Film Overlays

HOW IT'S MADE

3DLs are primarily made of polyvinyl chloride (PVC) and polyester (PET) films. They can be seamlessly membrane pressed or vacuum formed around contoured components, including edges. 3DL can also be used in 2DL applications such as profile wrapping and flat lamination. 3D laminates are available in typical thicknesses from 0.008" to 0.040" and customized gloss ranges. In addition, they can be embossed with specific patterns to improve realistic aesthetics.

LEADING APPLICATIONS

Kitchen Cabinets • Furniture • Shelving • Manufactured Housing • Office Applications • Wall Paneling •

Known as rigid thermoformable foils (RTF), three-dimensional laminate (3DL) and two-dimensional laminate (2DL), these materials are thermoplastic film overlays. They provide end users the freedom to design components with contoured surface profiles and seamless edges without requiring edge treatments. Designers can also use film overlays to customize shapes and incorporate punch-outs, logos and concave/convex surfaces. These films are available in solid colors or printed designs.

The films used in 3DL and 2DL are thermoplastic, meaning they soften when heated to take on the shape of their substrate and return to a firm state when sufficiently cooled.

3D laminates are resistant to chipping, cracking or breaking making them a popular choice for retail store fixtures. In addition, their application seals the core panel substrate from bacteria and moisture, which make them an increasingly popular choice in health care settings for over bed tray tables, furniture and cabinetry. Due to their ability to wrap around custom shapes, edges and contoured surfaces, designers often specify 3DL materials for POP displays, commercial hospitality components, office furniture and door/drawer fronts for cabinetry.

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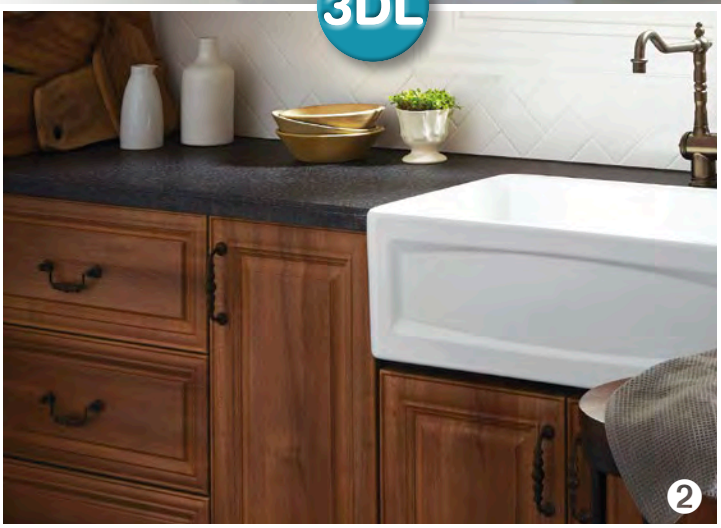

COMMON USES FOR 3D AND 2D LAMINATES ALIKE INCLUDE CABINET DOORS AND DRAWER FRONTS IN SHELVING IN HOME STORAGE ❷ AND STRIKING MODERN KITCHENS ❶. FILM OVERLAYS CAN BE VACUUM FORMED OR MEMBRANE PRESSED OVER CONTOURED SUBSTRATES ❸. MITER FOLDING CAPABILITIES ALLOW THE CREATION OF SEAMLESS EDGES TO 3D LAMINATES FOR INCREASED STRENGTH AND BEAUTY ❹.

COMMON USES FOR 2D LAMINATES INCLUDE HOME FURNISHINGS.

2D LAMINATES ARE COMMONLY USED IN THE PRODUCTION OF 5-PIECE DOORS.

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2DLs are generally made from vinyl, polypropylene (PP) or oriented polypropylene (OPP). They are designed to be flat laminated or profile wrapped.

2DLs are available in a variety of thicknesses ranging from 0.001" to 0.007", and can be solid colored, reverse printed or top printed with an overlay based on end use requirements.

2D laminates provide excellent water and chemical resistance, and varying degrees of scratch and stain resistance. Common uses for 2D Laminates include walls and ceilings of recreational vehicles, vertical surfaces for retail store fixtures, cabinets, commercial flooring and residential components.

Films can be divided into eight categories:

2ML REVERSE PRINTED RIGID FILM: Print design and base coat are printed on the back of the film in reverse order. This film is used for wall paneling (mostly in recreational vehicles), kitchen cabinets, furniture and manufactured housing.

SEMI-RIGID CLEAR FILM / REVERSE PRINTED: The film is frequently embossed and can be coated with scuff-resistant coatings. These films range from 4 to 8 mils in thickness. Some can be mitre folded.

SANDWICH FILM: SEMI-RIGID TWO-PLY OVERLAY. The opaque base film is top printed and a clear overlay is laminated on top. This film is designed for mitre folding and flat sheet lamination. These films range from 5.5 to 8 mils in thickness. Some are available with scuff-resistant topcoating.

SOLID COLOR FILM / SEMI-RIGID FILM: This film is integrally colored and can be top printed and/ or embossed. Top-printed film is used extensively in manufactured housing, recreational vehicles, commercial paneling and movable walls. Plain solids are used in furniture, kitchen cabinets, fixtures, displays and office furniture applications. Thicknesses range from 3.5 to 8.0 mils. Some films are available with scuff-resistant topcoatings.

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RELATIVELY NEW TO THE DECORATIVE OVERLAY CATEGORY, OPP FILMS ARE IDEAL FOR DECORATIVE PATTERNS.

FILMS CAN BE DESIGNED FOR WRAPPING PROFILES IN MOULDINGS FOR FURNITURE AND KITCHEN COMPONENTS

Please see pages 101-106 for information about the companies that produce film overlays.

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THERMOFORMED OVERLAY FILMS: Single-ply or two-ply construction. Gauges range from .010" to .030" and the film may be printed in wood grain or decorative patterns. Films may be embossed and may be coated with scuff- and stain-resistant coatings. Primers to promote adhesion are available. Films are designed for thermoforming with heat and pressure in a bladder press or vacuum forming process. Decorative effects can be achieved with two-ply films when a router is used to expose a different color in the bottom ply film. Films may also be flat laminated or mitre folded. Raised panel cabinet doors and free-formed furniture components are the most common applications for this type of film.

Wrapping Films are rigid vinyl films in gauges from .005" to .010". Film may be printed in wood grain or decorative patterns, may be embossed, and may be coated with scratch and stain resistant coatings. Films are designed for wrapping profiles, like picture frames and furniture moulding, and can also be flat laminated and mitre folded.

CALENDERED POLYPROPYLENE FILM: These films range from 5 to 20 mils in thickness and are available in a range of solid colors. Typical applications include flat laminations and edge banding for garage and kitchen cabinets, as well as electronics.

ORIENTED POLYPROPYLENE (OPP) FILM (OPAQUE): Relatively new to the decorative overlay category, these films are stretched (oriented) in both the machine and cross-machine direction to deliver improved dimensional stability. In addition, OPP offers resistance to water and chemicals. Because of its non-absorbent print surface, OPP is ideal for high-fidelity wood grain prints and decorative patterns. OPP films may be embossed and are typically coated for scuff, scratch and stain resistance. Oriented polypropylene films are available in thicknesses ranging from 0.9 to 2.2 mil (23 gsm to 56 gsm). Typical applications include RTA furniture, cabinets, wrapped profiles, ceiling and wall panels. ■