

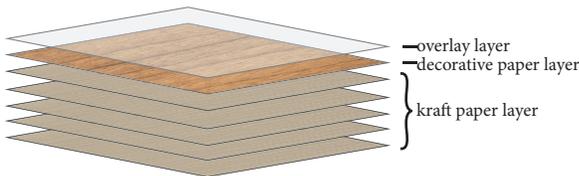
# The Must-Know Facts;

# When Choosing Melamine



## Melamine

The decorative melamine paper surface is produced by saturating the single decorative paper with melamine resins.



## High Pressure laminate

High pressure laminate is produced by saturating multiple layers of kraft paper with phenolic resin. A layer of printed decor paper and overlay are saturated in melamine and placed on top of the kraft paper before pressing. The resulting sandwich is fused together under high heat and pressure (more than 1,000 PSI). The curing process converts the paper layers into a solid rigid laminated sheet around .7 to .8mm thick by the cross-linking all of the resins and treated papers together.

### QUICK NOTES

- ◆ Lots of new designs and finishes are now available in melamine, capturing the eyes of the market, but it is also creating a lot of confusion and misconceptions
- ◆ Melamine is being marketed under new names, to include the word “laminare” in their description, which is normally associated with HPL
- ◆ Melamine is still being produced in exactly the same way it always has been, with the same lower level performance properties and characteristics
- ◆ Pentco will always recommend High Pressure Laminate (HPL), as the most durable product for cabinet doors on the market today
- ◆ HPL’s resistance to high degrees of heat, steam, humidity, moisture, wear and tear found in today’s kitchens perform at a much higher level than melamine
- ◆ Pentco HPL products are protected under a limited 5-year warranty
- ◆ Specific melamine chosen programs are protected under a limited 1-year warranty

At Pentco we pride ourselves on our constant efforts to ensure our customers always receive quality products. We always recommend High Pressure Laminate (HPL) as one of the highest quality and the most durable product for Cabinet doors.

Recently, Thermally Fused Melamine (TFM) products are being shown to the A&D communities and described as a Laminate in the specification to be utilized in place of HPL, which seems to be creating a great deal of confusion in our markets. It appears that all the Melamine panel producers in an effort to market their products, continue to change the terminology their offerings have been called in the past. Originally marketed as a Melamine panel, it was then changed to Thermally Fused Melamine and became known by its acronym TFM. In an effort to lose the word “melamine” in the description, which had the stigma attached of an entry level, low cost substitute for HPL, today’s Melamine panels have been given new acronyms and renamed as a Laminate in their description:

- LPL - Low Pressure Laminate
- DPL - Direct Pressure Laminate
- TFL - Thermally Fused Laminate
- CPL - Continuous Press Laminate

Regardless of the new names or the acronyms used, Melamine panels have the same lower level performance characteristics as in past years, even though they’re being showcased as “new & improved” and given new names and interesting aesthetics to capture the eye of the markets.

Pentco is making efforts to ensure that our industry is well aware of the differences between HPL and Melamine when making product decisions. These choices will of course affect the final performance and durability required for kitchens and vanities in the homes supplied with our doors, indirectly through the cabinet companies we support.

Although finished products in either Melamine or HPL appear similar, the performance characteristics are significantly reduced when using Melamine panels for doors and drawer fronts. The wear and tear they're subjected to when exposed to ongoing heat, steam, humidity, water, abrasions, cleaners and impact are all found in a kitchen or bathroom environment.

A thin layer of Melamine treated paper once fused onto the particleboard panel using heat and low pressure, acts as the only barrier protecting the particleboard core. This single resin treated paper is the only protection providing the required and limited durability necessary to support the finished surface of the doors over the lifespan of the product. There's very little comparison to HPL, which has 4-6 layers of resin treated papers as the base material combined together with a melamine treated design paper, plus an additional overlay wear layer. When all fused together under extremely high heat and pressure, provide the long-term durability when using HPL as the surface of the panels. The finished door products produced from these HPL panels, will resist impact, heat, steam, moisture, abrasions, scratches and chipping, plus provide further resilience during transport and installation to the job-site and will continue providing the performance expected for years to come.

Pentco's ongoing investments in specialized machinery, allows us to provide precision machined panels and chip free edges to all its door products by using the strongest adhesion possible for processing seamless edges with PUR (Poly Urethane Reactive) waterproof glue lines. PUR is used for adhering the required matching edge banding to our doors and panels, but unfortunately the same results we can provide to HPL products are not always attainable when attempting to process the paper thin Melamine surfaces during sizing and milling. It is difficult and not always possible to provide consistent results with melamine, especially with some of the newer structured finishes. Embossed steel plates are used to press the decorative melamine paper to the particleboard in order to create the heavier structured or textured finishes which stresses the paper thin surface leaving it more susceptible to minor chipping or surface abrasions. The Melamine panels that have sustained minor chipping and are used in an application that is subjected to heat, impact, humidity, steam or water, will allow for the migration of moisture to penetrate to the particleboard and can cause the door to fail. Our PUR glued edge process will seal the edge of the product but cannot seal the tiny micro chips on the face of the melamine material.

Pentco has tried to be very selective in the Melamine choices we choose to work with in our markets, and has chosen a small range of materials that we hope will provide a reasonable performance in that level of product choice. Pentco will always recommend HPL as the first choice for problem free performance issues, and would hope the environment and the application the product is being chosen for is always being taken into account, and whether the choice of a Melamine product will provide the longevity one hopes to achieve.

Pentco warranty's its HPL products for 5 years compared to a limited 1-year warranty for melamine.