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1. Aesthetic characteristics

Honext panels have both sides textured as a consequence of the meshes that support them during the formation process. Each face has a different texture. If textures are not wanted, they can be easily removed with a light sanding.

The base colour of Honext may vary slightly depending on the residue used to produce the boards. It is usually in the range of light beige and grey tones. Its surface is not homogeneous, varying slightly in tone and sometimes exhibiting patterns similar to water stains.

2.1 Sawing

Honext responds well to cutting, especially if the cutting is done with particle discs. A slight flaking is only observed when particles of different densities are found. The advance of the blade must be slow and careful, especially when finishing the cut. It should stay at around 4500 rpm. Particleboard cutting tools are recommended, although wood, laminate, and multi-purpose panel tools provide similar results. The dust generated by the cut is dense and very different from that of wood. The size of the particles is similar to that generated by cutting MDF, but, in the case of Honext, the number of suspended particles is greater. Therefore, it is recommended to use a mask to avoid respiratory problems caused by accumulation.

2.2 Drilling

Honext has a normal reaction to drilling, although this is visibly better with drill bits for wood than with those for metal. Burr accumulates at the entrance and exit of the material. The drilling should be done smoothly, using a pillar drill with a drill bit for metal or wood and resting the material on a wooden surface. Machinery that works between 1500 and 4500 rpm is recommended.

2.3 Sanding

Honext allows for easy sanding of its surface and edges, thus significantly improving the surface finish. Gradual sanding with 80-to-240-grit sandpaper is recommended for satisfactory results. Finer grit sandpaper does not offer visible improvements in finish quality, but it does offer improved feel. The recommended sanding parameters are 12000 rpm in eccentric motion. Sometimes small chips of different density can appear inside the material and hinder the sanding process, so it is advisable to clean the sanding area periodically.
FASTENERS AND JOINTS

3.1 Adhesives
Honext responds very well to gluing, requiring less pressure than traditional wood. In addition, and unlike wood, the gluing behaves equally on the different faces, whether it is on the edge, the head or at 45°. The joints are good, and the use of biscuits and dowels substantially increases the strength of the assembly.

Any adhesive used on similar materials such as wood and chipboards can be used. The use of methyl cellulose glue or white glue for professional wood is recommended. The methyl cellulose adhesive is the same used in decorative papers, cardboard and lime walls. Both allow for the subsequent recycling of the material.

FASTENERS AND JOINTS

3.2 Nails and Screws
Both the joining of multiple Honext boards and the joining of Honext with wood or similar materials work well with screws and nails, although the nailing and screwing in Honext does not provide too much strength.

The use of screws and nails is recommended for mounting paneling to a wooden slat structure. For screwing, a pilot hole and countersink should first be drilled to avoid tearing the material. Incorporating small pieces of metal does not affect the recycling of the board, as the process includes a stage to separate the metals.

PROCESSING

2.4 Machining
Honext responds poorly to milling since the board manufacturing process avoids resins that are normally used for surface hardening. Milling causes material tear, both with compression and extraction cutters. Results are improved with positive and negative helical cutters, thus achieving a good finish on both sides. The same is true for engraving with a V-shaped blade cutter at a 45° angle. Still, Honext is very easy to sand, so all of the above-mentioned processes are feasible in practice.

Recommended parameters for cutting: 18000 rpm of rotation, 1800 mm/min of advance, between 2 and 4 mm depth of pass for flat single lip cutters.
Recommended parameters for engraving: 12000 rpm of rotation, 800 mm/min of advance, depth of pass of 1 mm.

PROCESSING

2.5 Laser
Honext is easily engraved with laser as long as the head-blowing system is deactivated, thus avoiding the deposition of debris in the areas adjacent to the cut.

An area laser engraving is recommended, advancing at 300 mm/min and 35% power and leaving a 0.6 mm monodirectional spacing, without blowing.

It is advisable to do post-processing tests to find out how to deal with debris within the engraving, as these will come off and stain as it usually happens in the laser engraving on wood or MDF. Laser technology does not allow for the cutting of the material.
4. Surface finish

Generally, the surface finish must be applied on both sides to avoid stress that results in the unwanted curvature of the panel. A single-sided finish should only be applied when the product is nailed to a wall or similar surface.

From an ecological point of view, it is better to use water-based surface additives, although it must be borne in mind that their use causes greater deformation or curvature of the panel. That is why we do not particularly recommend them. Solvent-based additives obtain a better response. In general, it is difficult to avoid a slight curvature of the panel, being ideal to use a quick-drying product that helps mitigate these effects.

SURFACE FINISH

4.1 Varnishes and primers

For a surface finish that protects against water, it is recommended to use natural oils and creams based on beeswax and carnauba as a final finish, and, as a pre-paint, we recommend general-purpose sealers and primers for porous substrates such as plaster and wood.

If the board has already been painted, it is advisable to use a primer with great covering and adhesion power to achieve a glossy finish, applying it directly on the painted surface. For a matte finish, we recommend a solvent-based acrylic primer with antioxidant properties. These products are the same as those used in wood and chipboards, and, used in small percentages, do not affect the recyclability of the material.

SURFACE FINISH

4.2 Paints

In order to completely cover the colour of the board and obtain a colouration as opaque as possible, it is recommended to use acrylic water-based paint. If you prefer to respect the texture and heterogeneity of the board’s surface, you can vary the degree of opacity of the finish according to the number of layers applied (always depending on the tonality of the paint and its covering capacity). Dyes or linseed oils with colouring, commonly used in wood, can be used.

In general, it is advisable to apply a primer before painting to seal the pores, thus waterproofing the material and helping the paint cover it. All these finishes are also used in wood, conglomerates and gypsum boards, and, used in small percentages, they do not affect the recyclability of the material.

SURFACE FINISH

4.3 Repairs

To repair imperfections, the use of wood putty is recommended. The panel should be painted with plastic, enamelled or thixotropic paint to obtain a homogeneous colouration both on the original surface and in the areas covered by putty. If the material has not been previously sanded, caulking makes it lose its texture, making the repair slightly visible.

By having a plaster base, these wood putties allow for the recycling of the material as long as they are applied in small quantities.
5. Transportation and storage

It is recommended to store Honext boards in a space that is protected from the elements and without high temperature and relative humidity levels, always avoiding sudden changes in these conditions.

The boards must be flat during transportation and storage. They must be stacked by dimensions and mounted on supports or chocks that allow the batches to be lifted and handled without damaging the material. The edges must be protected whenever the material is handled, especially when unpacking it.

6. Sustainability

Honext is a circular production material that allows for infinite recycling cycles, so we always recommend working the material in a way that preserves that degree of recyclability.

Honext can be manipulated like any other board with similar properties, thus adapting to the needs of the market with the application of common surface additives. However, at Honext we recommend always using products and finishes that are aligned with the sustainability standards of the material itself.

4.4 Laminates

Honext can be laminated like other types of board, and, once it reaches the end of its life cycle, it can be recycled only if it is separated from the bonded sheets. The material withstands well the use of a hot plate press with common industrial adhesives, of a cold plate press with aqueous dispersion adhesive based on polyvinyl acetate (white glue), and of hand lamination with solvent-based polychloroprene contact adhesive (contact adhesive).

For veneering wood sheets, it is recommended to sand the panel beforehand to improve adhesion and avoid imperfections in the final surface. This sanding can be done with P120-grit sandpaper. If there are many irregularities or P240 one for small irregularities.

This sanding is also recommended for melamine and HPL, although imperfections become less visible.

Cold plate press plating is a slower alternative to hot plate plating. The main difference with hot plate press plating is the pressing time, which increases from a few minutes to about 2–3 hours. The use of white glue for interiors is recommended, since this adhesive in aqueous dispersion based on polyvinyl acetate (PVA) allows gluing of high resistance to traction and heat. A pressure of 50 kg/cm² should be applied.

In hand plating, contact adhesive is applied to the veneer and the board, with the union taking place once the glue begins to dry. This solvent-based polychloroprene adhesive enables high-quality results when working with wood, plastic laminates and other materials. It is recommended to apply two coats of contact adhesive, waiting between 5 and 10 minutes between coats to allow for the proper drying. Beech (hardwood) is a good choice for this type of veneer.

The edges of Honext boards can be veneered industrially or manually. Manual edge plating is done in the same way as for surfaces, applying contact adhesive to both the edge of the board and a piece of sheet metal and waiting for it to dry before applying a second coat. It is advisable to accompany the gluing with pressure and rubbing to improve the adhesion of the sheet. It is recommended to exercise extreme caution when going over the edges with sandpaper to avoid removing layers of Honext, as the material is softer than the sheet metal.
For any query or clarification contact info@honextmaterial.com