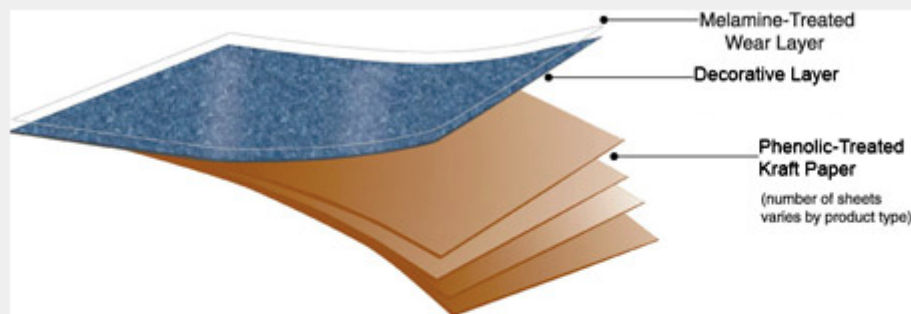


Product Construction

High Pressure Decorative Laminate (HPDL) is commonly used as the decorative surface for residential and commercial countertops and cabinets, work surfaces, laboratory surfaces, backsplashes, partitions, retail fixtures, panel applications, furniture, built-ins, signage/displays, decorative wainscoting, walls and floors.

HPDL is a *paper-based product* created by bonding melamine-impregnated decorative papers to layers of resin-treated kraft paper under high heat and pressure. In the press, decorative papers are permanently bonded to the kraft paper to form a sheet of laminate.

Laminate is made up of several components:



Key ingredients:

The **Overlay** (or Wear Layer) is made from alpha-cellulose wood fibers which primarily come from softwood trees. The lignin is removed from the fibers and they are lightly refined. The long fibers provide strength to the overlay paper. These lightweight papers are very absorbent and carry melamine resin and aluminum oxide from the impregnation process. Overlay paper is similar to the paper used in tea bags or coffee filters. In many cases, the paper machines that make filter papers also make overlay papers!

Decorative paper (solid colors and base papers used for print designs)

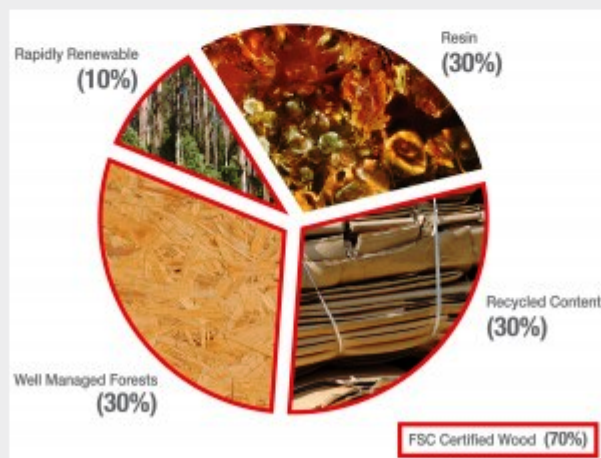
use alpha cellulose because it does not discolor when exposed to heat and light. Fibers content includes Eucalyptus (primary), small amounts of cotton and some hardwood. The cotton fibers used are not suitable for making most types of thread. Solid color sheets contain opacifying agent, titanium dioxide and environmentally safe pigments. Print base paper also contains TiO₂ and small amounts of pigment for color control. Printed designs are usually rotogravure printed, but may also be digitally printed.

Kraft paper layers comprise soft/hard wood from FSC Controlled Wood sources and FSC Recycle papers (similar to what is used in paper grocery bags). Kraft paper provides the strength and impact resistance to the laminate and gives it the primary performance characteristics (such as post-formability). The paper is not bleached.

Melamine resin saturates the top layer of paper for hardness and scuff resistance. Thermoset melamine resin produces a hard chemically resistant surface that is transparent and visually stable upon exposure to light. Melamine is a synthetic resin derived from the natural gas and petroleum industries. It is water white and inert to most common household chemicals.

Phenolic resin saturates the Kraft paper layers for strength and flexibility. Phenolic resin is a thermoset resin based on the chemistry developed for Bakelite over 100 years ago. It is derived from natural gas and petroleum products. The red-brown color is partially responsible for the color of the core layers in a sheet of laminate. It provides strength and impact resistance to the paper layers, as well as postforming performance to the laminate when cooked in the appropriate cycle.

Typical Wilsonart High Pressure Decorative Laminate Composition



FSC® Certified Wood = 70% total by weight
Total Resin Content = 30% total by weight