Valchromat Fire-Retardant E05

1. Description

Valchromat Fire-Retardant E05 is a through-coloured wood fibre panel with very low formaldehyde emissions (Formaldehyde ≤ 0.062 mg/m³ / ≤ 0.05 ppm) and a B-s2,d0 reaction-to-fire classification in accordance with EN 13501-1.
The fibres are impregnated with organic dyes and bonded with a special resin, giving Valchromat Fire-Retardant E05 superior physical and mechanical properties within the MDF.HLS technical class, in accordance with EN 622-5.
Due to the use of organic dyes and the natural variation in wood colour, colour differences may occur on the same face, between the faces of the same panel, and between different thicknesses or production batches. To minimise these variations, the panels should be supplied from a single production batch.
Valchromat Fire-Retardant E05 is a moisture-resistant panel supplied without a surface finish.
For protection and enhanced appearance, the application of a varnish, wax or oil compatible with wood-based substrates is recommended.

2. Available colour range

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

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

3. Applications

Valchromat Fire-Retardant E05 is suitable for a wide range of indoor applications, including:
Interior design; Furniture; Wall and ceiling cladding; Flooring; Doors; Bathrooms and kitchens; Restaurants and hospitality; Exhibition stands; Shopfitting; Decorative panels and Acoustic panels.

Whenever the panel is used in humid environments (such as bathrooms or kitchens), it must be protected with a suitable varnish and the edges must be properly sealed to preserve its integrity, dimensional stability and colour.
The panel is not recommended for areas subject to direct and prolonged contact with water, such as kitchen worktops, washbasins or shower enclosures.

4. Dimensions

2440 x 1220; 2440 x 1830; 3660 x 1220 e 3660 x 2440 [mm]

5. Thicknesses

8 and 19 mm
Thicknesses of 12 and 16 mm may be manufactured on request.

6. Thickness and cutting tolerances

Thickness	Thickness tolerance	Cutting tolerance
8 mm	±0,2 mm	± 2 mm/m; maximum 5 mm
19 mm		

7. Finishes

Valchromat Fire-Retardant E05 must always be protected with a surface finish to preserve its natural appearance and increase its durability. Recommended finishes include varnishes, waxes or oils, depending on the application and environment.
For a high-quality finish, it should be applied by a specialist in wood and wood-based product finishes. Application must always be carried out using a spray gun.

Varnish

Of the three types of finish mentioned, varnishes require the greatest care in selection and application due to the wide range of products available. Any varnish compatible with wood may be used on Valchromat Fire-Retardant E05; however:
Varnishes based on acrylic resins or aliphatic polyurethane are recommended because they provide good long-term colour stability and do not yellow.
Water-based varnishes are not recommended, as they may react with the fire-retardant additives in the panel and compromise the final finish.

Recommended application system:
Apply a primer (sealer / pore filler) as the first coat.
A second coat of primer may be required, depending on the manufacturer's recommendation.
Once dry, sand the surface with fine-grit sandpaper (320–360 grit) to remove raised fibres and achieve an even surface.
Apply 1 or 2 coats of finishing varnish, sanding the surface between coats with 320–360 grit sandpaper.
Varnishes are available in different sheen levels, from matt to satin or gloss.
It is strongly recommended that the primer and varnish are from the same manufacturer to ensure chemical compatibility and optimum performance.

Wax or oils

- These are generally applied in a single coat to previously prepared surfaces.
- They must not be used in humid environments, such as kitchens and bathrooms, because of their lower moisture resistance.
- Suitable for decorative applications in dry environments.

Surface preparation

Surface preparation is essential for a high-quality finish:

- Before application, the panels should be arranged side by side to reduce the impact of natural colour variations between panels.
- The panels leave the factory calibrated with 150/180-grit sandpaper.
- The surfaces and edges must be sanded with fine-grit sandpaper suited to the finish to be applied.
- Surface sanding should be carried out progressively, increasing the grit by approximately 50% at each stage.
- The edges must be prepared with the same care as the main faces.
- Before applying the finish, the panels must be cleaned with a dry cloth, compressed air or, preferably, vacuuming to remove all dust that could affect adhesion and the final appearance of the coating.

8. Certifications

Valbopan S.A. complies with the requirements of EN ISO 9001.
Valchromat Fire-Retardant E05 holds CE certificate of conformity 1328-CPR-0188 and complies with the requirements of EN 13986.
Valbopan S.A. holds Chain of Custody certification in accordance with the applicable standards. On request, Valchromat Fire-Retardant E05 panels may be supplied with FSC® C101993 or PEFC/13-31-027 certification.

Look for FSC® certified products.

On request, Valchromat Fire-Retardant E05 may be supplied with CARB Phase 2 or US EPA-TSCA Title VI certification.

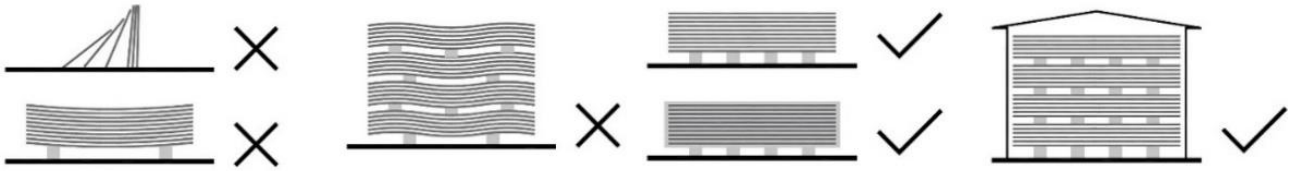
9. Panel weights

Thicknesses (mm)	8	19
Weight per m² (kg/m²)	6.6	14.6
Panel weight (kg)		
2440 x 1220 mm	19.8	43.6
2440 x 1830 mm	29.6	65.3
3660 x 1220 mm	29.6	65.3
3660 x 2440 mm	59.3	130.7

10. Storage

Valchromat Fire-Retardant E05 panels must be stored in an enclosed area, protected from direct sunlight and under controlled temperature and relative humidity conditions.

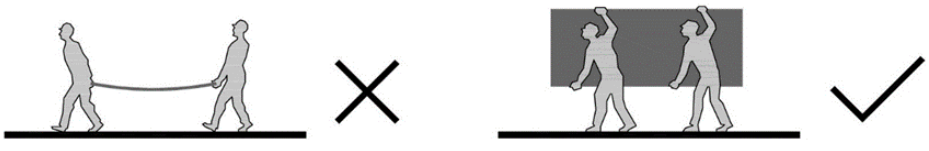
- Pallets must be placed on a flat, horizontal base with supports high enough to allow access by a forklift or equivalent lifting equipment.
- The spacing between supports must not exceed 800 mm centre to centre.
- If pallets are stacked vertically, the support points of each pallet must be perfectly aligned to prevent warping or permanent deformation of the lower panels.



11. Handling

Whenever possible, panels must be handled using suitable mechanical equipment, such as forklifts or panel lifters, to protect the materials and ensure operator safety.

- When handled manually, panels must be moved individually in a vertical position, kept flat and protected from excessive bending.
- A sufficient number of people must carry out the operation to ensure the panels remain controlled and stable during transport.
- Good manual-handling practices must be followed in accordance with European occupational health and safety rules, using appropriate personal protective equipment (PPE), such as gloves, safety footwear and back-support belts, where applicable.



12. Properties

Properties	Standards	Units	Thicknesses	
			8 mm	19 mm
Density	EN 323	Kg/m^3	830	770
Bending strength	EN 310	N/mm^2	42	38
Modulus of elasticity in bending	EN 310	N/mm^2	3400	3100
Internal bond strength	EN 319	N/mm^2	0.80	0.75
Thickness swelling 24 h	EN 317	%	12	8
Internal bond strength after cyclic test	EN 321	N/mm^2	0.30	0.20
Thickness swelling after cyclic test	EN 321	%	19	15
Formaldehyde emission	EN 717-1		≤ 0.062 mg/m^3 (≤ 0.05 ppm)	
Reaction to fire	EN 13501-1	-	B-s2,d0	

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 to the limits of the German ChemVerbotsV regulation.