PLASTIZ

Technical guide

Polystyrene (PS) panels

Product information

MATERIAL Recycled polystyrene
SIZE 2600 x 1200 mm
THICKNESSES 12 - 15 - 20 - 25 mm (custom from 30 to 40 mm). Tolerance ± 1 mm.

Panels are considered of first choice when at least one of its two sides is smooth and presents superficial holes smaller than 2 mm in diameter. Each panel has a unique texture due to the random distribution of the material and to possible inclusions or inhomogeneities typical of recycled material. The declared thicknesses have a tolerance of ± 1 mm.

Polystyrene is a hygroscopic material and retains a significant amount of moisture. Some internal bubbles within the panels are normal, although we work to reduce them as much as possible. In some cases black, white, or colored inclusions present in the panels may create randomly distributed color streaks. This characteristic depends on the fluidity of the source material and is not entirely predictable.

Storage

Plastiz panels must be stored horizontally without overhangs. Edges must be protected during both storage and handling. In the case of vertical storage, panels must be securely restrained using appropriate structures, racks, or shelving. We recommend keeping panels in a vertical position only for short periods to avoid deformation.

Cutting

To achieve optimal results with table circular saws, it is essential to follow these steps:

1. Position the panel so that the decorative side faces opposite to the direction of blade rotation.
2. The panel must be firmly secured and kept stable with a height-adjustable clamping device to prevent movement and vibration.
3. Use a precise guide.

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4. Check that the saw blade is aligned with the work surface and protrudes to the correct height.

Technical specifications:

- ➔ Blade specifically designed for plastic materials
- ➔ Tooth pitch from 10 to 15 mm
- ➔ Cutting speed between 3000 and 4000 rpm
- ➔ Peripheral speed between 60 and 100 m/s
- ➔ Feed speed between 15 and 30 m/min

Blades must not be too thin. When thickness is below 2 mm, they lose rigidity and may cause vibrations that compromise cutting accuracy.

CNC cutting

For CNC cutting of polystyrene, which is a hard and brittle material, it is advisable to use a lower spindle speed and a slower feed rate compared to the parameters normally used for wood cutting. This results in an almost doubled machine processing time. When cutting with a table saw, we recommend advancing slowly and, if possible, using cutters specifically designed for plastic.

Technical specifications:

- ➔ Spindle speed: 3000 rpm
- ➔ Feed rate: 900 mm/min
- ➔ Plunge rate: 300 mm/min

Sanding

Standard woodworking tools are used to sand Plastiz panels. Handheld or stationary sanders, as well as belt sanders, are used to remove machining marks or cuts on the surface and edges of the panels.

To achieve optimal results, follow these steps:

1. Clean the surface with denatured ethyl alcohol to remove any residual grease.

2. If the surface shows superficial scratches, start sanding with 180/240-grit sandpaper mounted on a hook-and-loop backing pad for orbital sanders. Then gradually move to higher grits (400, 600, 800) using a foam backing pad. Depending on the desired effect, sanding can continue up to 3000 grit. Between each pass, clean the surface with denatured alcohol. If the surface is in good condition, sanding can start with a higher grit (800 or 1000).
If the panel has deep scratches caused by handling or other processes, it may be necessary to

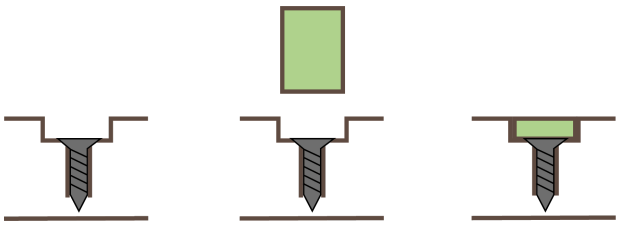
start with 80–100 grit sandpaper and then move to higher grits to remove the marks left by the previous abrasives and complete the sanding process. To avoid overheating or melting the surface, apply light pressure and keep the sander or sandpaper in constant circular motion. Sanding with sandpaper finer than 150 grit must be performed with wet surface.

3. If desired, a final polishing step with polish can be carried out to obtain a glossy surface.

Drilling

Panels can be drilled using standard woodworking tools and fastened with screws. To conceal fixing screws, proceed as follows:

1. Drill a through-hole with the same diameter as the screw thread.
2. At the same point, drill a shallow hole with the same diameter as the screw head.
3. Insert the fixing screw.
4. Insert a dowel or small cylinder made of the same plastic material into the hole and trim it flush with the panel to create a custom plug.
5. Sand the surface starting from 180 grit and progressing up to 800 grit. The inserted plastic cylinder will then become invisible.



Fixing Methods

Panels can be bonded with any cyanoacrylate adhesive or fixed using threaded inserts and screws.

Whenever possible, we recommend avoiding adhesives and preferring mechanical fastening methods to prevent contamination of the panel's single-polymer composition, which would otherwise make recycling at the end of life more difficult.

Technical specifications:

- ➔ Cyanoacrylate or two-component adhesive (not vinyl-based)
- ➔ Reversible joints: Lamello Clamex / Domino

Supports

Proper panel support is essential to ensure stability and must be carefully selected based on the application, intended use, and installation environment.

Support characteristics to consider include:

- Stability
- Flatness
- Rigidity
- Mechanical properties
- Uniform thickness
- Resistance to water and humidity

The support must be able to withstand deformation and hold the panel securely in place, ensuring structural integrity and long-term performance.

The panel must be supported along its entire perimeter. We recommend a maximum free overhang of 100 mm for 12 mm thick panels and 200 mm for 20 mm thick panels.

Care and Cleaning recommendations

Cleaning should be carried out using a sponge or microfiber cloth dampened with a standard liquid detergent. Make sure that steel wool pads, sanitary cleaners, or detergents containing abrasive components are not used, as they may cause scratches or alter the surface gloss level. Additionally, avoid placing hot pots, irons, or any other heat sources on the surface to prevent indentations, burns, or surface damage.