LundiaUSA

Real Solid Wood Closet Systems
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CLOSET MATERIALS 101

Know What Your Closet Is Really Made Of

Most closet companies never tell you what's inside their shelves. Here are the five materials used in closets and shelving today, from the most processed to the most natural, so you know exactly what to ask before you buy.

1 **Particle Board** | 2 **Melamine** | 3 **MDF** | 4 **Plywood** | 5 **Solid Wood**

MOST PROCESSED — MOST NATURAL

1 Particle Board

Wood chips and sawdust, glued with resin and pressed into a panel

MADE FROM	FORMALDEHYDE-BASED GLUE	REAL WOOD SURFACE
Wood chips & sawdust	Usually	No



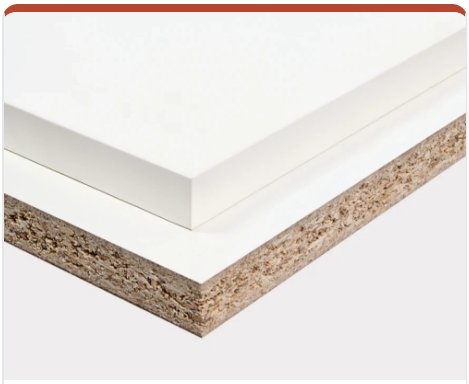
WHAT IT IS

Thousands of wood chips, shavings and sawdust are mixed with resin glue, usually urea-formaldehyde, then pressed under heat into a flat panel. It's the least expensive way to make a "wood" panel.



WHERE YOU'LL FIND IT

Particle board is the hidden core of most melamine closet systems, flat-pack furniture and budget shelving. Once it's covered, you only see the chips at a cut or chipped edge.



GOOD TO KNOW

It sags under weight over time, swells if it gets wet, and screws strip out easily. Federal and California rules allow particle board to give off up to 0.09 ppm of formaldehyde.

Ask Before You Buy

1. **What is the core of your shelves and panels made of?** Particle board, MDF, plywood or solid wood?
2. **Is the wood grain real?** Or is it a printed paper or laminate surface?
3. **Do your panels use formaldehyde-based glue or resin?** Ask to see the spec sheet.
4. **Can it be sanded and refinished?** Real wood can be renewed for decades.

2 Melamine

Particle board (or MDF) wrapped in printed, resin-soaked paper

MADE FROM	FORMALDEHYDE-BASED GLUE	REAL WOOD SURFACE
Particle board or MDF core	**Yes, core & surface**	**No, printed paper**



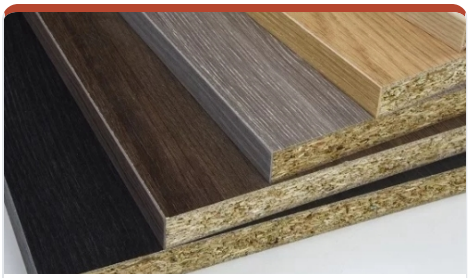
WHAT IT IS

Melamine is particle board or MDF with a decorative paper fused to its faces. The paper is soaked in melamine-formaldehyde resin and pressed on under heat, creating a hard, plastic-like surface.



WHERE YOU'LL FIND IT

Melamine is the standard material in laminated closet systems, including those sold by California Closets, Closets by Design, Closet World, The Container Store, IKEA, ClosetMaid and Home Depot.



GOOD TO KNOW

The "wood grain" is a photograph printed on paper. It can't be sanded or refinished, and once the surface or edge tape chips, the particle board underneath is exposed.

3 MDF

Medium-density fiberboard: wood fibers and resin pressed into a dense, smooth panel

MADE FROM	FORMALDEHYDE-BASED GLUE	REAL WOOD SURFACE
Fine wood fibers	**Usually**	**No, unless veneered**



WHAT IT IS

MDF is made by breaking wood down into fine fibers, mixing them with resin and pressing them into a dense panel. It's smoother and stronger than particle board, with no visible chips.



WHERE YOU'LL FIND IT

Because it machines and paints cleanly, MDF is popular for cabinet doors, painted trim and furniture. It's usually covered with melamine paper, plastic laminate (HPL) or a thin wood veneer.



GOOD TO KNOW

Finer fibers need more glue to hold together, so rules allow MDF a higher formaldehyde limit than particle board (0.11 ppm). It's also very heavy and swells if it gets wet.

How to Spot It Yourself

1. **Look at a cut edge or drilled hole.** Chips or fibers mean particle board or MDF.
2. **Look for a repeating grain.** Printed paper repeats its pattern; real wood never does.
3. **Check the back and underside.** Real wood shows natural grain on every face.
4. **Look for the label.** Composite wood panels must carry a TSCA Title VI / CARB label.

4 Plywood

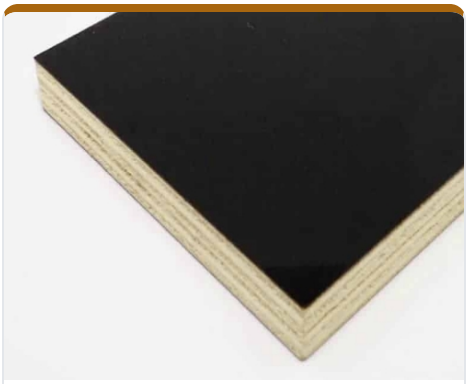
Thin sheets of real wood, glued together in cross-grain layers

MADE FROM	FORMALDEHYDE-BASED GLUE	REAL WOOD SURFACE
Thin wood veneers	Often	Yes, a thin veneer



WHAT IT IS

Plywood is thin sheets of real wood (veneers) glued together, with the grain of each layer turned crosswise for strength. Quality varies with the wood, the number of layers and the glue used.



WHERE YOU'LL FIND IT

Plywood is the go-to panel for quality custom cabinetry and is generally considered the best manufactured panel. The face you see is real wood, but often a very thin veneer.



GOOD TO KNOW

Standard hardwood plywood glue usually contains formaldehyde, though at a lower limit than particle board (0.05 ppm). Soy-based and other no-added-formaldehyde plywoods cost more.

5 Solid Wood

Lumber cut directly from the tree. No chips, no fibers, no resin core.

MADE FROM	FORMALDEHYDE-BASED GLUE	REAL WOOD SURFACE
Real lumber	No formaldehyde glue or resins	Yes, all the way through



WHAT IT IS

Solid wood is cut straight from the log, milled to thickness and planed smooth. (That's why a 2×4 is really 1½″ thick: it's named for its rough size before planing.) The wood you see goes all the way through.



WHERE YOU'LL FIND IT

Solid wood is what Lundia USA has used for over half a century. It takes far more skilled labor: a frame that needs 4 pieces in melamine takes 14 separate solid wood parts.



GOOD TO KNOW

Scratches and dents can be sanded out, it can be refinished in a new color years later, and it holds screws for decades. The grain is real, not printed, and there's no resin core to give off fumes.

Questions about your closet? Call **(888) 989-1370** or visit **www.lundiausa.com** for a free design.

Formaldehyde limits shown are the EPA TSCA Title VI / California CARB Phase 2 emission standards for composite wood products.