Fabric *performance tests* for contract upholstery

Six tests describe a contract upholstery cloth: abrasion, pilling, light fastness, rubbing, seam slippage and cleaning. The standards report a result and set no pass mark, so the figure you require is your own. Fire is a separate test of the whole composite.

AT A GLANCE

Property	Test (standard)	Reported as	What it does not tell you	Ask for
Abrasion	Martindale, BS EN ISO 12947-2	Rubs reached with no breakdown, at a stated load (12 kPa for upholstery in the 1998 text)	Fading, pilling, soiling, seams. Not valid for coated fabrics	Standard and edition, load, end-point, rubs, colourway
Pilling	Modified Martindale, BS EN ISO 12945-2	A grade after a stated number of rubs	Wear-through. Some soft yarns pill though they pass abrasion	The grade and the number of rubs
Light fastness	Xenon arc, BS EN ISO 105-B02	Blue wool grade 1 to 8; each step about twice the last	Other causes of colour change. Not the same as US hour-based tests	The grade per colourway, and which scale
Rubbing fastness	BS EN ISO 105-X12	Grey-scale grades, dry and wet	Dye lost in cleaning	Dry and wet grades per colourway
Seam slippage	BS EN ISO 13936-2 (or -1)	Seam opening under a fixed load (part 2)	Seam strength, a different property	The part used, warp and weft, stitch type
Cleaning	Supplier's code: W, S, WS, X	A letter code, not a test result	Whether the finished piece can take it	The supplier's written instructions per colourway
Fire	Separate: BS 7176 composite test	Pass or fail for the whole composite	Wear or colour	BS 7176 hazard categories

Standard numbers as named in UK and European specifications; check the current edition of each. The standards report a result and set no pass mark: the figure you require is your own, agreed with the supplier and the partner upholsterer.



The six questions and the test that answers each. Original drawing by Make Bespoke Studio; standard numbers as named in UK and European specifications.

WHAT TO ASK THE SUPPLIER FOR

· A test report from a named laboratory, dated, naming the standard and its edition, for the batch supplied.

- Abrasion: load, end-point, rubs and unit. Pilling: rubs. Light and rubbing: scale and grade per colourway.
- Written cleaning instructions for the colourway.
- Fire evidence separately: a cloth is not fire-certified by its performance tests.

SPECIFICATION WORDING

WOVEN UPHOLSTERY CLOTH: PERFORMANCE

Cloth [name, colourway] to achieve, on the batch supplied: abrasion not less than [ ] rubs without breakdown, tested to BS EN ISO 12947-2 [edition] at 12 kPa; pilling not worse than grade [ ] after [ ] rubs to BS EN ISO 12945-2 [edition]; light fastness not less than [ ] on the blue wool scale to BS EN ISO 105-B02 [edition]; colour fastness to rubbing not less than [ ] dry and [ ] wet to ISO 105-X12 [edition]; seam slippage not more than [ ] mm at [ ] N, warp and weft, to BS EN ISO 13936-2 [edition].

EVIDENCE

The supplier is to provide, before the cloth is cut, a test report from [a named laboratory] for each test above, naming the standard and edition, the colourway and the batch, and the cloth's written cleaning instructions. Fire performance is specified separately [BS 7176 hazard category]; the tests above are not fire tests.

COATED FABRIC OR LEATHER

For vinyl or polyurethane coated fabric, abrasion and the other tests are to be to [the methods stated by the supplier, for example the ISO 5470 series], not Martindale to BS EN ISO 12947. For leather, tests as the leather specification [ref].

TERMS USED

Martindale rub

A laboratory test where a fabric sample is rubbed against a standard cloth under load until it wears through, with the result reported in thousands of rubs. Higher numbers mean greater abrasion resistance, but it does not cover fading, pilling or stains.

Wyzenbeek double rub

The North American fabric abrasion test, which rubs back and forth along one line. Its results cannot be reliably converted into Martindale cycles.

Pilling

Small balls of loose fibre that form on a fabric surface with use. It is tested separately from abrasion, and some soft yarns pill even when they pass high rub tests.

Light fastness

How well a dyed cloth resists fading in light, graded on a scale of 1 to 8 against reference wool samples. Sunlit lobbies and windows need higher grades.

Cleaning code

Letters on upholstery fabric that say how it may be cleaned: W for water-based cleaning, S for solvent, WS for either, and X for vacuuming or brushing only. Check the maker's own code before specifying for restaurants.

Seam slippage

The sliding of yarns in a woven cloth when it is pulled at a seam. It is a property of the fabric, not the same as how strong the seam is.

STANDARDS AND SOURCES

- BS EN ISO 12947-1:1998 and -2:2016: Martindale abrasion. BSI: current; the 2016 listing excludes coated fabrics. 1998 previews read; 2016 text not read.
- BS EN ISO 12945-2:2020: pilling, modified Martindale. BSI: current. ISO preview read.
- BS EN ISO 105-B02 and ISO 105-X12:2016: light and rubbing fastness. Previews read; confirm the current BS EN ISO editions.
- BS EN ISO 13936-1 and -2:2004: seam slippage. Previews read.
- ACT Voluntary Performance Guidelines, Woven Fabrics, Indoor, Feb 2025: US voluntary guideline; read in full. Not a UK requirement.

Full guide: https://makebespoke.com/trade/technical/fabric-performance-tests-for-contract-upholstery. 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.