1. Description

Viroc is a composite panel made from a mixture of wood particles and cement known as Cement Bonded Particleboard (CBP). It combines the flexibility of wood with the strength and durability of cement, allowing for a wide range of applications both indoors and outdoors. The production of Viroc board complies with the specifications of the EN 634 and EN 13986 standards and has a CE Marking Certificate.
The Viroc panel has a heterogeneous appearance with different shades dispersed randomly, resulting from the natural colours of the raw materials used and chemical reactions. Colour differences may be observed on the same face, between faces of the same panel or between different productions. To minimise colour differences, it is recommended that the supply comes from a single production.
When exposed to the outside environment, the panels change colour slightly and become lighter. This tonal variation depends on the colour and is a natural characteristic of the panel. Two panels with different shades tend to acquire a similar shade over time, due to exposure to the sun.
The Viroc panel is supplied raw, unfinished. The surfaces may have some irregularities, such as small incrustations, dirt, stains, scratches, salts (efflorescence) and small wood chips.
One of the surfaces is intended to be visible. At the customer's request, it can be polished/cleaned in the factory, leaving the surface free of loose elements such as salts, dust, scratches and dirt.
The Viroc panel has two distinct faces: one smoother and the other rougher. When the panels are stacked on a pallet when they leave the factory, the smoother side is the one facing upwards. The rear face does not follow any selection criteria and may have dirt, scratches and holes.

2. Range of colours available

CZ – Grey | NG – Black | BR – White | AB - Yellow | VM - Red | AC - Ochre

3. Thickness

Grey and Black:

Thickness (mm)	8	10	12	16	19	22	25	28	32
(inch)	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4

White, Yellow, Red and Ochre: 12 mm / 1/2”
Other thicknesses on request.

4. Dimensions

2600 x 1250 mm / 102.4 x 49.2 “
3000 x 1250 mm / 118.1 x 49.2 “
Other dimensions on request.

5. Cutting tolerance

Width and length: ± 3 mm / ± 0.12 “
Edge straightness: ≤ 1.5 mm/m / ≤ 0.15 %
Squareness: ≤ 2.0 mm/m / ≤ 0.20 %

6. Thickness tolerance

Raw panel on both sides

Thickness	(mm)	8	10	12	16	19	22	25	28	32
	(inch)	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
Tolerance	(mm)	± 0.7	± 0.7	± 1.0	± 1.2	± 1.5	± 1.5	± 1.5	± 1.5	± 1.5
	(inch)	± 0.03	± 0.03	± 0.04	± 0.05	± 0.06	± 0.06	± 0.06	± 0.06	± 0.06

Panel Sanded on both sides

Thickness	(mm)	19	22	25	28
	(inch)	3/4	7/8	1	1 1/8
Tolerance	(mm)	± 0.3	± 0.3	± 0.3	± 0.3
	(inch)	± 0.01	± 0.01	± 0.01	± 0.01

Note: The purpose of sanding the surface is to calibrate the thickness of the panel, particularly when it is used as a support floor and the covering is a thin layer such as linoleum or vinyl. The sanded surface of the panel has no decorative properties.
Panels with sanded surfaces cannot be used outdoors.

7. Finishes

The Viroc panel is supplied raw, unfinished. The surfaces show some irregularities and imperfections, such as small incrustations, stains, scratches, small wood chips and salts resulting from chemical reactions.
Whenever the panel is applied in plain view, even if a varnish finish is not to be applied, the visible surface must be cleaned/polished with a cleaning disc to remove dust, scratches, dirt and salts.
Cleaning/polishing does not change the natural appearance of the panel, maintaining the stains and heterogeneities that characterise it, as well as some salts and incrustations embedded in the surface. The factory provides suitable cleaning discs, which can be supplied at the customer's request.
https://www.investwood.pt/wp-content/uploads/2023/06/PT_Discos-de-Limpeza-Globalsilva-1.pdf
It is recommended that the Viroc panel be finished with a varnish to protect it and make it easier to clean and maintain.

Surface preparation

Since there are differences in tone between panels from the same batch, before starting a job, the panels should be laid out side by side, arranging them in such a way as to minimize these differences between adjoining panels.
Any finish requires prior surface preparation. This preparation consists of polishing/cleaning the surfaces and tops with a cleaning disc or, alternatively, a fine sanding disc with 120 grit or higher.
After polishing/cleaning the surfaces, all residues must be removed with a dry cloth, air blower or, preferably, vacuum cleaner to ensure that they are free of any dust that could compromise the finish.

Example of cleaning a panel with an orbital sander on site:
https://www.youtube.com/watch?v=HeQZNVN0ZYI

Paints and varnishes

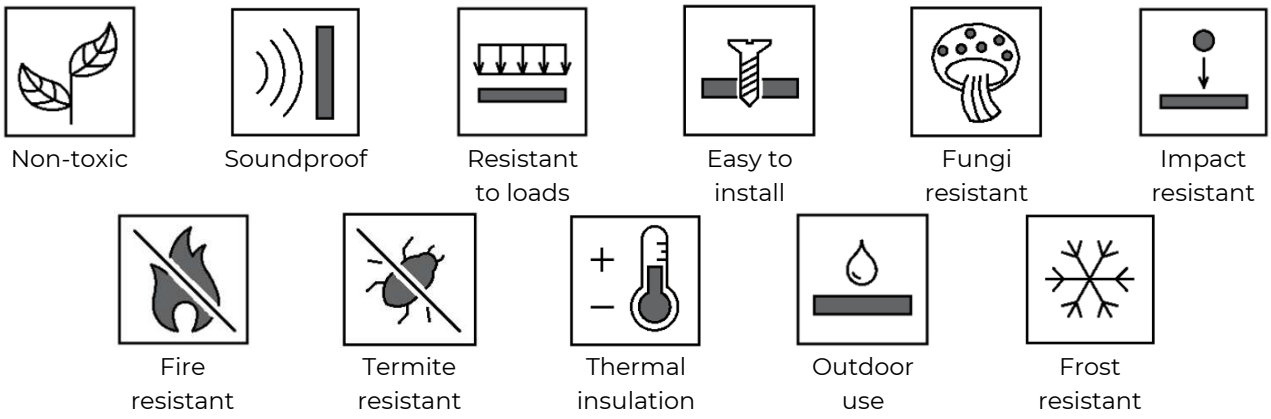
The purpose of applying a varnish to the Viroc panel is to protect it from the aggressions of the environment in which it is located, such as exposure to the sun and bad weather, increasing its durability, making it easier to clean and preserving its appearance over time.
Applying a varnish may alter the natural colour tone of the Viroc panel, giving it a 'wet' appearance with some shine. Before applying varnish to the panels, the surfaces must be completely clean and dry, free of grease, dust or surface salts.
There are no specific paints or varnishes to be applied to Viroc. The panel has a surface alkalinity (PH) of 11 to 13, so paints and varnishes that are suitable for concrete and wood surfaces at the same time are usually the ones that perform best when applied to the Viroc panel.

Paints and varnishes made from acrylic or aliphatic polyurethane resins are widely used because they do not yellow when exposed to UV rays. Solvent-based varnishes have proven to be more durable. Water-based varnishes, however, have the least effect on the original colour of the panels.
In addition to these characteristics, paints and varnishes must be suitable for their intended purpose. For example, if it's an exterior façade, the paint/varnish must be suitable for use on exterior walls; if it's an interior floor, the paint/varnish must have the hardness and resistance suitable for application on floors.
In general, paints and varnishes are easy to apply, but it is very important to bear in mind that the application must be continuous and uniform, to guarantee the homogeneity of the finish on the panel and to avoid the surface becoming stained or having different colours. Panels should always be painted or varnished on both sides and tops, in accordance with the application procedures provided by the respective manufacturers, always respecting the recommended number of coats. A typical application scheme consists of applying one or two coats to the rear face of the panel and two to three coats to the front face and edges.

8. Weights

Thickness		Weight per sqm		Weight of the board			
mm	inch	Kg/m²	psf	2600x1250 kg	3000x1250 kg	102.4x49.2 Lbf	118.1x49.2 Lbf
8	5/16	10.8	2.21	35.1	40.5	77.4	89.3
10	3/8	13.5	2.77	43.9	50.6	96.8	111.6
12	1/2	16.2	3.32	52.7	60.8	116.2	134.0
16	5/8	21.6	4.42	70.2	81.0	154.8	178.6
19	3/4	25.7	5.26	83.4	96.2	183.9	212.1
22	7/8	29.7	6.08	96.5	111.4	212.7	245.6
25	1	33.8	6.92	109.7	126.6	241.8	279.1
28	1 1/8	37.8	7.74	122.9	141.8	270.9	312.6
32	1 1/4	43.2	8.85	140.4	162.0	309.5	357.1

9. Characteristics



10. Properties

Properties	Standard	Metric System	Imperial System
Density	EN 323	1350 ± 100 kg/m^3	84.3 ± 6.3 lb/ft^3
Bending strength	EN 310	≥ 9 N/mm^2	≥ 1305 psi
Modulus of elasticity in bending			
Class 1	EN 310	≥ 4500 N/mm^2	≥ 652700 psi
Class 2		4000 a 4500 N/mm^2	580150 – 652700 psi
Internal Bond	EN 319	≥ 0.5 N/mm^2	≥ 72.5 psi
Swelling 24h	EN 317	≤ 1.5 %	≤ 1.5 %
Internal bond after cyclic test	EN 319 + EN 321	≥ 0.3 N/mm^2	≥ 43.5 psi
Swelling after cyclic test	EN 317 + EN	≤ 1.5 %	≤ 1.5 %
Moisture contente at origin	EN 322	6 – 12 %	6 – 12 %
Fire reaction	EN 13501	B-s1,d0	B-s1,d0

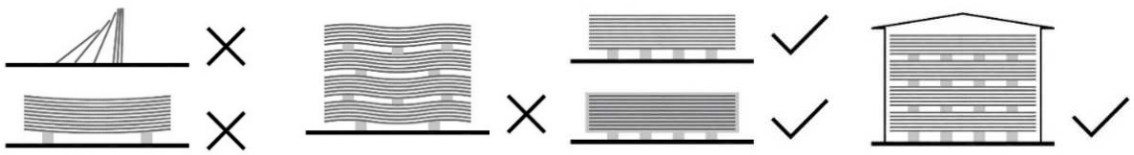
Surface alkalinity		PH		11 - 13		-	
Thermal conductivity (*)				0.22 W/m.K		EN 12664	
Superior calorific power, SCP (*)				4 ± 0.5 MJ/kg		EN ISO 1716	
Sound insulation index (*)	Thickness mm	8	10	12	16	19	22
	inch	5/16	3/8	1/2	5/8	3/4	7/8
	Rw (C;Ctr) (dB)	31 (-1;-3)	32 (-2;-3)	33 (-1;-3)	35 (-2;-3)	35 (-1;-2)	37 (-2;-3)

(*) Tests carried out in grey Viroc panels.

Formaldehyde: Class E1 (EN 13986-Annex B); No added formaldehyde.
Pentachlorophenol: Does not contain.
Asbestos: Does not contain.
Microcrystalline silica: Does not contain.
Note: Only 12 and 16 mm thickness can have QB/Avis Technique Certification.

11. Storage

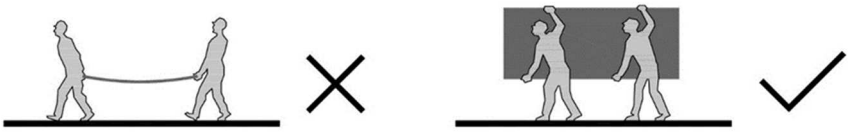
The panels, when leaving the factory for transportation, are protected by a waterproof plastic screen. The side edges are protected with L-shaped cardboard including those in contact with the strapping of the packaging system. The protection of these edges should be maintained until the date of installation of the panels.
Viroc panels should be stored in a covered area, protected from sunlight and rain, with a flat and horizontal base. Pallets should be placed on supports high enough (≥8 cm) for easy forklift access. The maximum distance between supports should not exceed 800 mm / 31.5 “ and the distance between the first support and the top of the pallet should not exceed 210 mm / 8.3 “.
If the pallets are piled on top of each other, all the support bases must be aligned to prevent deformation.
It is allowed to pile up to 6 pallets, with a maximum of 4 meters 13.1 ft.



12. Handling

Whenever possible, panels should be handled using the appropriate equipment, such as forklifts or plate lifts.
When the panels must be moved manually, they should be transported one by one, in an upright position, so that they remain flat and do not deform.

Panels are heavy, so manual handling should not be carried out without an adequate number of people present. Good manual handling practices must be followed, using the appropriate personal protective equipment and respecting the rules of European Health and Safety legislation, as indicated on the Osha.Europa.eu website (Factsheet 73).



13. Acclimatization

On leaving the factory, the panels have a humidity of between 6 and 12 percent.
To ensure the right installation conditions, the panels must adapt to the temperature and humidity conditions of the installation site. To do this, it is necessary to cut the straps and remove the protective plastic from the pallets. Before application, the panels must be left to acclimatize to the installation environment for at least 72 hours.
During the acclimatization process, the panels on top of the pallets, whose straps have already been removed, may warp, forming a concavity with the top face curved upwards. This phenomenon is natural and occurs due to the differential loss of humidity between the two surfaces. However, this process is reversible. The panel regains its flat shape when turned with the bottom face up. The same effect can be achieved by moistening the concave face (surface curved upwards) with water.
For more information, please consult the technical documentation available on the Viroc website:
https://www.investwood.pt/

14. Technical Assistance

VIROC Portugal S.A. has a Technical Department that can provide technical assistance during both the design and construction phases, whose email address is: suporte.tecnico@investwood.pt