

A MULTI-LAYERED APPROACH: SPECIFYING LAMINATE FOR INTERIOR APPLICATIONS



Tracless Antifinger Proof laminate Ebony 10622 TS

INTRODUCTION

Versatile, durable, and highly cost-effective, laminate is a material that offers unmatched design flexibility. In spite of this, it is often thought of as a material suitable only for bench tops, kitchen counters, and other wet areas. In reality, the breadth of colours, textures, and performance characteristics of laminate make it a viable option for a wide range of interior applications in residential and commercial projects. From cabinetry to cladding, the hardwearing, non-porous material can be machined to virtually any size or shape and specified to complement any interior. The pre-finished nature of laminate means that no further sanding, painting, or filling is required following installation, affording significant savings in costs and labour.

Thanks to recent advances in anti-fingerprint surface technology, laminate can now be specified for even more high-use interior applications. Below, we explore the possible applications of laminate in commercial and residential interiors and the factors to consider when specifying laminate for each of these.



UNDERSTANDING TYPES OF LAMINATE

All laminate products are durable and long lasting, but specific performance characteristics and ideal uses vary. Considering the three main types of laminate – high pressure, compact, and low pressure – and selecting the most appropriate one is critical for maximising and prolonging product performance.

High Pressure Laminate

Comprising a core of phenolic resin-impregnated Kraft paper sheets, veneer of decorative face paper, and a melamine resin-impregnated overlay, high pressure laminate (HPL) draws its name from its manufacturing method. A combination of high heat (around 149°C) and high pressure (usually around 450kg/m²) is used to bond the core, veneer, and overlay, creating a strong, permanent bond. The rear of the pressed sheets is then sanded down and bonded to lightweight substrates such as MDF or particleboard.

As a result of their dense paper core, HPLs have a high impact resistance in addition to surface durability. This combination of qualities makes them ideal for high-use, heavy-duty applications such as counters, desktops, and workbenches.

Compact Laminate

Essentially a very thick HPL, compact laminate is similarly comprised of resin-impregnated paper sheets, decorated face

paper, and a melamine overlay all bonded at a high temperature and pressure. The crucial difference is that extra layers of phenolic resin-saturated Kraft paper within the core can be built up to the desired thickness, increasing the strength and impact resistance of the material with every additional layer and creating compact laminate's distinctive black core.

Self-supporting and warmer to the touch than many acrylic or stone materials, compact laminate is best suited for heavy duty uses with high levels of human contact. Examples include workspaces, desktops, bench seating table tops, and kitchen work tops.

Low Pressure Melamine

Also known as melamine faced board, low-pressure melamine (LPM) uses thermosetting melamine resin in place of phenolic resin. Unlike in compact laminate and HPL, LPM uses low pressure and high temperatures (170°C to 190°C) to bond resin-impregnated Kraft paper directly to both sides of particleboard or MDF. The adhesive-free product lacks a paper core, meaning that it is thinner, more lightweight, and cooler to the touch than laminates produced under high pressure.

Though its lower impact resistance means that it is unsuitable for countertops or other high wear applications, LPM is perfect for vertical and low impact uses such as interior wall cladding, cupboard doors, partitions, and workspace dividers.

CHOOSING A FINISH FOR YOUR LAMINATE

As it is an entirely manufactured material whose decorative face paper can be printed with any image or design, laminate can be tailored to suit the particular design needs of any project. Designers and specifiers can also select a surface design and finish from the comprehensive selection of pre-made products on the market. Many suppliers stock timber and masonry laminates that use high-resolution images of wood and stone to create a realistic natural look, while others offer broad catalogues of patterns and colours.

In addition, a textured stainless steel plate can be used during the pressing process to imprint the laminate's melamine overlay with texture. Manufacturers commonly choose textures that complement the chosen face paper. For example, laminate with a timber face is often imprinted with a linear, woodgrain texture that emulates raw wood, while laminate bearing masonry imagery may be finished with a "pitted" surface evoking polished natural stone. The gloss of a laminate surface is given as a glossmeter (or 'glossometer') reading. The higher the glossmeter value, the higher the shine of the product: matte-finish laminate will have a glossmeter reading of 0, while mirror finish laminates may have readings over 100. Matte Finish Nominal Gloss Meter reflective readings can vary between 0 – 10. The 0 would indicate the most extreme matte without any reflective light. The higher the reflective Gloss Meter reading the more reflective the laminate surface. Mirror/high Gloss Nominal Gloss meter reflective reading = 110 as the highest.

High performance surfaces can also be specified where laminate is being put to specialised use. Fire-rated surfaces are available for applications where fire resistance is crucial, while laminate used in laboratory or school environments can be finished with a chemical resistant surface. Laminate is also available with a white, high-gloss, dry erase surface for use as a marker board.

INDOOR APPLICATIONS OF LAMINATE

Residential

Due to its warm, contemporary aesthetic and high level of customisability, laminate is the perfect choice for residential renovations and new builds. All types of laminate can be specified as interior door panels that are lightweight and easy to machine to non-conventional dimensions. For decorative inserts in door panels, LPM is generally more desirable than HPL or compact laminate due to its two printed faces and lower thickness. For similar reasons, LPM may also be ideal in the case of pocket sliding doors or other design contexts in which minimum door thickness is desired.

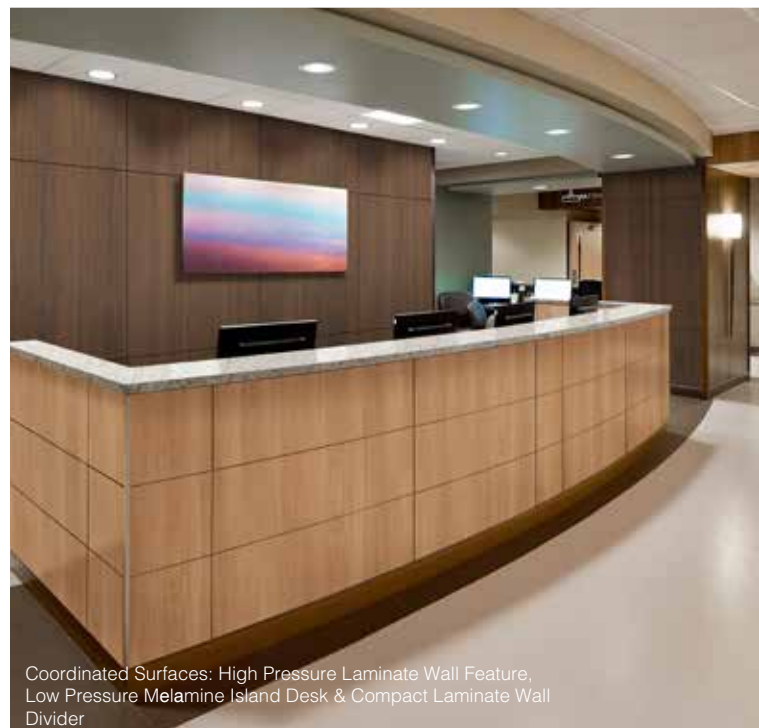
Both HPL and LPM are suitable for use in cabinetry, while compact laminate may be too bulky for this particular application. HPL and LPM can be specified for all cabinetry components including shelves, backboards, and doors, although designers should use their discretion when selecting a laminate for shelves:



Low Pressure Melamine in Natural Ash 4280; Benchtops Concrete



Coordinated Surfaces : High Pressure Laminate & Low Pressure Melamine



Coordinated Surfaces: High Pressure Laminate Wall Feature, Low Pressure Melamine Island Desk & Compact Laminate Wall Divider

Coordinated Surfaces: High Pressure Laminate, Low Pressure Melamine and Compact Laminate



Global Collection: High Pressure Laminate in Ash Arabesque Y0488K; Linear Graphite Y0496K



HPL is recommended for shelves intended to carry heavy loads, whereas LPM is suitable for lighter loads. Where cabinet doors are specified in dark coloured laminate, a handle or other provision for opening and closing the doors without leaving fingerprints or smudges must be included.

Perhaps the best-known residential use of laminate, countertop applications make the most of laminate's low maintenance, non-porous surface. All three main types of laminate can be wiped clean and will not hold stains from water or other substances common to kitchens and bathrooms. Sheets of laminate can be quickly and easily machined to incorporate holes for sinks, taps, and waste disposal units. Manufacturers also often supply melamine edge banding for HPL or LPM in matching finishes to seamlessly conceal cut edges. HPL and compact laminate are preferable for kitchens and other high traffic areas with regular exposure to moisture.

Commercial Use

Since it is available in a wide variety of colours and designs, laminate is a cost-effective solution that is ideal for decorative use as interior wall cladding. LPM is more desirable for this application due to its lighter weight, which makes vertical mounting easier.

When specifying laminate as interior wall cladding, designers and specifiers must be mindful of requirements surrounding the fire resistance of wall lining materials, since conventional laminate is not fire resistant. Part A3 of the Building Code of Australia (BCA) classifies buildings into classes 1 through 10^v, and some of these classes have their own fire resistance requirements. The Engineered Wood Products Association of Australasia (EWPPA) provides a guide for specifying products^v to comply with said requirements, which provides useful information when determining whether laminate is a suitable wall cladding material. Fire retardant laminate is available for applications with stringent fire resistance requirements.

Compact or HPL are the best option for table top applications, as they ensure that the table tops will support heavy loads without sustaining damage. While all types of laminate are suitable for

Desk: Low Pressure Melamine in Pewter Oak 4288;
Shelves : Low Pressure Melamine in Dark Silver Oak 4043



Coordinated Surfaces: High Pressure Laminate & Low Pressure Melamine



Washrooms: Compact Laminate: Doors & dividers



general counter use - for example, as concierge desks - HPL or compact are preferable for heavy-duty use in commercial kitchen spaces or laboratories. Chemical resistant surfaces should also be specified in the latter application.

A low-maintenance, long-lasting option for commercial furniture, LPM is suitable for use in vertical applications such as partitions and locker or cabinet doors. For loadbearing furniture items such as benches, locker shelves, or workspaces, compact or high-pressure laminate is recommended.

When specified with a high-gloss surface and "whiteboard" finish, laminate can be used as both a projection surface and dry-erase marker board. Ideal for commercial and institutional settings alike, laminate with this finish uses a special melamine formulation that should be periodically cleaned to prevent the build up of dry ink residue.

WILSONART

Since its founding in Texas in 1965, Wilsonart has been a global leader in laminate products. More than 50 years later, the company operates in 57 countries worldwide and has

developed an unwavering reputation for high quality products and innovative design. This innovating spirit has led Wilsonart to the forefront of sustainable manufacturing, with their laminate receiving independent SCS certification of a minimum 20% post-consumer recycled content and Indoor Air Quality and Children & Schools Certifications from the GREENGUARD Environmental Institute.

Most recently, Wilsonart have once again led the market for laminates with Traceless, an anti-fingerprint technology for dark laminate surfaces. Traceless targets the design problem posed by conventional - particularly darker - laminates that are restricted in some uses due to their tendency to hold fingerprints, smudges, and dirt and grease marks. Traceless' sleek, matte surface retains none of these, instead giving a velvet-touch, smooth surface on which prints and marks cannot be seen.

The hygienic and low-maintenance surface opens up a range of new possibilities for the use of dark laminate indoors, offering designers flexibility in creating luxurious interior spaces using rich, satiny dark colours. Traceless is available in HPL and compact laminate, and is suitable for kitchen, furniture, bar counter, and wall cladding use.



REFERENCES

ⁱ <https://www.thespruce.com/quartz-vs-laminate-countertops-1821209>

ⁱⁱ <https://www.wilsonart.com/finish-options>

ⁱⁱⁱ <https://www.rhopointinstruments.com/faqs/what-is-a-gloss-unit/>

^{iv} https://www.lakemac.com.au/downloads/Classification_Buildings_Structures.pdf

^v http://ewp.asn.au/library/downloads/ewpaa_fire_resistance.pdf