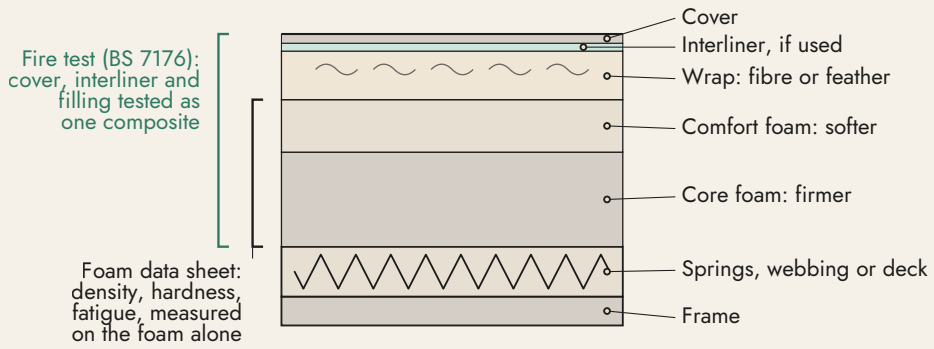
Upholstery *foam, feather and fibre*: what to specify

Density and hardness are different numbers, and the fire certificate applies to the finished composite, not the foam alone. What a foam data sheet should state, and wording to put the build in writing. No density band is given as a rule.

AT A GLANCE

Fill	What it is	What it gives the seat	Watch-points
Standard polyurethane foam	Flexible open-cell foam; the base for the grades below	Basic padding; compresses readily	Not usually chosen for primary seating
High-resilience (HR) foam	Finer, more even cell structure; recovers its shape well	A supportive, even seat: the usual core	Not fire-retarded by default
Combustion modified (CMHR) foam	HR foam formulated to resist ignition; the UK's main route to slower fire spread (FIRA guide)	Feels like HR of the same density and hardness	Tested alone, then again in the finished seat
Latex foam	Rubber-based foam, natural or blended	A springier, resilient sit	Own ignition test (1988 Regulations, Sch. 1 Pt III)
Visco-elastic (memory) foam	Slow-recovery foam	Spreads pressure; keeps an impression	Softens as it warms; usually a top layer
Reticulated foam	Open-cell foam with the cell walls removed	Drains and dries quickly	Outdoor use; fire route still applies
Polyester fibre wrap	Wadding or hollow fibre round a foam core	Softer edges and first touch, no feather	Settles in use; inside the tested composite
Feather and down blends	Feather for structure, down for softness; 80/20 and 60/40 are common	Soft, relaxed, slightly crushed	Plumping and ticking; inside the tested composite
100% down	Down only	The softest, deepest sink	Least support; most plumping

Descriptions of the fills, not performance claims. Density and hardness are left out of this table on purpose: see the data sheet table. Fire statements follow the FIRA and British Furniture Confederation guide (2010, updated 2011).



Section through an upholstered seat. The foam data sheet covers the foam layers only; a BS 7176 fire test covers the composite of cover, interliner and filling. Schematic and not to scale. Original drawing by Make Bespoke Studio.

WHAT PUBLISHED DATA SHEETS REPORT

Five grades from two data sheet sets, read 5 November 2026: layout examples, not a specification. Density is to ISO 845, hardness to ISO 2439.

Grade, as published	Density	Hardness	Also on the sheet
Soft grade for back cushions (UK foam supplier)	31.4 to 34.7 kg/m3	100 to 140 N (method B; % indentation not stated)	Sheet: back cushions only, not seating
Premium seating grade (UK foam supplier)	37 to 41 kg/m3	180 to 220 N (method B; % indentation not stated)	Sheet: seat cushions, dining chairs
CMHR 28 (European foam maker)	25 ± 1 kg/m3	70 to 115 N at 40%	Resilience at least 50%
CMHR 30 (same maker)	30 ± 1 kg/m3	105 to 144 N at 40%	Also 25% and 65% hardness
CMHR 40 (same maker)	40 ± 3 kg/m3	170 to 230 N at 40%	Cites BS 5852 Part 2, Crib 5

SPECIFICATION WORDING

FOAM

Seat foam: [CMHR] polyurethane foam, density [ ] kg/m3 (tolerance [ ]) to ISO 845, hardness [ ] N at [40] % indentation to ISO 2439 [method A], fatigue classification [ ] to ISO 3385. State grade, density and hardness for each foam layer. Supply the data sheet and a foam ignition certificate (Schedule 1 Part 1 of the 1988 Regulations, or BS 7176 Annex A) dated within [12] months with the shop drawings.

BUILD-UP AND WRAP

Build-up from the top: cover [ ]; interliner [as the fire certificate requires]; wrap [polyester fibre, or feather and down in down-proof ticking]; comfort foam [ ] mm; core foam [ ] mm; suspension [ ]. Show each layer's thickness on the build-up drawing. Declare feather and down composition [to EN 12934:2025]. Approve a full-size mock-up by sit test before production.

FIRE

Upholstery to comply with BS 7176 [Medium] Hazard, tested as a composite for each different cover, interliner and filling build (seat, back and arms separately where they differ), and labelled. Provide a UKAS accredited certificate for the build as supplied, dated within [12] months. Re-test any change of filling, interliner, wrap or cover (other than colour) before supply.

TERMS USED

CMHR foam

Flexible polyurethane foam treated so that it resists ignition in the UK fire tests used for contract seating. It is the usual UK foam for seats that must pass Crib 5 or BS 7176.

Interliner

A thin fire-resistant layer placed between the cover and the filling so a seat passes the fire test even when the cover or foam would not alone. It changes how the cover sits, so it must be in the sample.

Upholstery composite

The combination of cover and filling materials, made up of layers such as fabric, interliner and filling. A fire test is carried out on the composite, so a certificate applies to that combination only.

STANDARDS AND SOURCES

- FIRA and the British Furniture Confederation, Fire safety of furniture and furnishings in the contract and non-domestic sectors (2010, updated 2011): composites, foam certificate, re-testing.
- Furniture and Furnishings (Fire) (Safety) Regulations 1988, SI 1988/1324: regulation 3 and Schedule 1; revised version read 5 November 2026.
- BS 7176:2007+A1:2011 and BS 5852:2006: as described in the FIRA guide; not read.
- ISO 845:2006, ISO 2439:2008, ISO 3386-1:2025, ISO 3385:2014, BS EN ISO 5999:2013: foam test and specification standards; catalogue records only.
- BS EN 12934:2025: feather and down labelling; catalogue record only.

Full guide: https://makebespoke.com/trade/technical/upholstery-foam-and-feather. 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.