

Manufacturer

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Alternate manufacturing facility – Fletcher, NC

Suitable Substrates for Laminate Work

The following comparative data on substrates and adhesives used in decorative laminate fabrication is primarily to assist the designer with the selection of suitable components making up the panel. Specific data such as gluing temperatures, mixing instructions, spreads, pressures, curing time, substrate strength, etc., if required should be obtained from the respective manufacturer.

Unsuitable Substrates

Concrete, plaster, drywall, and solid wood are not suitable for direct application of decorative laminate. If a laminate is required over these substrates, consider the Arborite decorative laminate paneling method, using one of the cores shown in the adjacent chart, mechanically fastened with adequate provision for expansion or contraction movements.

	Particleboard	Plywood	Honeycomb	MDF (Medium Density Fiber Board)
Description	Composite board made of comminuted wood and a binding agent (usually urea).	Suitable plywoods are: Fir faced, fir core. Birch, CSA 0115-1967	Hexagonally celled paper core board. Paper is available resin impregnated or plain.	MDF is a panel product manufactured from wood fibers combined with a synthetic resin or other suitable binder, and bonded under heat and pressure.
Standards	Meets or exceeds North American (ANSI A208.1-93) standards.	Poplar, CSA 0152-M1980 Fir, CSA 0121-M1978 Birch, CSA 0115-1967 .. CSA "B" face veneers or better; sanded	None established to date.	ANSI A208.2-94 Grade MD
Sizes	Available in sizes suitable for the largest Arborite laminate sheet manufactured 1525 mm x 3660 mm (5 ft x 12 ft).	1200 mm x 2400 mm (4 ft x 8 ft)	Available in sizes suitable for the largest Arborite laminate sheet manufactured 1525 mm x 3660 mm (5 ft x 12 ft)	Available in sizes suitable for the largest Arborite laminate sheet manufactured 1525 mm x 3660 mm (5 ft x 12 ft). Thicknesses from 1/4" to 1-1/8".

	Particleboard	Plywood	Honeycomb	MDF (Medium Density Fiber Board)
Surface	Surface must be smooth, flat and free from loose particles and voids. Purpose made particleboards are an ideal substrate.	Poplar or birch faced plywood has smoother more uniform grain: less grain swelling. Lumber core plywood is recommended where core edge is to be exposed.	Hexagonal cells may be open or covered with overlay sheets. Small cell sizes are recommended.	Surface must be smooth, flat and free from loose particles and voids.
Dimensional Stability	According to ANSI A208.1-93 for Grade M2 max. 0.35%	Good dimensional stability. Linear expansion is approx. 1/2 of 1% (wet to oven dry)	Very little restraint on movement of applied veneer.	Non-available.
Moisture Influence	Water resistant. Thickness expansion can present problems if board is wetted frequently. Subject to "particle raising" which may telegraph through the laminate.	Phenol formaldehyde glue is used for waterproof grade plywood. Urea glue is used for water resistant grade plywood.	Impregnated honeycomb is water resistant. Unimpregnated honeycomb has poor water resistance.	Non-available.
Chemical Resistance	Non-available	Phenolic glue is resistant to most solvents. Wood veneers are moderately chemical resistant.	Impregnated honeycomb has moderate resistance. Unimpregnated honeycomb has poor resistance	Non-available.
Flammability	Fire retardant particleboards are available. Can be chemically treated for fire.	Plywood can be chemically treated for fire resistance. Adhesives must be compatible.	Plywood can be chemically treated for fire resistance. Adhesives must be compatible.	Non-available
Adhesives for Bonding Arborite Decorative Laminates	Urea, PVA, Contact and Resorcinol are the most common adhesives used for veneering. Water-based adhesives may be utilized.	Urea, Contact, Epoxy, and Resorcinol are the most common adhesives used for veneering. Water-based adhesives may be utilized	Urea, Contact, Epoxy, and Resorcinol Adhesives.	Urea, PVA, Contact and Resorcinol are the most common adhesives used for veneering. Water-based adhesives may be utilized.
Summary	An ideal substrate for Arborite decorative laminate.	A good substrate for Arborite decorative laminate.	Suitable as a light-weight filler for doors, panels, etc.	An excellent substrate for Arborite decorative laminates.

