



# Best practices for Elegance panels use

The aim of this document is to provide the User with guidance on how Elegance panels should be handled & stored in order to help preserve their properties.



## Handling and storage:

Between the time the panels are manufactured and put into their final application, there are many opportunities for plywood panels to be damaged. The following handling and storage tips should be observed at every step along the route to ensure the panels reach their final destination unscathed.

### HANDLING

#### Minimize movement

- The best way to minimize handling damage is by handling the panels as little as possible. Warehousing and process flow operations should be planned to minimize the need to handle the panels.

#### Proper strapping

- When panels need to be moved, they must be properly secured and strapped. This will minimize the chances that the units will unexpectedly shift during transport.

#### Training

- Properly trained employees are the best defense against damage. All employees should be trained in the proper and safe use of fork trucks, pallet jacks, and other handling equipment.

### STORAGE

#### Proper stacking

- Proper stacking is vitally important to protecting panels.
- Avoid storing panels in circulation areas where they might be hit by vehicles.
- Panels should be stored away from flammable materials, flame or other ignition source.
- When stacking units, it is recommended to keep like lengths of similar product together and maintain proper alignment and quality of stacking sticks to avoid bending or flexing panels. The sticks should be thick enough to allow fork truck tines to pass unobstructed between units.



- Maintaining safe stack heights and equal row spacings will keep the panels and employees safe.

## Temperature

- Wood is a natural material and is negatively affected by extreme swings in temperature. Also, wood stored in direct sunlight may heat up enough to warp. To minimize damage, storage temperatures should be maintained between 60-70°F.

## Moisture

- Extreme swings in humidity and direct contact with water can both damage the appearance and performance of plywood panels. It is extremely important to store panels in a climate-controlled environment to eliminate the impacts of moisture. The storage environment's relative humidity should mimic the anticipated service environment, usually 30-55% RH.

## Light

- Most wood will change color upon exposure to sunlight. For that reason, panels should be neatly stacked and covered during storage.

## Coverings

- As panels are received with plastic wrapping, they should be kept in their original packaging and remove them 48-72 hours before use to acclimate to the environment before processing and/or installation.
- Panels that are not given enough time to acclimate on the job site prior to fabrication may warp during use. This is a natural characteristic of wood that can be managed with proper use.
- Also, opened units should have cover sheets to promote cleanliness and prevent discoloration from light exposure. Also, the first panels of the unit may warp if it has not any cover sheet.
- Avoid using mechanical handling systems, steel straps or other equipment harder than wood, as these may cause damage to the panels.



## Surface finish and suitable applications:

Elegance panels are made with a range of decorative hardwood faces in natural wood, what makes them ideal for furniture and decoration (applications such as kitchen cabinets, interior decoration, interior furnishing and DIY projects, advertising uses or mobility and transportation). They are also available with a UV varnished finish on one or both faces, which highlights the beauty of the natural wood grain while increasing surface hardness.

### Natural wood panels

Main characteristics of Elegance panels are described in Elegance Brochure, available in [www.garnica.one](http://www.garnica.one). In case a finish coat is going to be applied, it is highly recommended to test the finish process on some panels prior to production, in order to adjust the process (type of coating, grammage, layers, etc) and confirm they are fit for purpose.

We recommend standard products for wood. We provide no recommendations on individual products or suppliers. The technical parameters should be checked on the technical data sheet of the product from the corresponding supplier and controlled during the coating process.

For some specific applications, such as painting, a smoother, more uniform and harder surface is needed. In this case, our Performance Ultrasmooth is the most suitable option.

### Clear UV finish panels

Main characteristics of Elegance UV panels are described in UV Range Brochure, available in [www.garnica.one](http://www.garnica.one). If specific hardness, gloss, scratch resistance, sunscreen or fire-retardant<sup>1</sup> properties are required, contact your sales manager to know availability.

Some general recommendations to retain its original appearance over time are:

### Cleaning of UV Elegance panels

Regular cleaning helps keep the surface in good condition. As our product can be cleaned with the vast majority of elements household cleaning, it has been subjected to test for resistance to chemical agents, in accordance with UNE-EN ISO 2811. The test consists of exposing the panel to contact with different cleaning agents for a specified period. The results show that our product provides high resistance to acetone, 10% citric acid, bleach, or 96% ethanol. It is observed to be more sensitive to some cleaning agents such as degreasing cleaner or ammonia, which may yellow the film.

General recommendations to clean the UV acrylic finished surfaces are:

- Remove the stains with a soft, damp cloth.
- Avoid soaking the panel for extended periods to avoid altering the color of the varnish layer.

- Dry the surfaces with a dry cloth.
- Clean with gentle, circular movements to prevent scratches.
- Remove stubborn stains, such as glue stains, ballpoint pen, marker pen, etc. with diluted burning alcohol.
- Avoid corrosive, bleaching and/or chlorine-containing cleaning products.
- Be careful with maintenance products for furniture as some of them are not suitable because they produce a film on the surface.

It is best to test a tiny amount of the cleaning product on a small area of the panel, preferably out of sight, to make sure it does not damage the surface

### Sun protection

- Generally, avoid exposing the panels directly to the sunlight, as this can damage the varnish and cause fading, darkening and/or discoloration.
- Use curtains or blinds to reduce exposure to direct sunlight.
- If the panels are to be exposed directly to sunlight, a UV-resistant finish significantly enhances the panel's resistance to light degradation.

### Protection against scratching and bumps

Touching or rubbing the surface with sharp objects can scratch the finish. Falling objects or impacts to the surface may leave visible marks. Our panels have undergone various hardness tests, and the results show a medium to high resistance to impacts and scratches.

- a. ISO 15184:2020 standard: It has been determined the varnish film hardness by pushing pencils of known hardness over the film. Rating results show the highest level of hardness in Elegance panels.
- b. ISO 2815:2003 standard: this ISO standard hardness test uses a Buchholz indenter. The length of the indentation produced is indicative of the residual deformation of the coating. Elegance panels show indentation resistance values around 75%.
- c. UNE-EN ISO 1518: Test method for determining under defined conditions the resistance of a single coating or a multi-coat system of paint, varnish or related product to penetration by scratching with a scratch stylus loaded with a specified load. Our product has a minimum force value of 300N.

### **Other relevant information**

Our Elegance UV range has also undergone testing with artificial saliva (DIN 53160-1) and artificial sweat (DIN 53160-2).

The method is intended in particular for such products that are intended to be put in the mouth, or for which it is foreseeable that they will be put in the mouth or come into contact with mucous membranes during use, or that they will come into contact with the skin during use (e.g. toys industry). The test determines whether colourants can get into the mouth, onto the mucous membranes or onto the skin from the products. The results confirm maximum resistance on the standard scale (5).



### **Cutting and machining. Recommendations**

- Before cutting and machining a new product, it is recommended to test and validate the process to achieve optimal results. (tool design -n. of flutes, downcut or upcut- feedrate, RPM, etc), specially when it is a complex design (i.e. curves, diagonals, etc).
- Cutting the panel with a manual tool is not recommended as this type of tool causes chipping.
- If using a sliding table saw, it is highly recommended that the cutting equipment includes a scoring saw. The use of a jigsaw is strongly discouraged.
- It is important to avoid vibration when cutting and machining as this can contribute to chipping.
- A properly sharpened tool is a guarantee of success for a clean cut. As the tool wears down, chipping becomes more likely.
- Another factor influencing tool life and finish is the material. Some materials are specifically adapted for hardwood. Heat-treated tools dissipate heat, thereby enhancing their performance and ensuring a cleaner cut.
- It is recommended to follow the tool manufacturer's instructions regarding RPM and feed rate. Reducing the feed rate can also help produce a cleaner cut, making it particularly useful for very hard wood (e.g., Eucalyptus Globulus).
- It is recommended to score the first layers of plywood with shallow cuts first before going to the full depth of the cut.
- Regarding the tool design, up & downcut designs are recommended to work with compressed fiber on both faces. If the back face is not visible, a tool with a downcut design can be used to work with compression on the front face only. Using an upcut design is not recommended.

## Cutting and machining. Technical parameters

- The diameter of the disc (image 1) must be selected based on the machine's revolutions and the type of board and wood. It is important not to exceed the safety limits.
- After selecting the diameter of the disc, the number of teeth would be chosen. This will determine the cutting capacity and the feed speed of the workpieces (image 2 and 3) (i.e. if we want to maintain the same cutting capacity with a lower number of teeth, it means that the feed speed should be lower).
- The last point is the design of the teeth, which determines the finish of the edges of the board. Each disc is designed for a specific type of product (wood, plywood, etc.)
- All these points should be discussed with the disc supplier.

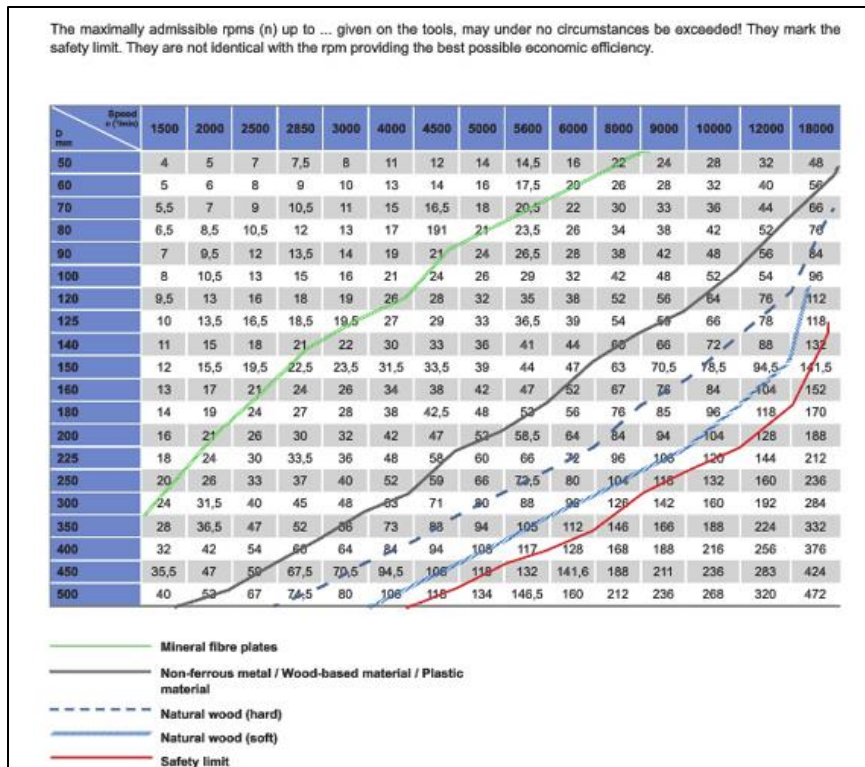


Image 1. Diameter of the disc

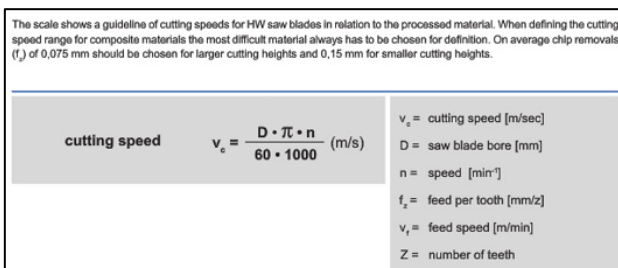


Image 2. Cutting speed

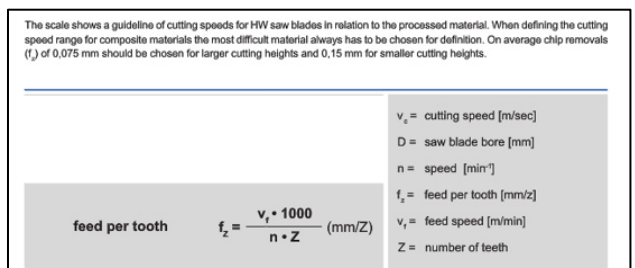


Image 3. Feed per tooth

## Cutting and machining. Technical parameters


The technical features of the milling cutter recommended would be:

- Distributor: AFIMOT
- Name: polycrystalline diamond milling cutter (PCD)
- Model: PCD207001-ECO
- Measurements:  $\varnothing 20 \times 70 \times 130$  Mg20 Z-1+1 RH
- Recommended parameters:
  - RPM 15.000 - 18.000
  - FEED RATE 4 meters per minute

### Diamond grooving cutter

### Fraise à défoncer en diamant polycristallin

**SUAVE**



**Application:** For boring, grooving and trimming coated with sensitive and brittle decorative papers wood base materials such as chipboard, plywood and MDF.

**Machine:** For CNC machines, stationary routers, etc.


**Technical information:** Steel body and brazed polycrystalline diamond teeth's (DP). With high alternated shear angle in positive and negative helicoidal tips arrangement to ensure great finishing in both board edges and good chip removal. Brazed polycrystalline diamond plunging tip (DP) for boring. High performance tool for high speed rates (till 45 m/min.)



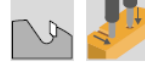
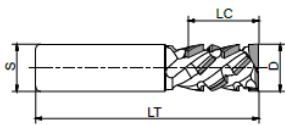
**Application:** Fraise droite à queue pour perçage, rainier et dresser les dérivés du bois avec revêtements de papiers décoratifs sensibles et fragiles tels que agglomérés, contreplaqués, MDF, etc.

**Machine:** Pour machines CNC, machines stationnaires, etc.

**Caractéristiques techniques:** Corps en acier et tranchants en diamant polycristallin (DP). Qualité de coupe et dégagement des copeaux optimale grâce à la disposition des dents en hélice positif et négatif et angle d'axe encore plus accentués. Coupe centrale pour perçage en diamant polycristallin (DP). Outil à queue d'haute performance pour grande vitesse d'avance (jusqu'à 45 m/min.)

# A826



Type 1  
Type 1

Type 1 - Type 1							Ref.
D	LC	LT	S	Z	DP		
16	35	100	16x45	1+1	3	A826.016.135.16	
	35	100	20x55	1+1	3	A826.016.132.20	
20	28	105	20x55	1+1	3	A826.020.128.20	
	28	105	25x55	1+1	3	A826.020.128.25	
20	35	110	20x55	1+1	3	A826.020.135.20	
	35	110	25x55	1+1	3	A826.020.135.25	
25	35	110	20x55	2+2	3	A826.025.135.20	
	35	110	25x55	2+2	3	A826.025.135.25	
25	50	120	20x55	2+2	3	A826.025.150.20	
	50	120	25x55	2+2	3	A826.025.150.25	

n max.: 18.000-30.000 rpm  
Vf (Z1+1): 9-24 m/min  
Vf (Z2+2): 12-45 m/min



### **Reusing panels at the end of their useful life:**

When a panel is no longer suitable for its intended use, it can be reused for other purposes, such as packaging.

Furthermore, plywood panels can be recycled as a by-product to be used in other panel manufacturing; chipboard.

Energy recovery is also an alternative; panel waste can be recovered as biomass fuel.

Always check local regulations for biomass characteristics and boiler requirements.

As a final option, the product can be disposed of: we recommend it is shredded and subsequently incinerated in an authorized facility in accordance with the corresponding environmental legislation applicable in each particular country.



### **Health and Safety:**

The user/recipient of the product is obliged to carry out risk assessments of the people who are going to process/transform it based on the local health and safety legal requirements, implementing the necessary controls in order to provide appropriate preventive measures: e.g. manual handling, dust extraction in case of cutting/sanding, use of personal protection equipment, etc.

For any queries or additional information, please contact your sales representative.

Updated: December 2024

