

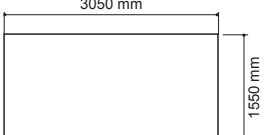
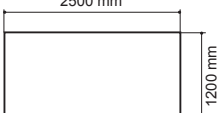
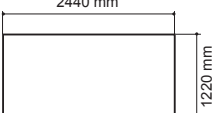


-STEP SERIES

TECHNICAL SPECIFICATIONS

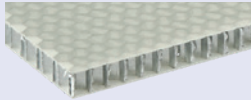
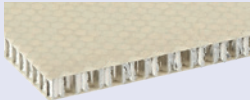
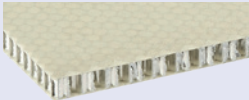
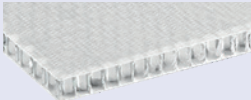
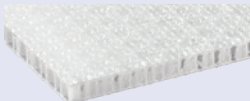
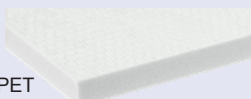
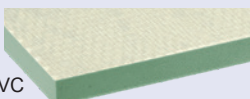
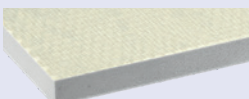
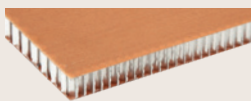
Depending on the honeycomb and skin used, -Step Series panels can be produced in different sizes. On request CEL produces oversize such as 2000x3000.

HERE ARE THE STANDARD DIMENSIONS FOR FIBREGLASS PANELS

Panels with aluminium honeycomb core	Panels with polypropylene honeycomb core	Panels with aramid honeycomb core
		

TYPE

Technical specifications of the SERIES -STEP panels

RESIN	CORE	PANEL
EPOXY	Aluminium honeycomb	ALUSTEP 300 LIGHT  ALUSTEP 500 LIGHT  ALUSTEP 500  ALUSTEP 500 SL 
	Polypropylene honeycomb	POLISTEP  CLEARSTEP 
	Foam	CLEARPET  FOAMSTEP  PETSTEP 
PHENOLIC	Aluminium honeycomb	ALUSTEP F 
	Aramid paper honeycomb	ALUSTEP FN 

PROCESSING

CUTTING TO MEASURE-DRILLING-SHAPING

Precision processings are performed through the use of numerical control machines (CNC) by specialized operators. To realize special shapes and processes, it is necessary to provide a DWG or DXF format drawing in advance.

SURFACE FINISHES

-Step Series panels are semi-finished products used as marble or stone support, in order to reduce their weight and facilitate their handling. Lightweight panels are also applied as a mosaics support or in the restoration of frescoes.

According to the different needs (gripping, handling, etc.), the customer can choose fibreglass panels with differentiated fibre textures or finishes.

The wide range of -Step Series panels is able to meet the different needs of customers. The customer can namely choose fibreglass panels with different textures or fibre finishes according to their needs (grip, handling, etc.).

The term “lightweight marble” refers to a product realised combining marble with a honeycomb panel.

Marble is an elegant material, famous for its resistance to time. However, its use is limited due to weight and costs. Both problems can be solved by reducing the thickness of the stone slabs.

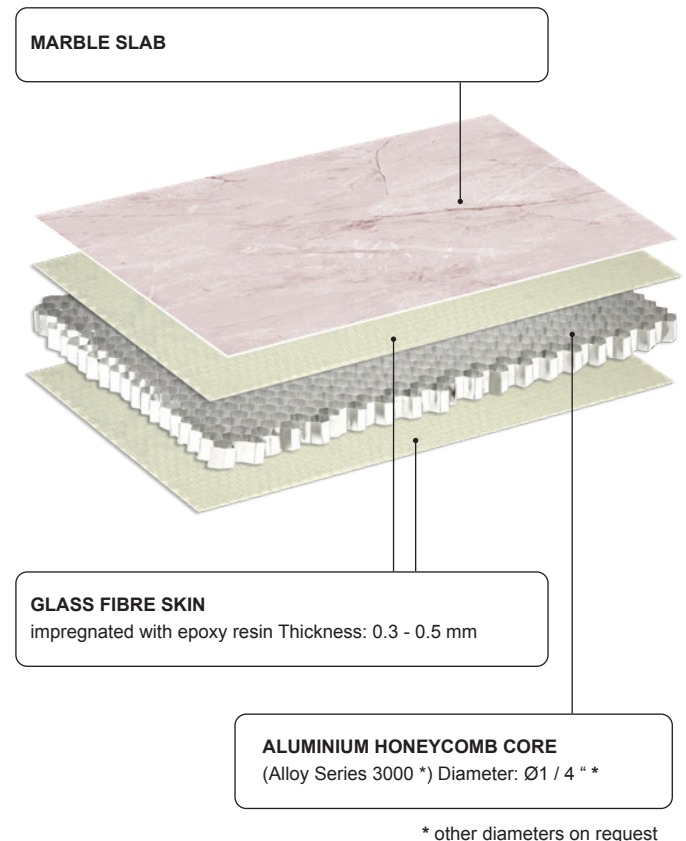
Normally a thin slab of marble is subjected to easy fractures; however, when marble is coupled with honeycomb panels, these offer an excellent support.

The minimum thickness of marble slab depends on the type of stone, however it is around 5 mm.

Sandwich panels with honeycomb core, covered with fibreglass impregnated with epoxy or phenolic resin (-Step Series), are used to reinforce marble and semi-precious stones.

The application of sandwich panels, made with different honeycomb cores and fibreglass impregnated with epoxy resin, permit to reduce stone thicknesses, obtaining much lighter but equally resistant surfaces and coatings.

This application is not limited only to marble and precious stones, but it can also be used with any stone or ceramic material.



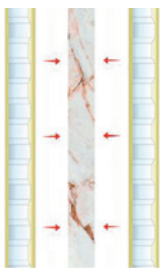
LIGHTWEIGHT MARBLE: THE “SPLITTING” TECHNIQUE

The production of lightweight marble products includes shower trays, washbasins, elevator interiors, tables and furniture; more generally the panels can be applied in naval, aeronautical, construction sectors.

These sandwich panels allow to reduce stone thicknesses, obtaining much lighter floors and coverings, increasing the stiffness of the final product.

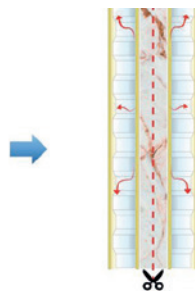
The thickness of the marble can then be halved thanks to the “splitting” technique.

The panel, glued to the marble slab, absorbs the tensions caused by the bonding process providing the slab with a permanent support.



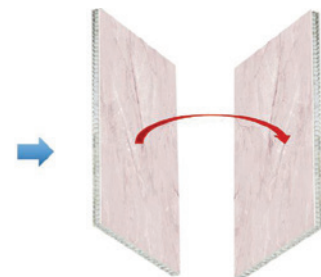
1 - Gluing

Two panels are glued to the external side of the stone.



2 - Crack

The honeycomb panels absorb the stresses produced during the splitting process, avoiding fractures in the material.



3 - Result

The usable marble surface doubles and the weight reduces drastically.

Cel also offers splitting machines to cut marble slabs perfectly.

CERTIFIED PANELS

ALUSTEP® F is a sandwich panel with an aluminium honeycomb core and two skins in fibreglass impregnated with phenolic resin.

ALUSTEP® FN is a sandwich panel with an aramid paper honeycomb core and two skins in fibreglass impregnated with phenolic resin.

Thanks to the low flammability of the phenolic resin, these panels have been certified for nautical and railway sector.

In fact, they have achieved IMO MED certification for the naval sector and Class HL3 for R10 (floors) and HL2 for R1 and R2 (walls and false ceilings) for railway wagons.



REACTION TO FIRE OF ALUSTEP F AND ALUSTEP FN PANELS

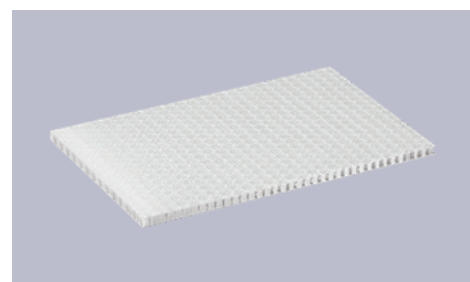
SECTOR	NORM	CERTIFICATION	TYPE OF PANEL
	FTP CODE 2010 3.18a  MED IMO 0407	MOD. B Low Flamespread MOD. D Low Flamespread	ALUSTEP® F ALUSTEP® FN
	 U.S Coast Guard	MOD. B Low Flamespread MOD. D Low Flamespread	ALUSTEP® F ALUSTEP® FN
	 UNI EN 45545-2	HL2 HAZARD LEVEL	ALUSTEP® F (from 5 to 50mm) ALUSTEP® FN (from 10 to 25mm) Meets requirements for applications: R2: suspended ceilings, countertop R1: partitions
	 UNI EN 45545-2	HL3 HAZARD LEVEL	ALUSTEP® F (from 5 to 50mm) ALUSTEP® FN (from 4 to 25mm) Meets requirements for applications: R10: floors

BACKLIGHT

CEL has also developed a solution for backlit.

CLEARSTEP offers support to white onyx and to all other stones whose application aims at achieving a backlit effect.

CLEARSTEP, with its very light transparent surface, is therefore suitable for those applications where the colour of the panel must match the final colour of the product.



Main fields of application

	 SHIPBUILDING	 RAILWAY	 AUTOMOTIVE	 BUILDING	 INTERIORS	 STONES, MOSAICS, MARBLE SUPPORT	 LIGHTING SECTOR	 FLOOR
Alustep 300 Light	✓			✓	✓	✓		
Alustep 500	✓			✓	✓	✓		✓
Alustep 500 Light	✓			✓	✓	✓		✓
Alustep 500 SL	✓			✓	✓	✓		✓
Polistep	✓		✓		✓	✓		
Alustep F	✓	✓		✓	✓	✓		
Alustep FN	✓	✓			✓	✓		
Clearstep						✓	✓	
Clearpet						✓	✓	
Foamstep						✓		



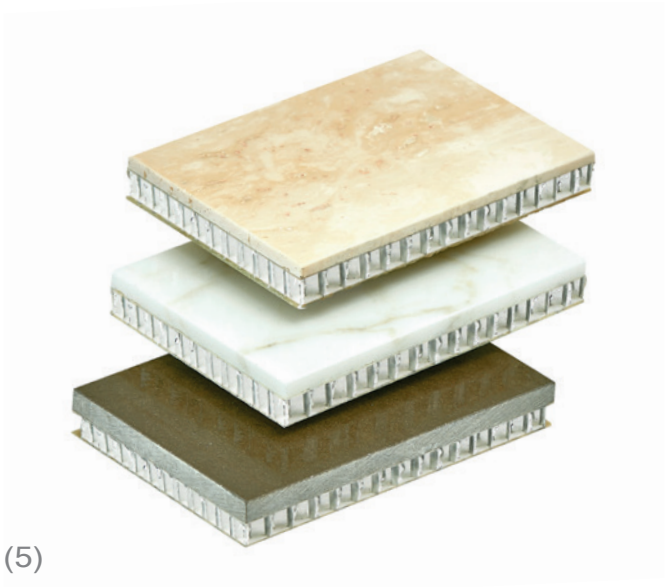
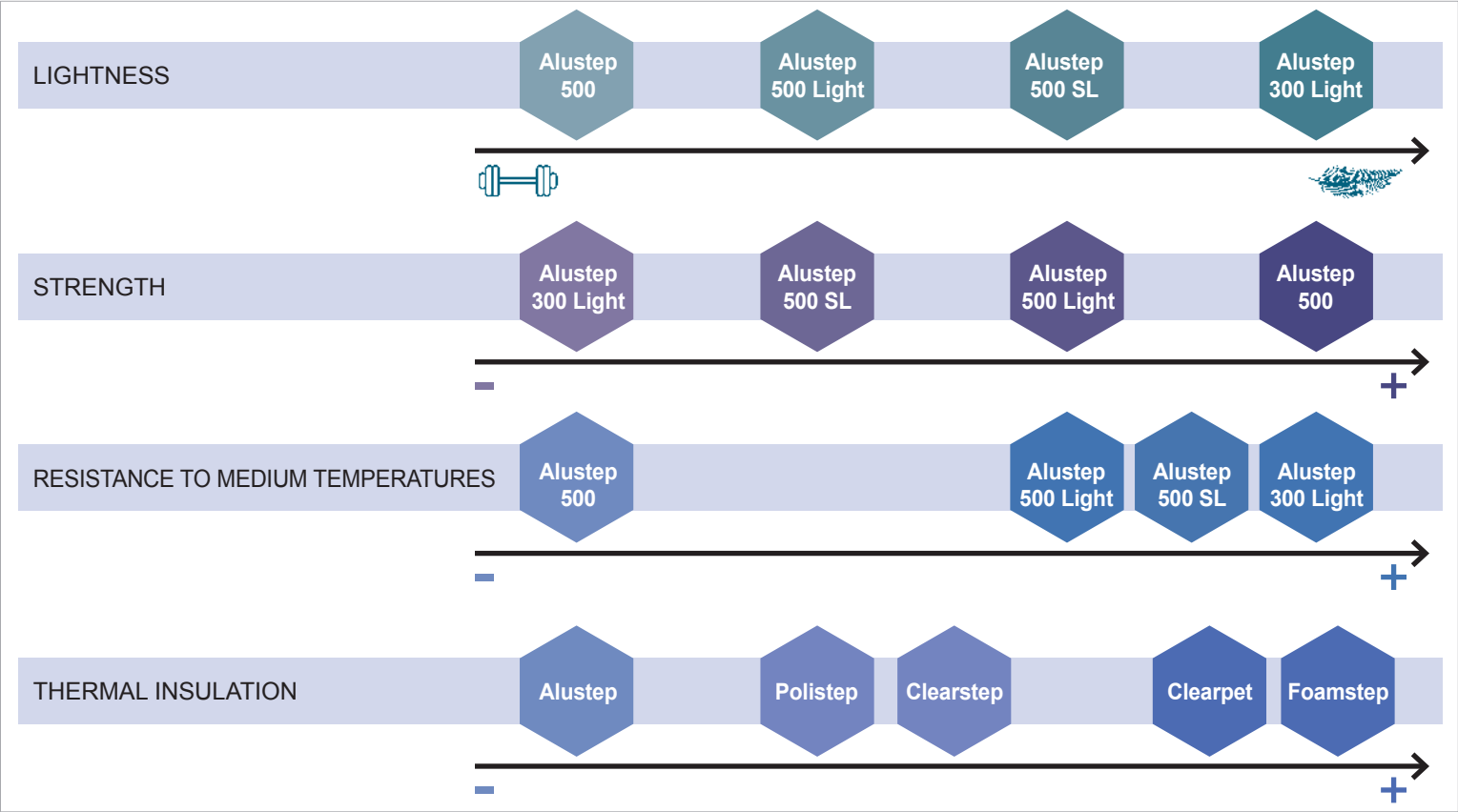
IMAGES

Applications for different sectors:

- (1) Backlit panels;
- (2) Panels for bathroom coverings and furnishings;
- (3) Mosaic support panels;
- (4) Panels for interior furnishings;
- (5) Marble samples;
- (6) Marble for lifts;
- (7) Curved panels with marble.



PANELS IN COMPARISON



THE ADVANTAGES OF THE -STEP SERIES

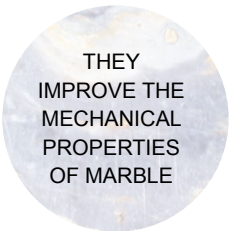
The sandwich panels of the -Step series offer various advantages:



THEY REDUCE
THE TOTAL
WEIGHT OF THE
PRODUCT



THEY SAVE
STONE



THEY
IMPROVE THE
MECHANICAL
PROPERTIES
OF MARBLE



THEY FACILITATE
HANDLING AND
INSTALLATION



THEY REDUCE
TRANSPORT
COSTS



THEY REDUCE
CO₂ EMISSIONS

USEFUL INFORMATION

ABOUT US

CEL panels are produced in Italy, in Villanova di Castenaso, nearby Bologna.

The choice of materials takes place after a careful selection and evaluation of suppliers, supply capacities and product quality.

Customer satisfaction is the main goal. For this reason CEL is committed to supply only materials of the highest quality, result of refined processes and stringent selections.

TREATMENT, INSTALLATION, MAINTENANCE

The processing of -Step series panels can be carried out with different machines: from carpentry saws to the most advanced CNCs. Cel offers squaring or shaping processes for its sandwich panels. User manual indicates how to store and keep the panels correctly. Storage temperature, handling, exposure to light and atmospheric agents influence the conservation of the panel. Some panels of the -Step series are equipped with a peel ply film; that it must be removed before use to improve adhesion.

RESEARCH

CEL combines quality and innovative solutions in order to meet the individual needs of each customer. The company has two laboratories to carry out chemical and mechanical tests.

Other tests, such as fire reaction tests, are issued by external laboratories.

In strict collaboration with its customers, CEL develops new products and design, and testing both new materials and non-standard finishes.

SUSTAINABILITY AND ENVIRONMENT

CEL commitment for Environmental protection and product sustainability is the backbone for new processing decisions.

The factory plant has been designed to limit both air and acoustic emissions, while the produced heat is reused in indoor spaces, thus limiting the use of other heating sources.

The choice of local suppliers does not only limit the impact of hydrocarbons on the environment, but it also supports local economy, and shortens delivery times.

In addition, discarded materials are used either to carry out tests or to realize small samples.

Cel uses mainly recycled material, wood and cardboard for packaging.

SAFETY AND HEALTH

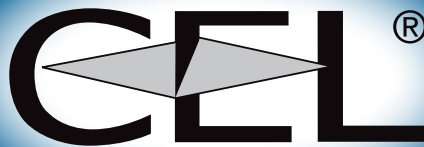
Workers' health and safety are a primary corporate goal. CEL insists on the correct installation of protective barriers and PPE.

Safety standards have become part of CEL operating procedures.

CEL produces in compliance with the ISO 9001-2015 standard and is working to get ISO 45001.

RECYCLING

-STEP series panels are made of fibreglass; therefore, they are not recyclable since it is not possible to separate the aluminium honeycomb from the fibreglass skins. However, PETSTEP AND CLEARPET panels are made with a PET core, a recycled product.



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www.cel.eu    



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