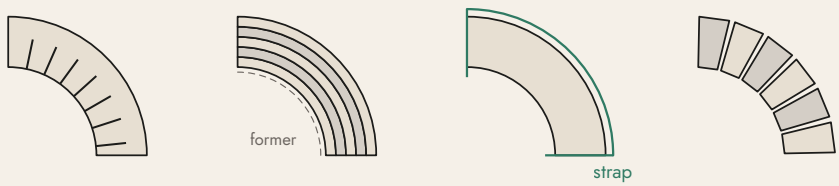
Curved joinery: *bending methods* and minimum radii

How a curve is made, what sets the smallest radius, and the questions that make a workshop state its own limit.

AT A GLANCE

Method	How it works	What sets the minimum radius	Finish suitability (our experience)	Ask the partner
Kerfing	Saw cuts across the inside face let a board or panel bend; the cuts close	Cut depth, the web left, kerf spacing, the board	Needs a stiffening or skinning layer; a veneer or lacquer over it shows the facets unless the base is built up	How much web is left, and the spacing and glue-up used
Bent lamination	Thin layers are glued together over a form and held until the glue sets	Thickness of each layer, species, the form	Well suited to veneer and lacquer; the face veneer is added over the laminate	Layer thickness, the form, spring-back allowed for, the number of pieces
Steam bending	A solid piece is softened by steam or hot water, bent over a form with a strap and dried to hold the shape	Species, thickness, moisture content, the strap	Solid timber only; suits oiled or clear finishes	Species and stock the partner has, thickness and radius they will guarantee
Bending sheet	Bendable plywood or board, with or without a veneer, bent over a former	Board thickness, grain direction, the span bent over	Veneered panels are made this way; lacquer works as on any veneer	The product, its minimum radius by direction and span, the substrate
Cut segments	Blocks or stacked layers cut to the curve (by hand or CNC) and glued; veneer or paint over	The cutting tool and the layout of segments	The usual route for tight, thick or compound shapes under veneer or paint	Cutter and layout, how segments are joined, how grain meets at the joints

Practice summary from the Wood Handbook and our own arithmetic. Finish suitability is our experience of how veneer and lacquer behave, not a tested finding. Radii limits come from the partner workshop, not from this sheet.



Kerfed
cuts on the inside face

Laminated
thin layers glued on a form

Steam bent
one piece, plasticised

Segments (cut)
blocks cut to a template

Four of the five methods as quarter-circle sections. Schematic and not to scale. Original drawing by Make Bespoke Studio.

SPECIFICATION WORDING

RADIUS REQUIREMENT

Curved [panelling / door / counter front] ref [C-01], plan radius [1,800] mm measured to the [concave / convex / visible] face, over a length of [2,400] mm, height [900] mm, finished thickness [30] mm, as detail [D-14] at 1:1. Tolerance on radius [plus or minus 3] mm, checked with a template made to the drawing. The partner workshop states the method (bent lamination, kerfed and skinned, steam bent, bent sheet, cut segments), the number of pieces, and the position of every joint, before production.

VENEER OR LACQUER ON A CURVE

Face [veneer, species and cut, matched [book / slip]] with grain running [along / across] the curve, over a [laminated / skinned] base. The surface is to show no facets, ripple or layer lines under [high-gloss / satin] lacquer in raking light at [2] m. A first piece, finished as specified, is approved against the dated sample [ref] before the run.

CAPABILITY STATEMENT

Before quotation the partner workshop states in writing the tightest radius it will guarantee for [this thickness and finish], the method, the allowance made for spring-back, and the tolerance it holds on the finished radius. Generic or catalogue radii are not accepted as a substitute.

SUPPORT FOR A TOP

Where a curved carcass carries [a stone / solid-surface / timber] top, the partner supplies the support drawing and a template of the actual curve, taken after the carcass is built and before the top is cut.

TERMS USED

Kerf
The slot left by a saw cut; in kerf bending, a row of cuts across a board's inside face lets it bend as they close.

Bent lamination
A curved piece made of thin layers glued together over a form; the Wood Handbook says the layers are bent without end pressure against the form.

Steam bending
Softening a solid timber piece with steam or boiling water, bending it over a form and drying it to hold the shape, with a metal strap to keep it in compression.

Spring-back
The small opening of a bent piece when it is released from its form, which the form is made to allow for.

STANDARDS AND SOURCES

- USDA Forest Products Laboratory, Wood Handbook, FPL-GTR-282 (2021): Chapter 19 (bent wood members, laminated members, curved plywood, bending of solid members, pp. 19-1 to 19-4) and Chapter 11 (glulam curvature), read 7 Nov 2026. A US government engineering reference; not a UK standard.
- No British Standard fixes a minimum radius for joinery: None was found that does; ask the partner workshop for its own limits.

Full guide: https://makebespoke.com/trade/technical/curved-and-shaped-joinery. 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.