Description

Valchromat is a wood fibre panel coloured throughout engineered for high physical performance.
The fibres are individually impregnated with organic dyes and chemically bonded by specifically developed resins that give the panels their special properties.

Standards and Finishing

Available in 8 different colours

Yellow
Brown
Orange

Green
Anthracite
Blue

Gray
Red

Dimensions and Thicknesses

Thicknesses: 8, 12, 16, 19, 22, 25 and 30 mm

Dimensions: 3,75 x 2,50; 2,50 x 1,25; 2,50 x 1,85; 3,75 x 1,25 m (cut to size is also available)

Characteristics

Coloured throughout

This is the most obvious characteristic about Valchromat. The fibres are individually dyed before the panel is even pressed thus conferring the same colour to all fibres. This eliminates the need to hide or cover the edges.

Moisture resistant

This is a characteristic with unequivocal advantages since it allows Valchromat to be used in many applications where humidity would be a problem (kitchens, bath-rooms, partitioning...)

High mechanical resistance

The main benefit from this characteristic is economical since Valchromat requires little or no sanding after being routed. This really allows Valchromat to be explored in its 3 dimensions with much less effort to obtain astonishing results.

Low tool wear

Low sand and metal contempt allied with the special resin that bonds the fibres together allow a significantly improved performance of tools when routing Valchromat. Life span of up to four times higher then other wood fibre panels and speeds of 2 to 3 times faster have been verified.

Prepared:	Verified:	Approved:
	28/5/10	28/5/10

Standards

Base product – in conformity with EN standards

Density	EN 323
Swelling (24 hours)	EN 317
Internal bond	EN 319
Bending strenth	EN 310
Modulus of elasticity	EN 310
Swelling after cyclic tests	EN321/EN317
Internal bond after cyclic tests	EN321/EN 319
Formaldehyde emission	EN 120

Properties

Thickness (mm)								
Test	**Unit**	**8**	**12**	**16**	**19**	**22**	**25**	**30**
Swelling (24 hours)	%	12	10	8	8	7	7	7
Internal bond	N/mm^2	0,80	0,80	0,75	0,75	0,75	0,75	0,75
Bending stregth	N/mm^2	34	32	30	30	28	28	28
Modulus of elasticity	N/mm^2	3000	2800	2700	2700	2600	2600	2600
Swelling after cylic tests	%	19	16	15	15	15	15	15
Internal bond after cyclic teste	N/mm^2	0,30	0,25	0,20	0,20	0,15	0,15	0,15

Cyclic tests MR (EN 321)	**Temperature (Cº)**	**Duration (hours)**
In water	20 ±1	70±1
In a freezer	-12 a -25	24±1
In an oven	70±2	70±1

Colour fastening (British Standard (BS 1006)) 24 hours in a "solarbox"		
Colour	**Reference**	**Result**
Yellow	syw	4
Anthracite	sbl	3
Blue	srb	3
Brown	sbr	5
Green	sgr	2
Red	ssc	3
Orange	sor	n.a.
Grey	scz	n.a.

Dimensional tolerances

Thickness (mm) ± 0,2 if < 19mm and 0,3 > de 19mm

Dimensions (mm) ± 2 mm, maximum of ± 5 mm

Advantages for Architects and Designers

Uniqueness

Valchromat is a "one of a kind" product, and Valbopan are the only company in the world who produce it. It is not only unique for its look and colour, but for its diverse extensive application possibilities.

Natural look

Although it is essentially a manufactured product, Valchromat has a textured surface that gives it a very special look and feeling unlike artificially painted surfaces.

Variety

There are 7 different colours and 7 different thicknesses. Corporate colours can be manufactured at a minimum order of $100m^3$ but we cannot go lighter than our standard yellow as the dyes are toxic and expensive and the results are poor.

Wear and Tear

Due to Valchromat being coloured consistently all the way through, the panels can be scratched a number of times, but they are easy to repair. All that is required is sanding and re-lacquering and they are back to brand new.

Different finishing possibilities

Valchromat accepts any kind of finishing. By applying a glossy lacquer one can have a modern trendy look, and by applying oil one can create a slightly more conventional look. A mat or waxed look, and fire retardant and textured finishes are all achievable using Valchromat.

Easy to Assemble

During the planning stage of a project, architects and designers won't have to worry about hiding the edges. Valchromat can be fitted without further finishing.

Non toxic

Valchromat is classified E1 (Low on formaldehyde) according to European norms. Valchromat has been approved by the British standards association as safe to use in the manufacture of children's toys.

Sustainability

All the pine logs used in our production come from Portuguese forests, most of which are privately owned and harvested, representing a significant source of income with little investment. Legislation has just been approved by the Portuguese government regarding the following steps towards getting FSC and PEFC certification. Our group (along with government representatives and other wood related companies) has created a committee to assist the private owners (our suppliers) in the process of obtaining certification for their properties. At the moment we can buy some certified wood but we are not FSC or PEFC certified yet.
As stated previously, the formaldehyde emissions of Valchromat are very low and it is considered non toxic according to European and also US requirements since the emissions are below 0.1ppm. Also, Valchromat avoids the use of paints that often contain formaldehyde as a preservative.

Advantages for Manufacturers

High Density Profile

This characteristic is very important since it means that after machining, there is little or no sanding required, thus drastically reducing the cost of labour. This also allows an easier finishing, as fewer coats are required. It is enough to apply one coat of sealer followed by one or two coats of lacquer (although a little extra should be applied to the edges).

Moisture and UV Resistance

The panels have to be lacquered on all edges but Valchromat may be used for kitchens, bathrooms and flooring. We have some customers using it externally, but it is best suited for interior applications.

Strength

Valchromat is at least 30% stronger than standard MDF making it a lot more stable.

Coloured throughout

No need for expensive and toxic coloured lacquering. However we do have customers using paint with Valchromat because it is much easier and more cost effective. It is easy to assemble as it does not require edging.

Easy to Machine

Besides the fact that Valchromat does not require sanding, it should also be remembered that Valchromat has a much lower percentage of sand and metal. It also has a high melamine content that acts as a lubricant for the cutting tools, enabling them to last a lot longer.
Valchromat is entirely made of pine fibres extracted from Portuguese forests. The use of sub products such as branches, bark and residue from timber mills contributes to the sustained management of the planets forests.

Important Notes

- Small light brown pine chips are visible at random throughout a sheet of Valchromat board, adding to its unique natural look!
- Whilst variances in colour remain within acceptable parameters, according to CIElab norms allied to data colours software, it is important to note that slight variations may occur. This is due to the natural pine fibres and eco friendly organic dyes that make Valchromat the innovative product it is!

Use and storage

- pile up the boards horizontally, preventing contact with the floor;
- protect boards before use;
- use conveniently sharp tools for better results;
- handle with care, to avoid damage to the borders and sides.

Finishing

As stated previously, there might be slight shade variations between panels since Valbopan dyes natural pine fibres with natural organic dyes. Some important advice to avoid this variation to the possible extent:

- For each work try to use boards of one single supply (informing our commercial department before ordering would be helpful);
- If a panel is darker, often sanding down a little might help reach a lighter shade;
- To the possible extent, try to chose the panels before proceeding with the lacquering;
- There might be a difference between each face, turning the panel around might prove helpful.

To clear lacquer Valchromat

- Chose a lacquer that suits your application (uv protection, fire retardant, scratch resistant...);
- Slightly sand the surface to remove any handling marks which would be enhanced by the lacquer;
- Sand the edges with a fine sanding paper (200 grit) until smooth;
- Apply one coat of sealer being more generous on the edges (pay attention to the lacquer manufacturer's specifications concerning method of application, dilution...);
- Allow drying time as specified by the lacquer manufacturer;
- If necessary sand until the surface is smooth;
- Apply one or two coats of clear lacquer allowing enough drying time (most flooring lacquers require 24 hours or more to properly dry thus have a better performance)

Oil or Wax

To obtain different aesthetic solutions, one can chose to use oils or waxes to finish Valchromat.

Oils are particularly practical since they are easy to apply and repair.

Apply according to manufacturers specifications.

Moisture Environment

When applied in moisture environments, Valchromat should be sealed on all surfaces and edges and if possible use silicone or similar product between junctions. Doing so will allow better performance and longer duration of the application.