# Valchromat E05

## 1. Description

Valchromat E05 is a through-coloured wood fibre panel with very low formaldehyde emissions (formaldehyde ≤ 0.062 mg/m³ / ≤ 0.05 ppm).
The fibres are impregnated with organic dyes and chemically bonded together by a special resin that gives Valchromat E05 unique physical and mechanical properties. Valchromat E05 is an MDF.HLS panel in accordance with EN 622-5. Due to the use of organic dyes and the natural variation in wood colour, Valchromat E05 panels display differences in shade. This variation may occur on the same face, between the faces of the same panel, between different production batches or thicknesses. To minimise this effect, the supply should come from a single production batch. Valchromat E05 is a moisture-resistant panel supplied unfinished; the application of varnish, wax or oil is recommended.

## 2. Available colour range

WP – Pearl White | WG – Grey White | LG – Light Grey | CZ - Grey | LB - Black | CB - Chocolate

SC - Red | YW - Yellow | OR - Orange | RB - Blue | GM – Mint Green | CQ - Khaki

## 3. Applications

Interior design, furniture, wall coverings, flooring, doors, bathrooms and kitchens, hospitality, exhibition stands, shopfitting, decorative panels and acoustic panels, among other applications.
Whenever the panel is used in humid areas, such as bathrooms and kitchens, it must be protected with varnish and the edges must be properly sealed. Valchromat E05 panels must not be used in areas where they are in direct contact with water, such as kitchen worktops and shower enclosures.

## 4. Dimensions (mm)

2440 x 1220, 2440 x 1830, 3660 x 1220 and 3660 x 2440

## 5. Thicknesses (mm)

8, 12, 16, 19 and 30

## 6. Thickness and cutting tolerances

| Characteristics | Units | Thicknesses (mm) | | | | |
|---|---|---|---|---|---|---|
| | | 8 | 12 | 16 | 19 | 30 |
| Thickness tolerance | mm | ±0,2 | | | | ±0,3 |
| Cutting tolerance | mm/m | ± 2 mm/m; maximum 5 mm | | | | |

## 7. Finishes

Valchromat E05 panels must be finished to protect the surface while retaining their natural appearance. Varnishes, waxes or oils may be used.

### Surface preparation

- As panels from the same batch may vary in shade, they should be laid side by side and arranged before work begins to minimise differences between adjacent panels.
- In general, any finish—whether varnish, wax or oil—requires prior surface preparation. This consists of sanding the surfaces and edges with fine-grit sandpaper before applying the finish.
- Different sandpaper grits may be recommended depending on the finish to be applied. Surface preparation is commonly carried out using 150/180-grit sandpaper.
- If a finer grit is required, the process should be gradual, increasing the grit by 50% at each stage. The edges must be treated in the same way.
- Valchromat E05 panels are factory-sanded with 150 grit for 19 and 30 mm thicknesses, and 180 grit for 8, 12 and 16 mm thicknesses.
- Before applying the finish, the panels must be cleaned with a dry cloth, compressed air or, preferably, vacuumed to remove all dust, which could impair the finish. Water must not be used for cleaning.

### Varnish

- Of the three types of finish described, varnishes are the most complex and can be difficult to select because of the wide range available. Any varnish suitable for wood can be applied to Valchromat E05. Varnishes made from acrylic resins or aliphatic polyurethane are widely used because they do not yellow over time. Water-based varnishes alter the panel's natural colour less.
- When varnish is used, the first coat should be a primer, also known as a sealer or pore filler. Once the primer has dried, the surfaces should be sanded with fine 320–360-grit sandpaper to remove raised fibres and any roughness that may appear.
- A finishing varnish is then applied in one or two coats, in accordance with the manufacturer's instructions. Between coats, the surfaces should be sanded with fine 320–360-grit sandpaper.
- Finishing varnishes are available in different sheen levels, from matt to gloss.
- The primer and varnish should preferably be from the same manufacturer to avoid incompatibility.

### Wax or oil

- Waxes or oils should be applied to the prepared surfaces in the number of coats recommended by the manufacturer.
- Some waxes and oils, such as beeswax and linseed oil, may stain the panel and are therefore not recommended. Acrylic waxes and mineral oils are widely used.
- These types of finish must not be applied to panels intended for humid environments, such as kitchens and bathrooms.

## 8. Certifications

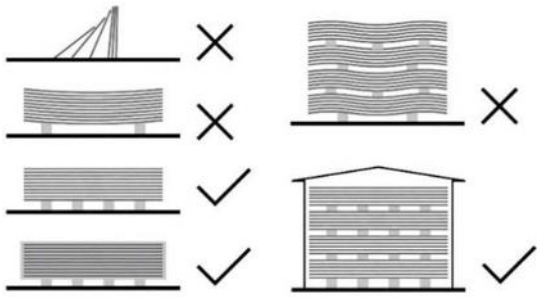
Valbopan S.A. complies with the requirements of EN ISO 9001.
Valchromat E05 holds CE certificate of conformity 1328-CPR-0062 and complies with the requirements of EN 13986.
Valbopan S.A. holds Chain of Custody (CoC) certification in accordance with the applicable standards. On request, Valchromat E05 panels can be supplied with either FSC® C101993 or PEFC/13-31-027 certification.
On request, Valchromat E05 can be supplied with CARB Phase 2 or US EPA-TSCA Title VI certification.
Look for FSC® certified products.

## 9. Panel weights

| **Thicknesses (mm)** | **8** | **12** | **16** | **19** | **30** |
|---|---|---|---|---|---|
| Weight per m² (kg/m²) | 6.6 | 9.6 | 12.5 | 14.6 | 21.6 |
| **Panel weight (kg)** | | | | | |
| 2440 x 1220 mm | 19.8 | 28.6 | 37.2 | 43.6 | 64.3 |
| 2440 x 1830 mm | 29.6 | 42.9 | 55.7 | 65.3 | 96.4 |
| 3660 x 1220 mm | 29.6 | 42.9 | 55.7 | 65.3 | 96.4 |
| 3660 x 2440 mm | 59.3 | 85.7 | 111.5 | 130.7 | 192.9 |

## 10. Storage

Valchromat E05 panels must be stored indoors, protected from sunlight, under controlled temperature and humidity conditions, and supported on a flat, horizontal base. Pallets must be placed on supports high enough to allow easy access by forklift. The maximum centre-to-centre spacing between supports must not exceed 80 cm.
If pallets are stacked, all support bases must be aligned to prevent deformation.



## 11. Handling

Wherever possible, panels should be handled using suitable equipment, such as forklifts or panel lifters.
When panels must be moved manually, they should be handled one at a time in a vertical position so that they remain flat and do not deform. They must not be moved without a sufficient number of people present.
Good manual-handling practices must be followed, using appropriate personal protective equipment and complying with European health and safety legislation.

## 12. Properties

| Characteristics | Units | Thicknesses (mm) | | | | | Standard |
|---|---|---|---|---|---|---|---|
| | | 8 | 12 | 16 | 19 | 30 | |
| Density | $Kg/m^3$ | 830 | 800 | 780 | 770 | 720 | EN 323 |
| Bending strength | $N/mm^2$ | 42 | 40 | 38 | 38 | 36 | EN 310 |
| Modulus of elasticity in bending | $N/mm^2$ | 3400 | 3200 | 3100 | 3100 | 3000 | EN 310 |
| Internal bond strength | $N/mm^2$ | 0.80 | 0.80 | 0.75 | 0.75 | 0.75 | EN 319 |
| Thickness swelling, 24 h | % | 12 | 10 | 8 | 8 | 7 | EN 317 |
| Resistência à tração após ensaio cíclico | $N/mm^2$ | 0.30 | 0.25 | 0.20 | 0.20 | 0.15 | EN 321 |
| Thickness swelling after cyclic test | % | 19 | 16 | 15 | 15 | 15 | EN 321 |
| Formaldehyde emission | | ≤ 0.062 $mg/m^3$ (≤ 0.05 ppm ) | | | | | EN 717-1 |
| Reaction to fire | | F | D-s2,d0 | | | | EN 13501 |

The product complies with Regulation (EU) 2023/1464, which amends Annex XVII to Regulation (EC) No 1907/2006 (REACH) as regards formaldehyde emissions.

Valchromat E05 product certified in accordance with the limits of the German ChemVerbotsV regulation.