Sheet materials: a selection *chart*

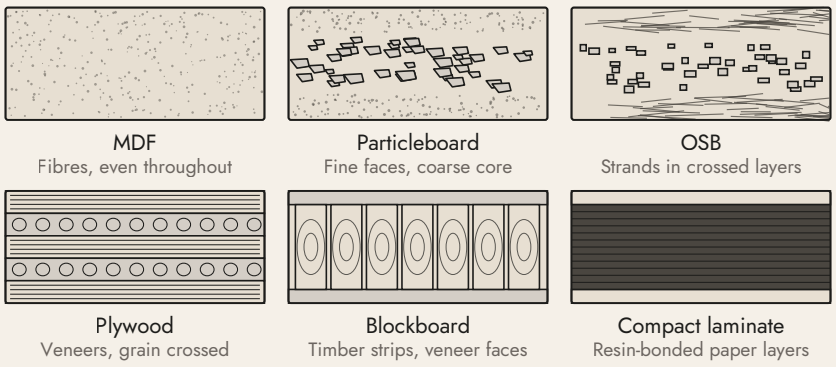
Nine sheet materials compared, with data-sheet stiffness, damp and fire behaviour, the standards and paste-in wording.

Compliance guidance. Fire classes are quoted from Approved Document B (England; volume 1 Table 4.1 and volume 2 Table 6.1, 2019 edition incorporating amendments to 2026) and from Commission Decision 2007/348/EC as retained on legislation.gov.uk, read on 5 and 6 November 2026. Board figures are data-sheet requirements or means for one product, not design values, and are examples only. Check the declaration of performance for the board supplied, the current standards and your fire engineer. This is guidance, not fire or engineering advice.

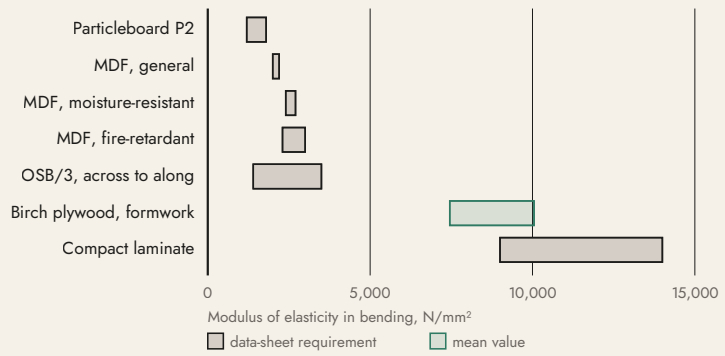
AT A GLANCE

If you need	Look at	What the sources say	Check
A painted or lacquered flat surface	MDF; moisture-resistant MDF in humid rooms	Fibre boards have smooth faces and edges; the American woodwork standards rate MDF's edge and surface 'excellent'	Seal every face and edge; sand cut edges first (maker's advice)
A damp room, not a wet one	Moisture-resistant MDF; plywood for humid conditions (EN 636); OSB/3; compact laminate	Data sheets state humid conditions, and 'not suitable for external applications'	Cyclic swelling is 15 to 19 per cent for the MR MDF read; coat all faces
Better reaction to fire	Fire-retardant MDF or particleboard	B-s1,d0 stated for 6 to 30 mm on one data sheet; ordinary boards default to D	The declaration of performance, then the finished build
A stiff panel or shelf	Plywood; compact laminate; then OSB, MDF, particleboard	Birch plywood about 7,500 to 10,000 N/mm² MDF 2,000 to 2,700; P2 1,200 to 1,800	Span and deflection: see the shelving sheet
A hard-wearing, wet-cleaned surface	Compact laminate; thin HPL bonded to a substrate	Compact laminate: density 1,350 kg/m³ or more, bending 80 N/mm² or more, low swelling	Thickness range, edges and fixing

Data-sheet requirements or means for single products, in N/mm²: examples, not design values. The American ratings are for veneered-panel cores.



Six sheet materials in section: fibres, chips, strands, crossed veneers, timber strips and resin-bonded paper. Schematic textures, not to scale. Original drawing by Make Bespoke Studio.



Stiffness (modulus of elasticity in bending) from the data sheets read: grey bars are data-sheet minimums, green is a mean for one plywood. Examples, not design values. Original chart by Make Bespoke Studio.

SPECIFICATION WORDING

MDF

[MDF] to BS EN 622-5 [type MDF.H], [18] mm, [sanded], with the manufacturer's declaration of performance. Maker, product and standard edition on the shop drawing. Boards conditioned in the final environment for [two to three] days before processing and coated on all faces and edges.

PLYWOOD

[Birch] plywood to BS EN 636 for [dry / humid] conditions, bond to EN 314-2 class [1 / 3], face grade [B/BB], [E1], [18] mm, with the maker's declaration of performance. Edges [lipped / veneered / sealed].

FIRE PERFORMANCE

Where improved reaction to fire is required: [fire-retardant MDF] declared Euroclass [B-s1,d0] for the thickness used, by the manufacturer's declaration of performance, and confirmed for the finished build (substrate, air gap, fixing, finish) by [fire engineer].

LAMINATES

[Compact laminate to BS EN 438-4], [12] mm, decor [ref], with the maker's fire class for that thickness. [HPL to BS EN 438-3, [0.8] mm] bonded to [substrate] with a balancing laminate on the reverse.

TERMS USED

MDF.H
The EN 622-5 type of MDF for humid interior conditions, usually sold as moisture-resistant (MR). Not for use outdoors.

FR MDF
MDF made with a fire retardant, sold with a declared Euroclass such as B-s1,d0 for given thicknesses.

Compact laminate
A self-supporting board of resin-bonded paper layers, 2 mm or thicker (BS EN 438-4).

STANDARDS AND SOURCES

- USDA Wood Handbook FPL-GTR-282 (2021), Table 12-1; Architectural Woodwork Standards (2009), Section 4: US sources.
- Commission Decision 2007/348/EC (wood-based panels): Table 1, default reaction-to-fire classes.
- Approved Document B volumes 1 and 2 (England), amendments to 2026: Tables 4.1 and 6.1.
- BS EN 622-5, 312, 300, 636, 13986, 438-3, 438-4: status only; not read.

Full guide: https://makebespoke.com/trade/technical/sheet-materials-selection-chart. Make Bespoke Studio coordinates manufacture through its partner workshops. Figures are guidance only and your specification governs; some may be superseded, so contact the studio to verify.