## Which wood for bookshelves?

Wood for bookshelves can be divided into three main categories: weakest, stronger, and strongest. These categories also apply to the cost; that is, the weakest is the cheapest and so on. The dividing line between the categories is strength; the stronger the board, the more weight it can hold without deflecting (sagging). When selecting wood for a bookshelf/bookcase project, a delicate balance must be drawn between expense and strength. However, don't fret if you are strapped for cash; even with the cheapest solution, there are techniques to make the shelves stronger.

## Best of the Best

Solid hardwood is the best solution. Depending on the species and grade of the solid lumber, it can carry the most weight along the greatest length. It is commonly available in $3 / 4$-inch thicknesses, which is perfect for an average-length shelf of 30 inches. Add aesthetic value to the project by purchasing high-end hardwoods from online suppliers.

## The Middle Tier

A middle-of-the-road option is plywood. $3 / 4$ inch ( 19 mm ) is the best choice. This size can easily accommodate a 30-inch average shelf length for all but the heaviest items. All-hardwood plywood, such as Baltic Birch, is much stiffer and stronger than standard softwood ("fir") plywood.

## A Budget Option

The least expensive option is to use melamine shelving boards. These are made from pressed particleboard with a layer of tough, plasticized paper adhered to them. Adding to their weakness is the fact that they are generally thin, often less than $1 / 2$ inch thick. For thicker boards, you can cut your own from four-by-eight sheets of melamine that are $3 / 4$ inch thick. Although melamine is the weakest solution, it can still be a viable, budget-conscious choice with the addition of strengthening supports.

## Shelf Strengthening

Here are some tips to increase shelf length, or board strength: For melamine and plywood, you can attach a solid wood bar to the leading edge of the board. This can also add aesthetic value. The wood for this method is usually sold as one-by-one strips. Bookshelf units and stand-alone shelving can both benefit from this technique. When spacing supports for stand-alone shelving, place a support at each wall stud across the shelf length. This works with any type of wood. If purchasing high-end wood from a lumber supplier, request "8 quarter" boards. They are just under 2 inches thick and will support just about any weight for lengths up to (and sometimes beyond) 60 inches.

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