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# Martindale Rub Test: Designer's Worksheet

The Martindale rub test measures fabric durability and suitability for different applications, from domestic upholstery through to heavy contract use. The test is also known as the rub test and it tests for abrasion resistance.

Results are given as a score in thousands of cycles or rubs. The higher the Martindale score, the more suitable the fabric is for heavy usage. Several KOTHEA velvet and faux leather ranges achieve scores in excess of 100,000 rubs, placing them in the heavy contract category suitable for hotel and hospitality environments. Our highest-performance faux leather exceeds 200,000 Martindale rubs.

The Martindale rub test is the standard used in the United Kingdom and Europe, defined under BS EN ISO 12947. In other countries, such as the United States, a different test known as the Wyzenbeek test is used. The term double rub is associated with the Wyzenbeek method. The two tests are not directly comparable.

## Technical Definition

*The following technical description is provided for reference. Interior designers do not normally need to know this level of detail; the rub count figure and its classification are sufficient for specification purposes.*

> "A circular specimen, mounted in a specimen holder and subjected to a defined load of 12 kPa, is rubbed against an abrasive medium (standard worsted wool fabric) in a translational movement tracing a Lissajous figure, the specimen holder being additionally freely rotatable around its own axis perpendicular to the plane of the specimen. The normal end point of the test is when two threads are broken or, in the case of pile fabrics, when the pile has completely worn off. Specimens are inspected every 5,000 cycles. Results are always reported as multiples of 5,000."

*Standard: BS EN ISO 12947 (Parts 1 to 4). This is the current international standard and supersedes the earlier BS 2543.*

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## Using the Martindale Rub Test to Specify Fabric

When specifying upholstery fabric for a contract environment, check the Martindale rub count carefully. The following classifications indicate the intended duty of the fabric:

| Classification | Minimum Rubs | Typical Application |
|---|---|---|
| Decorative | Under 10,000 | Cushions, throws, accent pieces |
| Light domestic | 10,000–15,000 | Occasional-use bedroom furniture |
| General domestic | 15,000–25,000 | Everyday sofas and dining chairs |
| Heavy domestic / light contract | 25,000–40,000 | High-use family furniture, private offices |
| Contract | 40,000+ | Hotels, restaurants, bars, offices |
| Severe contract | 50,000+ | Healthcare, transport, 24-hour environments |

### Martindale and Wyzenbeek: No Direct Conversion

Despite what appears on other websites, including those of well-known fabric houses, you cannot infer a Wyzenbeek score from a Martindale score, or vice versa. The two tests use different motions, different abradants, and different specimen orientations. There is no reliable conversion formula.

As a directional guide for specification purposes only: for heavy duty contract use, you might specify 30,000 Wyzenbeek double rubs or 40,000 Martindale cycles as the minimum. In that sense, the Martindale figure is approximately 33% higher than the Wyzenbeek figure for an equivalent level of use. This is a guide only. A fabric scoring 100,000 on one test cannot be assumed to score 133,333 on the other. The result could be higher or lower. The only way to know is to test to both standards independently.

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## What Gives a Fabric a Good Martindale Score?

The Martindale score is the outcome of fibre, yarn, and weave working together. No single factor determines it in isolation.

**Fibre strength.** Stronger fibres produce stronger yarns. Fibre length also matters: particularly short fibres produce a weaker yarn, though very long fibres add little extra strength beyond a certain point.

**Yarn construction.** Fibres are twisted into yarns, and this twisting adds strength. The number of twists per unit of length, measured in twists per inch or twists per metre, affects the yarn's density and durability. Tightly twisted yarns are generally smoother and more abrasion-resistant.

**Weave design.** The nature and type of weave significantly affects abrasion resistance. A tightly woven fabric made from strong yarn will generally perform well, but it is not possible to predict a rub count from construction alone. That is precisely why independent testing exists.

### What the Test Does Not Measure

The Martindale rub count measures abrasion resistance only. It does not measure:

- Light fastness or fading in sunlight
- Pilling resistance
- Resistance to staining or liquid spillage
- Resistance to pet claws or sharp objects
- Seam slippage or tensile strength
- Performance after chemical cleaning

It is the responsibility of the fabric supplier to provide Martindale test results and to arrange independent testing. It is the responsibility of the designer to understand the full specification requirements of the project, including colour fastness, fire retardancy, cleaning codes, and other fabric properties, and to match the correct fabric to the intended use.

## Further Resources

For a comprehensive online guide to the Martindale rub test, including the full methodology, rub count classifications by application, what the test does not measure, and a detailed Martindale versus Wyzenbeek comparison, visit:

**www.kothea.com/2026/04/05/martindale-rub-test-guide/**

For a direct comparison of the Martindale and Wyzenbeek test methods:

**www.kothea.com/2009/06/26/martindale-vs-wyzenbeek-3/**

### Related Topics

- Fire retardancy and Crib 5 certification
- Colour fastness and the Blue Wool Scale
- Martindale shade change
- Velvet upholstery specification
- Contract fabric selection

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To request fabric samples or to discuss a specific specification requirement, contact KOTHEA:

**E: info@kothea.com W: www.kothea.com**