semi-trailer

Load: 24,000 kg

Technical information	U. M.	THICKNESS 12 mm Valori	THICKNESS 20 mm Valori	THICKNESS 30 mm Valori
Total possible slabs	nr.	149	91	64
Total weight with packaging	kg	23.980	23.800	23.820
Total m ²	m ²	752,45	459,55	323,20

2.2.3/ Container 21,000kg

Load: 21,000 kg

Technical information	U. M.	THICKNESS 12 mm Valori	THICKNESS 20 mm Valori	THICKNESS 30 mm Valori
Total possible bundles	nr.	6	6	7
Total slabs per container	nr.	120 - 108*	72 - 66*	48 - 42*
Total weight with packaging	kg	Approx 19.800	Approx 19.800	Approx 19.800
Total m ²	m ²	606,00 - 545,40	363,60 - 333,3	242,40 - 212,1

2.2.4/ Container 24,000kg

Load: 24,000 kg

Technical information	U. M.	THICKNESS 12 mm Valori	THICKNESS 20 mm Valori	THICKNESS 30 mm Valori
Total possible bundles	nr.	7	7	7
Total slabs per container	nr.	140 - 126	84 - 77	56 - 49
Total weight with packaging	kg	Approx 23.100	Approx 23.100	Approx 23.100
Total m ²	m ²	707,00 - 636,3	424,20 - 388,85	282,80 - 247,45

**When organising a container, consider the weight limits imposed by the destination port

2.3/ SLAB INSPECTION

We advise our customers to thoroughly clean and inspect the slab before processing. This procedure guarantees best processing of the material and is a means of checking that all the qualitative standards have been met.

Tip: this should be standard practice. Claims will not be accepted for materials installed with defects that already existed at the time of delivery.

2.4/ HANDLING

The slabs must always be handled and moved on their sides to prevent flexion, paying utmost attention to avoid chipping or breaking the material. Any breakages may compromise the behaviour of the slab once laid and subjected to stress.

Lapitec® must always be handled using gloves to prevent any cuts and/or dirt deposits on the slab.

2.4.1/ Manual handling

Any format heavier than 25 kg (0.85 m², 12 mm - 0.50 m², 20 mm - 0.30 m², 30 mm) and in general any format characterised by long measurements, must be handled by two operators. The operators must pay attention to avoid accidental impacts and so as not to damage the edges or the surface of the **Lapitec®** slabs. If impacts occur, the operators must check whether or not any damage has been caused. Any breakages may compromise the behaviour of the slab once laid and subjected to stress.

Lapitec® must always be handled using gloves to prevent any cuts and/or dirt deposits on the slab.

2.4.2/ Handling with equipment

Before proceeding, always check the maximum load capacity.

Each single slab can be handled using rubber-coated web slings, rubber-coated grippers or suction cups. Slabs with an Arena, Dune, Vesuvio and Fossil surface finish must not be handled using suction cups. Under no circumstances may chains or steel ropes be used, as these may ruin the material.

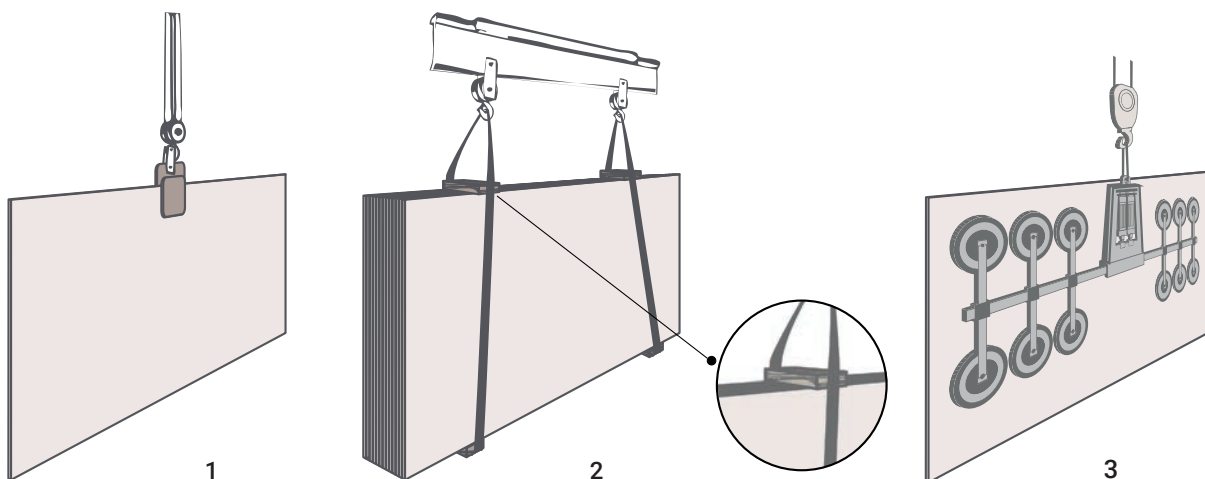
When lifting a single slab, the gripper should be positioned at the centre of the load to balance the weight and limit swaying (as shown in figure 1). When depositing a slab using the gripper, check that there are no empty spaces between the slab and the support (whether another slab or surface).

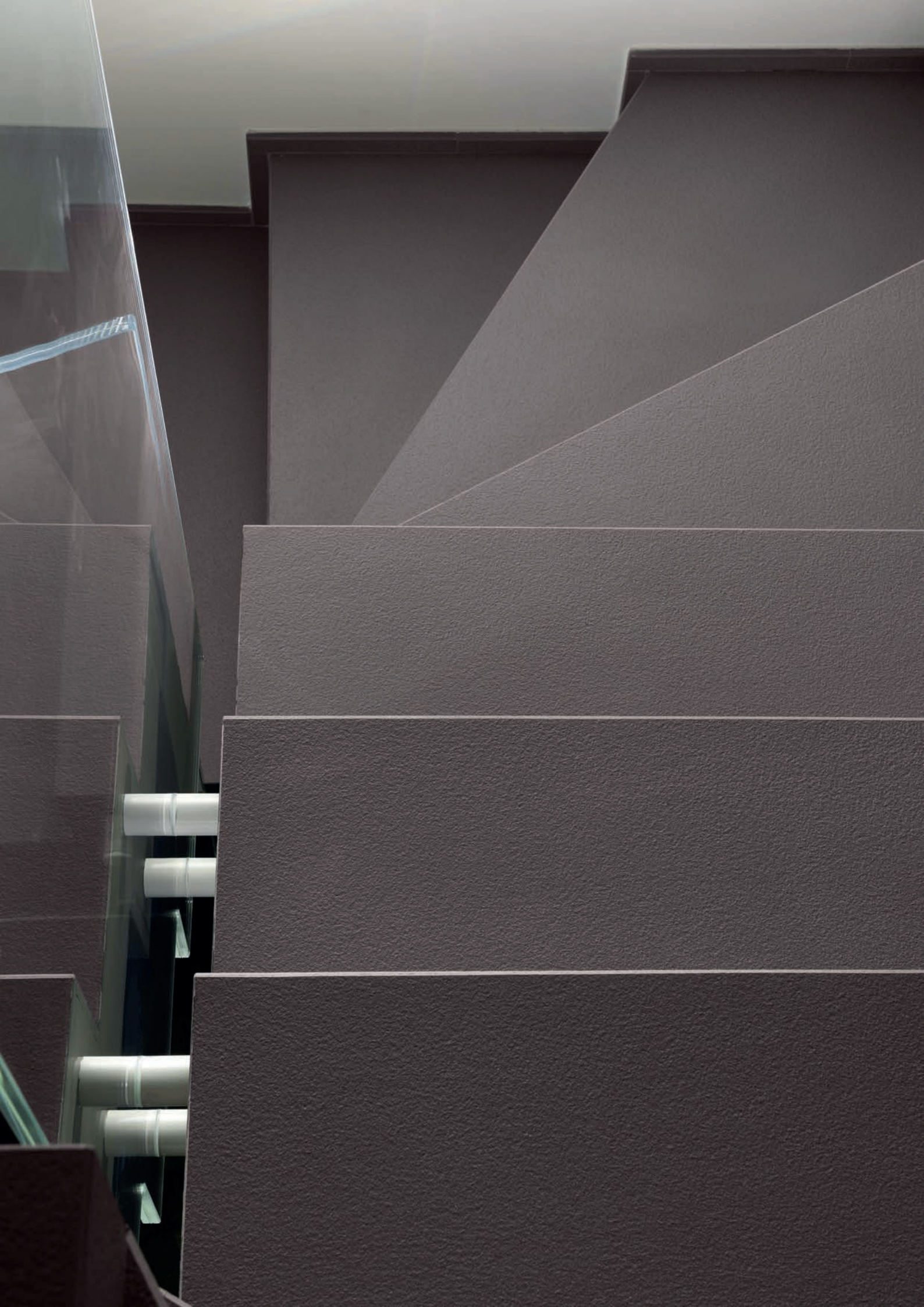
When lifting multiple slabs, it is recommended to use a spreader beam and web slings separated by a wooden spacer slightly longer than the pack of slabs, underneath and on the top (as shown in figure 2).

In this way the force exerted during handling will not weigh on the slabs, thus avoiding any breakages of the material.

Handling using suction cups is allowed (as shown in figure 3). It is recommended to use compression suction cups. When lifting slabs with more structured finishes such as Vesuvio, Dune, Arena and Fossil, it is important

to evaluate the type of suction cup that will be used for handling.





3. LAPITEC SPA

Customer Care

Every single experience acquired working on international projects, in a range of different uses, is utilised to perfect the products and accessories sold by Lapitec S.p.A. Through a direct exchange with its customers, Lapitec S.p.A. continuously studies new solutions to offer an increasingly complete and efficient service for a diverse range of needs.

In the case of special needs, Lapitec SpA customer care can be contacted by writing to

customercare@lapitec.com

LapitecACADEMY - Development centre

LapitecACADEMY is the division responsible for training and supporting professionals that work with **Lapitec®** through in-house company training courses and direct assistance. Thanks to the Academy Community service, all news and technical developments are rapidly diffused to the entire network of collaborators.

By attending the training course held by LapitecACADEMY, professionals can obtain an Approved Fabricator certificate and learn a series of helpful tips and **Lapitec®** machining techniques.

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