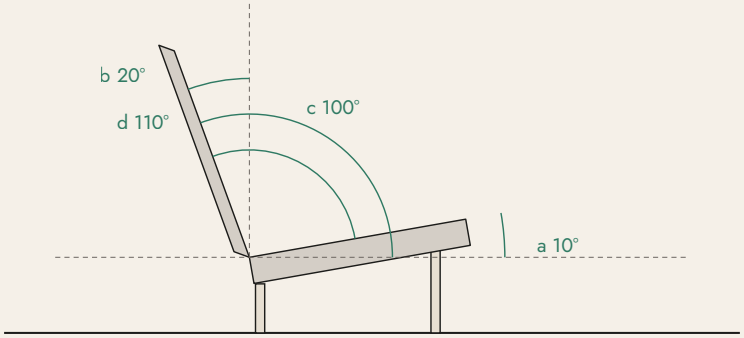
Seat *slope and back rake*: how many degrees

Seat slope and back rake by seat type, what each angle is measured from, and what the formal versus relaxed choice costs. Always draw the datum: slope from horizontal, rake from vertical.

AT A GLANCE

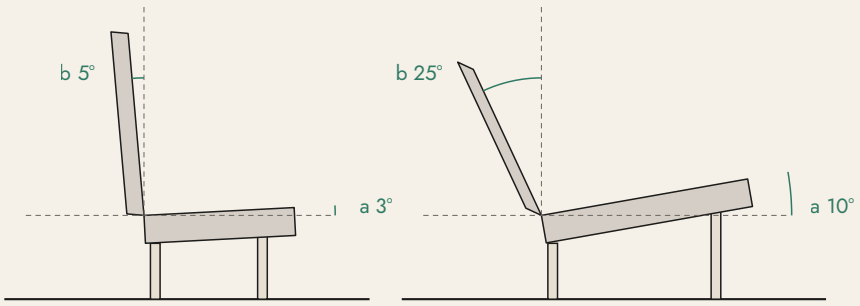
Seat type	Seat slope	Back rake	Seat to back	Basis
Formal dining chair	2 to 5	0 to 5	Not stated	Teaching guide, dining chair
Upright general chair	5 to 8	0 to 5	Not stated	Teaching guide, general chairs
Banquette	2 to 5	5 to 10	To confirm	Conventional; to confirm
Relaxed lounge chair	8 to 15	Not stated	95 to 120	Teaching guide; datum not stated
Office task chair	5 forward to 5 back	Adjustable	90 to 110	HSE HSG57, Figure 1(a)
Bar or counter stool	Level, usually	To confirm	To confirm	Conventional; to confirm

Degrees. Seat slope is from the horizontal, with the seat rising to the front; back rake is from the vertical, with the back leaning away from the sitter; seat to back is the angle between the two surfaces. Basis: 'teaching guide' is the University of Melbourne design guide; HSE is the Health and Safety Executive; 'to confirm' means conventional practice for our partner upholsterers to confirm; 'not stated' means the source gives no figure. Design guidance, not clinical advice.



Dashed lines are the horizontal and vertical through the seat/back junction. Example angles.

One chair, four ways of quoting the angles: a seat slope (from the horizontal), b back rake (from the vertical), c seat to back (between the two surfaces), d back from the horizontal; c = 90 + b - a and d = 90 + b. Example angles; original drawing by Make Bespoke Studio.



A formal and a relaxed seat with their angles. Example angles chosen inside the published ranges; the relaxed seat is drawn deeper and leans further from the table. Original drawing by Make Bespoke Studio.

DEGREES TO MILLIMETRES

Angle	Seat rise over 450 mm	Back lean over 400 mm
3 degrees	24 mm	21 mm
5 degrees	39 mm	35 mm
8 degrees	63 mm	56 mm
10 degrees	79 mm	71 mm
15 degrees	121 mm	107 mm
20 degrees	164 mm	146 mm
25 degrees	210 mm	187 mm

SPECIFICATION WORDING

DINING CHAIR OR BANQUETTE

Seat slope [3] degrees back from horizontal, tolerance [+/- 1] degree, measured along the seat centreline on the finished, loaded seat. Back rake [5] degrees from vertical, tolerance [+/- 2] degrees, measured on the finished front face of the back with the seat loaded. Seat-to-back angle [92] degrees, for information. Angles drawn on the shop drawing section and confirmed on an approved mock-up.

LOUNGE SEAT

Seat slope [10] degrees back from horizontal, tolerance [+/- 2] degrees, measured along the seat centreline on the finished, loaded seat. Back rake [25] degrees from vertical, tolerance [+/- 3] degrees. Seat-to-back angle [105] degrees, for information. Angles drawn on the shop drawing section and confirmed on an approved mock-up built with the production foam and cover.

DRAWING NOTE

All back angles are measured from the vertical and all seat angles from the horizontal. Angles quoted between the seat and the back, or from the horizontal at the back, must be marked as such on the drawing.

TERMS USED

Seat slope

How far the seat surface tilts back from the horizontal, with the front higher than the rear. Also called seat rake or seat tilt.

Back rake

How far the front face of the back leans away from the vertical. Also called back pitch or recline, which some sources measure differently, so the drawing must say.

Seat-to-back angle

The angle between the seat surface and the front face of the back. It equals 90 degrees plus the back rake minus the seat slope.

Back angle from horizontal

The angle of the back measured from the horizontal. It equals 90 degrees plus the back rake.

STANDARDS AND SOURCES

- University of Melbourne, Ergonomics and product interactions: teaching guide, secondary source.
- Health and Safety Executive, Seating at work (HSG57), 3rd edition 1997, reprinted 2011: Figure 1(a), paras 20, 23 and 24.
- US Department of Defense Ergonomics Working Group, Fact Sheet 15 (March 2002): office chairs.
- Approved Document M, volume 2 (2015 edition with 2020 and 2024 amendments): gives no seat angles.
- BS EN 16139:2025 and BS 8300-2:2018: named, not read.

Full guide: https://makebespoke.com/trade/technical/seat-rake-and-slope. 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.