



THE WOOLMARK COMPANY

WOOLMARK SPECIFICATION

WOOL-CONTAINING DENIM
APPAREL PRODUCTS

SPECIFICATION AD-1

Effective 1 January 2016

SPECIFICATION AD-1: 2016

WOOL-CONTAINING DENIM APPAREL PRODUCTS

PRODUCTS

The **Woolmark**, **Woolmark Blend** and **Wool Blend** device or brand may be applied to the following products made from wool-containing denim:

- trousers
- jackets
- dresses
- skirts.

A 'wool-containing denim' is defined as a product made with a woven warp-faced twill fabric; warp yarns are dyed in a way designed to fade during finishing or use.

The fibre content of the warp yarns can be cotton, wool or wool blends. The fibre content of the weft yarns can be wool or wool blends.

All products

Property	Test Method	Trousers	Jackets, Skirts, Dresses
Wool content (%: minimum)	155	Woolmark: 100% (see Specification F-1, F-2, F-3 or F-4) Woolmark Blend: 50% (see Specification F-5) Wool Blend: 30% (see Specification F-7)	
Garment make-up quality	288	Acceptable	
Tensile strength (N: minimum)	4	<ul style="list-style-type: none"> Fabric weight < 200g/m² 250 warp × 175 weft Fabric weight ≥ 200g/m² 300 warp × 200 weft 	200 warp × 150 weft (all fabrics)
Non-recoverable extension (%: maximum) Stretch direction Non-stretch direction	179		6 3
Steam dimensional change (%)	290	-3 < DC	
Abrasion ('000 rubs: minimum)	112	20	
Seam slippage (mm opening: maximum)	117	6	10

- This table must be read in conjunction with the notes that follow.

NOTES

1. Woolmark TM155: Wool content

The wool content of Woolmark products is described in Specification F-1, F-2, F-3 and F-4.

The wool content of Woolmark Blend products is described in Specification F-5.

The wool content of Wool Blend products is described in Specification F-7.

Products containing regenerated cellulosic fibres (viscose, etc.) or synthetic fibres may be accepted only after submission to the Woolmark Management Group for approval. Elastane or related filament may be used to impart stretch provided it does not exceed 10% of the weight of the fabric.

2. Woolmark TM288: Garment appearance

If seconds quality product with minor faults is deemed by The Woolmark Company to be acceptable for testing, this test must not be performed.

3. Woolmark TM4: Tensile strength

Both the warp and weft directions must meet the specification.

4. Woolmark TM179: Stretch, and growth properties

Only applicable to stretch products.

5. Woolmark TM290: Dimensional stability to steaming

-3 < DC indicates that the shrinkage of the product in steaming must not exceed 3%.

Only applicable to stretch products.

6. Woolmark TM112: Abrasion resistance

The abrasion resistance of fabrics is related to many factors (e.g. fibre fineness, yarn count, yarn type, weave, etc) and it is difficult to correlate the abrasion conditions of a fabric during wear with test results because of the many facets of abrasion. An individual test can provide only a comparison with previous experience with a particular fabric rather than an exact prediction of the wear life of a fabric. Fabrics not reaching the required performance can only be approved by the WMG.

7. Woolmark TM117: Seam slippage

It is recognised that seam slippage can be reduced by special seaming techniques. Where appropriate, the test may be modified to use the seam as sewn in the final garment provided that the information on the type of seam used is included on the test report.

Dimensional stability to machine wash

Property	Test Method	Trousers	Jackets, Skirts, Dresses
Dimensional change – relaxation (%)			
Width – non-stretch products	31	-3 < DC	-3 < DC
Width – stretch products		-5 < DC	-5 < DC
Length		-3 < DC	-3 < DC
No. and type of wash cycles		1 × 7A	1 × 7A
Dimensional change – felting (%)			
Width	31	–	–
Length		–	–
Differential cuff edge shrinkage		-1 < DC < +1	-1 < DC < +1
No. and type of wash cycles		5 × 5A	5 × 5A
Dimensional change – total			
Width – non-stretch products	31	-3 < DC	-3 < DC
Width – stretch products		-5 < DC	-5 < DC
Length		-3 < DC	-3 < DC
After wash appearance			
Hairiness on belt loop, pockets, seams and edges in general.	31	Clean appearance with no hairiness	
No. and type of wash cycles		1 × 7A + 1 × 5A	

- This table must be read in conjunction with the notes that follow.

NOTES

1. Woolmark TM31: Dimensional stability

-3 < DC indicates that the shrinkage of the product in washing must not exceed 3%.

-1 < DC < +1 indicates extension must not exceed 1% and shrinkage must not exceed 1%.

The specifications for relaxation dimensional change do not apply to products to sold as 'shrink to fit' or 'raw denim', which are designed to change their dimension at the first wash.

2. After wash appearance

Assess after drying. The product must not exhibit problems related to hairiness of the fabric at points subject to friction during washing. Garment trims that are likely to lead to consumer complaint must be inspected: zip must function, button must not be loose, belt loops must not become detached, etc.

Dimensional stability in washing and tumble drying

Property	Test method	Trousers	Jackets, Skirts, Dresses
Dimensional change – relaxation (%)	31		
Width – non-stretch products		-3 < DC	-3 < DC
Width – stretch products		-5 < DC	-5 < DC
Length		-3 < DC	-3 < DC
No. and type of wash cycles		1 × [7A + TD]	1 × [7A + TD]
Dimensional change – felting (%)	31		
Width		–	–
Length		–	–
Differential cuff edge shrinkage		-1 < DC < +1	-1 < DC < +1
No. and type of wash cycles		5 × [5A + TD]	5 × [5A + TD]
Dimensional change – total (%)	31		
Width – non-stretch products		-3 < DC	-3 < DC
Width – stretch products		-5 < DC	-5 < DC
Length		-3 < DC	-3 < DC
After wash appearance	31	Clean appearance with no hairiness	
Hairiness on belt loop, pockets, seams and edges in general.			
No. and type of wash cycles		1 × [7A + TD] + 2 × [5A + TD]	

- This table must be read in conjunction with the notes that follow.

NOTES

1. Woolmark TM31: Dimensional stability

-3 < DC indicates that the shrinkage of the fabric in washing must not exceed 3%.

-1 < DC < +1 indicates extension must not exceed 1% and shrinkage must not exceed 1%.

[7A + TD] indicates a 7A wash followed by a tumble drying in an approved tumble dryer.

[5A + TD] indicates a 5A wash followed by a tumble drying in an approved tumble dryer.

The specifications for relaxation dimensional change do not apply to products sold as 'shrink to fit' or 'raw denim', which are designed to change their dimension at the first wash.

After wash appearance—assess after drying. The product must not exhibit problems related to hairiness of the fabric in points more subject to friction during washing. Furthermore the garment trims which are likely to lead to consumer complaint must be inspected: zip must function, button must not be loose, belt loops must not become detached, etc.

Colourfastness Properties

Property	Test method	Trousers, Jackets, Skirts, Dresses
Colourfastness to light (Grade: minimum)	5	3–4
Colourfastness to rubbing: Dry (Grade minimum)	165	3
Colourfastness to machine wash		
Change of colour (grade: minimum)	193	3
Stain wool and nylon (grade: minimum)		2–3
Stain other fibre (grade: minimum)		3
Colourfastness to wet alkaline contact		Multicoloured products only
Change of colour (grade: minimum)	174	3
Stain wool and nylon (grade: minimum)		2–3
Stain other fibre (grade: minimum)		3

- This table must be read in conjunction with the notes that follow.

NOTES

1. Woolmark TM5: Colourfastness to light

Undyed and bleached white product must not be evaluated.

Naturally Coloured Wool may exhibit poor colourfastness to light but the product may carry the Woolmark, Woolmark Blend or Wool Blend if the following text (or similar) is used on the ticket. 'It is an inherent feature of some naturally coloured wools that the colour may fade'.

2. TM165: Colourfastness to rubbing

This test is not required on products lighter in shade than 1/12 standard depth.

3. Woolmark TM193: Colourfastness to Machine Washing

The test method is divided into two parts:

Part A: standard detergent without perborate.

Part B: standard detergent with perborate.

Both test methods are to be carried out and both sets of results must be reported.

If products fail Part B but pass Part A, additional labelling requirements must be observed to prevent problems that could arise during the washing of garments should a bleach containing detergent be used. In this case, all labels and tickets attached to garments must carry an advisory statement: 'Wash using a Woolmark approved detergent' (or similar). Full details of these additional requirements are available from The Woolmark Company.

Undyed and bleached white products must not be evaluated.

4. Woolmark TM174: Colourfastness to wet alkaline contact

Specification only applies to multi-coloured products.

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