CIMENTO®

Indoor Wall Panels
Technical Information

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1. Product description

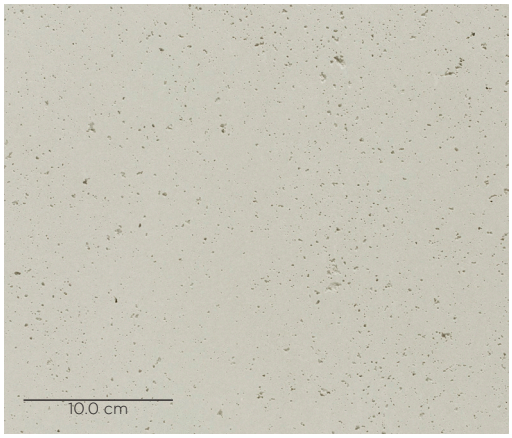
Indoor wall panels are composed by a substrate, usually a wood panel, on which a lay of **CIMENTO®** (2.0 ± 2.5 mm) is spread.

The **CIMENTO®** finishing, thanks to its morphologic peculiarities such as colour, porosity, surface roughness, allows obtaining the evocative aspect of the real cast face-view concrete, even if it is easy to work and to install like a wood panel.

CIMENTO® panels are A+ certified, in terms of Volatile Organic Compounds (VOC), this means that **CIMENTO®** panels assure the maximum compatibility with the air quality and healthiness in the rooms where they are installed[1].

CIMENTO® panels' surface is treated with specific protectors to optimize their resistance and durability. Treatment is chosen accordingly to the panel final use.

CIMENTO® is unique, a patented product designed by our Research and Development Labs.



Surface - **CIMENTO®** Colour CI02 - Natural

2. Designate use

CIMENTO® wall panels must be considered as a furniture element, they have no structural function and they are, therefore, the ideal solution for wall cladding, ceiling and any other application compliant with the panel technical characteristic such as furniture realization. Any other use not here described, and not compliant with the nature of the product, release the manufacturer from any civil or penal responsibility.

Technical details useful for the designers are explained in the next paragraphs. Click on **www.cimento.tech** to receive more information or to ask for catalogues or samples.

3. CIMENTO® wall panels

CIMENTO® panels stand out for the following reasons:

- Each **CIMENTO®** panel is unique: irregular colour and uneven finishing must be considered as an intrinsic characteristic of the product and they make the panel still more precious. As **CIMENTO®** is a natural aggregate of minerals, each production batch is unique and not replicable.
- Several colour are available (including custom colours, ask for more information to **info@cimento.tech**)
- Panels can be easily cut, drilled, and pantograph-worked with the same technics and tools used to work the wood.
- Panels can be easily installed thanks to the tools offered in the **CIMENTO®** catalogue or using the most common fixing systems available in the market.
- **CIMENTO®** panels are available in standard formats. On request, they can be supplied in customized format accordingly to the project peculiarity (max dim 3500x1200 mm – ask for more information to **info@cimento.tech**).
- Reusable: **CIMENTO®** panels can be easily removed from the wall and then used again in other settings;
- Lightweight: accordingly to the chosen substrate, **CIMENTO®** panels weight is from 6 kg/sqm to 20 kg/sqm.

[1] Test made on **CIMENTO®** panels, fire rated MDF substrate, stain resistant treatment, waterproofing on edges.

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4. CIMENTO®: mixture composition

CIMENTO® mixture is composed for more than 90%, by a natural calcareous aggregate with selected grain size, cement binding and polymeric additives.

This mixture can be pigmented to obtain a finishing with different colours from the typical clinker in Portland cement.

Accordingly to the final use, **CIMENTO®** can use different kind of substrate: panels in wood or wood products, fibre cement, aluminium, ...

5. Production method

CIMENTO® panels can be realized thanks to the stable synergy between different professionals and the use of high technologic tools. To optimize the production flow and to monitor the final quality, product designing and realization are operated inside the company.

To guarantee the highest geometric and dimensional precision, panels are realized using the latest technologies; the **CIMENTO®** mixture, instead, is rigorously hand made by experienced artisans.

Before receiving the final surface treatment, to ensure the highest quality, panels need to rest for the necessary time in a designated chamber, where temperature and humidity degree are steadily under control.

6. Available substrates

CIMENTO® can be applied on different substrates. In case of indoor panels the below listed materials are usually available on stock:

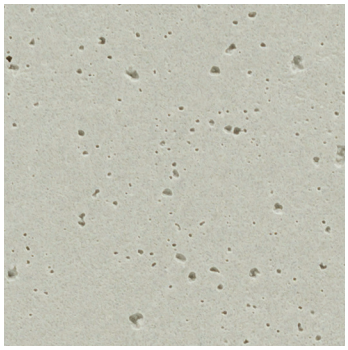
- HPL thickness 1 mm
- MDF bilaminated th. 12 mm
- MDF bilaminated th. 19 mm FSC
- MDF bilaminated th. 19 mm FSC Fire Rated
- Plywood th. 11 mm

Different kind of substrate can be used on customized projects, for more information please ask to: **info@cimento.tech**.

7. Available finishings

CIMENTO® is available with the following finishings:

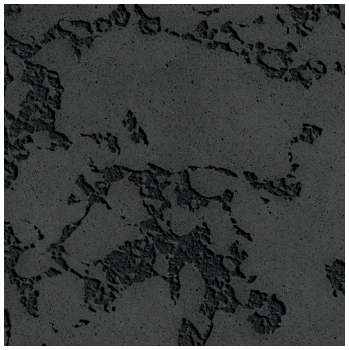
STANDARD



SMOOTH

SANDED

PLANKING



VIBRATED

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ON REQUEST

ESSENCE

SACK

LINE

Customized finishings can be realized accordingly to the project, for more information please ask to: **info@cimento.tech.**

8. Available colours

CIMENTO® panels are available in a wide range of colours: the **CIMENTO®** mixture is added with natural pigments with oxide bases, which ensure a high colour resistance to the light.

CIL01 - WHITE

CIL02 - NATURAL

CIL04 - LIGHT GREY

CIL05 - ANTHRACITE

CIL06 - BLACK

CIL010 - COOL GREY

Customized colours can be realized accordingly to the project specification, for more information please ask to **info@cimento.tech**.

9. Surface treatments

Accordingly to the final use, or the to the customer requirements, panels need to be treated with different kind of surface treatments. Standard panels are already supplied with a protective treatment against stains; this basic treatment is enough if the **CIMENTO®** panels need to be installed in a clean place or where there is no dangers to enter into contact with staining agents.

Only on specific request of the customer, panels can be supplied without the basic treatment. In this case, because of the natural porosity of the cement mix, the panel can absorb stain liquids, dust, oils, greases, and stain even in a short time.

The available surface treatments are:

Water-repellent: hydro-oilresistant system on a solvent-base, with high performance and durability characteristics. It is not a film-forming product and it does not alter the chromatic aspect and the tactile feeling of the **CIMENTO®**, which remain matt. This kind of treatment offers a good protection against staining agents, which have a water or oil base.

Stain Resistant: surface treatment with high performance polymeric systems. This treatment increases the surface hardness of the **CIMENTO®** panels, and, at the same time, it protects the surface from staining agents, which have a water or oil base.

Total: matt water polyuretanic treatement. This treatment protects the **CIMENTO®** surface from oil or hydro- alcoholic substances; it is ideal if the panels are used in place where, with a high probability, the surface could get in touch with staining agents. This treatment can be used both indoor and outdoor and it maintains the chromatic and functional characteristic of the **CIMENTO®**

Anti-graffiti: this kind of treatment is highly suggested when panels are installed in places with a high probability of “writers” vandalism. The special formulation of this protective treatment avoids the varnish adhesion and facilitates subsequent removal operations.

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10. Dimensions and weights

CIMENTO® panels are available with different standard dimensions and, on request, can be supplied with customized dimensions accordingly to the project peculiarities.

STANDARD DIMENSIONS AND WEIGHTS FOR CIMENTO® PANELS			
Substrate: HPL thickness 1 mm		**Substrate: bi-laminated poplar plywood thickness 11 mm**	
Dimension (mm)	Panel weight (Kg)	Dimension (mm)	Panel weight (Kg)
600x600	2.2	600x600	3.5
900x900	4.9	900x900	7.9
600x1200	4.4	600x1500	8..8
900x1200	6.6	900x1500	13.2
2700x1200[2]	19.8	3050x600	17.8
		3050x900	26.8
		3050x1200[3]	35.7
Substrate: MDF standard laminated thickness 19 mm		**Substrate: MDF fireproof laminated thickness 19 mm**	
Dimension (mm)	Panel weight (Kg)	Dimension (mm)	Panel weight (Kg)
600x600	6.9	600x600	7.2
900x900	15.5	900x900	16.2
600x1200	13.8	600x1200	14.4
900x1200	20.7	900x1200	21.5
600x1800	20.7	600x1800	21.5
900x1800	31.1	900x1800	32.3
3500x600	40.3	3500x600	41.9
3500x900	60.4	3500x900	62.8
3500x1200[4]	80.6	3500x1200[4]	83.8

Avarage **CIMENTO®** weight, substrate exluded: 4.5 kg/sqm

[2] Maximum dimension HPL panel
[3] Maximum dimension Plywood
[4] Maximum dimension MDF panel

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11. Physical-mechanical characteristics

The below table shows the main physical-mechanical characteristics of the **CIMENTO®** panel accondingly to the different kind of substrates.

SUBSTRATE	PHYSICAL-MECHANICAL CHARACTERISTIC	TEST	MESURE UNITY	VALUS
HPL 1 mm	Density	EN ISO 1183-1	g/cm^3	1.4
	Resistance to cracking	EN 438-2.23	Classe	5
	Resistance to impact big diameter sphere	EN 438-2.21	H cad. mm	1000
POPLAR PLYWOOD	Density	EN 323	Kg/m^3	400-450
	Longitudinal flexural strength	EN 310	N/mm^2	28
	Cross flexural strength	EN 310	N/mm^2	24
	Tensile module of elasticity: longitudinal	EN 310	N/mm^2	3200
	Tensile module of elasticity: cross	EN 310	N/mm^2	3000
	Fire Reaction	EN 13986	Classe	D-s2, d0
	Formaldehyde releaser	EN 717/2	mgHCHO/m^{2h}	<3.5 (classe E1)
	Moisture %	EN 322	%	10 ± 2
STANDARD MDF	Density	EN 323	Kg/m^3	760 ± 5%
	Inside crack resistance	EN 319	N/mm^2	0.6
	Tensile module of elasticity	EN 310	N/mm^2	2200
	Screw holding: face	EN 320	N	1000
	Screw holding: edge	EN 320	N	800
	Moisture %	EN 322	%	4 ÷ 11
	Formaldehyde content	EN 12460-5	mg/100g	≤8
		JIS A1460	mg/l	-
	Fire Reaction	EN-13501-1	Classe	D-s2, d0
FIREPROOF MDF	Density	EN 323	Kg/m^3	800 ± 7%
	Inside crack resistance	EN 319	N/mm^2	0.6
	Tensile module of elasticity	EN 310	N/mm^2	2200
	Screw holding: face	EN 320	N	1000
	Screw holding: edge	EN 320	N	800
	Moisture %	EN 322	%	5-9
	Formaldehyde content	EN 12460-5	mg/100g	-
		JIS A14460	mg/l	≤0.3
	Fire Reaction	EN-13501-1	Classe	B-s2, d0

SUBSTRATE	PHYSICAL-MECHANICAL CHARACTERISTIC	TEST	MESURE UNITY	VALUS
CIMENTO® FINISH	Surface Density (Average thickness 2.5mm)	-	Kg/m²	4.75
	Fire Reaction[5]	EN-13501-1	Classe	B-s1, d0
	Total Volatile Organic Compound TVOC[6]	EN 16000-9	µg/m³	119,6
	Class VOC[7]	Table D, annex I	Classe	A+
	Surface resistance to cold liquids	Uni EN 12720:2013	Classe CEN/TS 16209	C
	Scratch resistance	EN 15186:2012	Carico (N)	0,9
			Classe CEN/TS 16209	D
	Abrasion resistance	EN 15185-2011	Punto iniz. (giri)	90
			Classe CEN/TS 16209	C
	Surface Hardness (Pencil Method)	UNI 10782:1999	Classe	H
	Brinnel hardness	EN 1534:2010	Kg/mm²	6.1
	Impact Resistance (big diameter sphere)	EN 438-2:2016	H (mm)	600
			Diametro impronta (mm)	6.7
	Adhesion on subustrate	UNI 9240:2016	MPa	1.8

12. CIMENTO® handling and storage

Handling the panel, please take in consideration the panel's low elasticity. Panels need always to be supported in a distributed way to avoid the crack of the **CIMENTO®** finishing.

Edges need to be protected from possible impact to avoid damages.

The panel must be protected against stain agents, blades, cutting or scratching objects, which could damage the **CIMENTO®** finishing.

Panels need to be stocked in a dry place, in a horizontal position and supported in a homogenous way for the entire surface.

[5] Prova condotta con supporto MDF 19mm tipo ignifugo
[6] Prova condotta su campione con tratt. antimacchia, pannello MDF 19mm ignifugo con bordo isolato
[7] Determinata secondo Norma francese 19/04/2011

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13. Panels modification on site

In case the panels need to be worked on site, please follow the below instructions:

- Panel need to be positioned in a correct position, be sure it is stable, not curved and not object of vibration or tension; a wrong cut procedure can cause the edges delamination or the finishing detachment;
- During the cut and smoothing operation, use an appropriate tool for dust vacuum and ventilation. If the dust vacuum is not enough, use appropriate protection masks (at least class P2);
- Cutting and drilling residues must be removed immediately from the **CIMENTO®** surface through an appropriate tool for dust vacuum and ventilation; if not removed, they could cause the formation of permanent stains.

CIMENTO® panels can be easily worked with the usual wood tools, anyway, because of the cement layer, the use of appropriate blades, disks, abrasives, etc are suggested, i.e. widia or diamond blades.

Useful tools:

- Cutting tools: fix circular saw or handsaw with rail, jigsaw.
- Edges smoothing: fine sandpaper or sanding pad;
- Drilling widia points suitable for wood/masonry. The panels need to be supported by a uniform support all around the point to drill;
- Opening: drill with hole cut tip or jigsaw;

14. Touch-Up Kit (on request)

In case it is necessary to grout the joint between two panels, or it is necessary to repair small damaged parts, the touch up kit is helpful (supplied on request).

The touch-up kit is made of two elements:

- **CIMENTO®** mixture (powder);
- Liquid additive and pigments;

To use the Touch-Up Kit, please follow the here below instructions:

- Open the liquid and the solid containers;
- Pour the liquid component into the solid one;
- Mix the two component using a metallic spatula until the mix is homogenous, without lumps. The two components need to be perfectly mixed;
- If it is necessary, add some water to increase the mix fluidity;
- Touch up the part protecting the next parts with sealer tape;
- Once the touch up is made, please remove the sealer tape and wait for the mix to harden (consider 4/6 hours according to the ambient condition);
- Once the mix is hardened, smooth the touched up part using 200-240 grain sandpaper;
- Wash the used tools using water.

The touch up kit is available in two sizes:

- 250 gr (enough for more or less 10 mt)
- 500 gr (enough for more or less 20 mt)

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15. Maintenance

For ordinary and extraordinary maintenance of the **CIMENTO®** panels, when you need to remove no-staining depot, please follow the below instructions:

- Using a vacuum cleaner equipped with soft brush, remove the dust from the surface and from the cement holes;
- Using a dry microfiber cloth, rub the surface; a slightly humid microfiber cloth can be used, in this case, later, the surface need to be dried with another clean microfiber cloth to avoid ring;

In case the **CIMENTO®** surface become in contact with soiling / staining substances, clean only the interested area with a solution of water and ammonia or similar products, do not use degreasing detergents, which need a plentiful rinse, aggressive products with acid base, solvent or abrasive. Dry the area using a clean microfiber to avoid any stain ring.

Please note: avoid this procedure if you opted for a no-treated **CIMENTO®** finishing.

In case the stain is difficult to remove and the above-described procedure are not enough, then use a low-pressure steam generator: the steam jet need to be directed towards the interested area, which need also to be wiped with a clean microfiber cloth.

Please note: during the cleaning operations, keep the steam outlet nozzle at an adequate working distance, in order to avoid possible overheating of the surface and to obtain a more homogeneous cleaning action.

Steam cleaning can be used only in case of panels with stain resistant or full or anti-graffiti treatment. In case of no-treated panels, the using of steam may cause stain to penetrate further into the CIMENTO® porous structure.

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