THE WOOLMARK COMPANY

WOOLMARK SPECIFICATION

WOOL-FILLED APPAREL PRODUCTS

SPECIFICATION AF-1

Effective 1 January 2016

Woolmark Specification

SPECIFICATION AF-1: 2016

WOOL-FILLED APPAREL PRODUCTS

PRODUCTS

Woolmark and **Woolmark Blend** labelling may be applied to products provided they meet the requirements of this specification.

- **Filling layer of wool, or wool blended with other fibre**
  These products shall have a filling layer between outer cover fabrics. The cover fabrics may be of wool or another fibre.

MANDATORY REQUIREMENTS (ALL PRODUCTS IRRESPECTIVE OF CARE CLAIM)

Property	Test method	Pass level
Woolmark Wool content of filling, layer	155	Pure New Wool
Woolmark Blend Fibre content of filling or layer(s) Wool fibre content: minimum (%) Non-wool fibre content: maximum (%)		 50% New Wool 50%
Weight of filling or layer (g/m²: minimum)	13	50
DCM extractable matter of wool in filling (%: maximum)	136	1.0
Vegetable matter in wool in filling (%: maximum)	IWTO 19	0.7
Migration of fibre from the filling through the shell fabric	266	Pass
Entanglement and felting (grade) (after 1 × 7A cycle)	274	Not worse than 3–4

- All tables must also be read in conjunction with the notes that follow

NOTES

1. **Woolmark TM155: Wool content**
   The wool content of Woolmark products is fully described in Specifications F-1 to F-4.
   The wool content of Woolmark Blend products is fully described in Specification F-5.

2. **Woolmark TM13: Weight of filling or layer**
   No further comment

3. **Woolmark TM136: DCM extractable matter**
   In the case of Woolmark Blend and Wool Blend products containing polyester, the solvent used should be methanol because dichloromethane will give an incorrect (high) result due to extraction of low molecular weight polymer from the polyester.

4. **IWTO-19**
   Use the latest version of IWTO test method

5. **Woolmark TM266: Fibre migration**
   It is advised that a fibre migration test should be carried out on finished products.
   In general, high bulk wools give greater resistance to migration; however, the finer the fibre, irrespective of bulk, the more likely it is to migrate. Blends of wool containing kemp (fully medullated) or very coarse fibre should be avoided.

6. **Woolmark TM274: Entanglement and Felting**
   This test is applied to knop-filled products only.

ADDITIONAL MANDATORY REQUIREMENT FOR DRY CLEAN ONLY PRODUCTS
CARE CLAIM: DRY CLEAN ONLY.

Property	Test method	Pass level
Total dimensional change (% maximum) Number and type of cycles: 3 × ISO3175 Normal or CDT	ISO3175 normal	Width –5 < DC Length –5 < DC
Appearance after 3 dry clean cycles: filling		Acceptable

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

NOTES

1. **Test procedure**
   Three dry clean cycles according to ISO 3175 *Normal* or equivalent commercial dry clean test (CDT). If a sample of the product is used in the test, the dimensions of suitable markings on the specimen may be used to assess dimensional change in length and width.
   –5 < DC indicates that the shrinkage should not be greater than 5%.

2. **Appearance after dry clean**
   'Acceptable' indicates a minimal level of fibre clumping, felting and consolidation after dry cleaning. In assessing the acceptability of a product for a dry clean only claim, the appearance of the filling before and after the specified cleaning or washing cycles will be considered.

ADDITIONAL MANDATORY REQUIREMENTS FOR HAND WASHABLE PRODUCTS
CARE CLAIM: Hand wash – flat dry or hand wash – line dry

Property	Test method	Pass level
Relaxation dimensional change (%: maximum) 1 × 7A cycle	31	Width –4 < DC Length –4 < DC
Felting dimensional change (%: maximum) 1 × 7A cycle	31	Width –5 < DC Length –5 < DC
Total dimensional change (%: maximum)	31	Width –6 < DC Length –6 < DC
Colourfastness to wet alkaline contact Change of colour (grade: minimum) Stain wool (grade: minimum)	174	4 4
Colourfastness to hand washing Change of colour (grade: minimum) Stain wool (grade: minimum)	250	3–4 4
After wash appearance of filling 2 × 7A cycles	–	Acceptable

- All tables must also be read in conjunction with the notes that follow

NOTES

1. **Woolmark TM31: Dimensional stability**
   –5 < DC indicates that the shrinkage should not be greater than 5%.
   If a sample of the product is used in the test, the dimensions of suitable markings on the specimen may be used to assess dimensional change in length and width.

2. **Woolmark TM174: Colourfastness to wet alkali**
   This test applies to coloured filling material only.

3. **Woolmark TM250: Colourfastness to hand washing**
   This test applies to coloured filling material only.

4. **After wash appearance**
   Acceptable indicates a minimal level of fibre clumping, felting and consolidation after washing. In assessing the acceptability of a product for hand wash claim, the appearance of the filling before and after the specified cleaning or washing cycles will be considered.

ADDITIONAL MANDATORY REQUIREMENTS FOR MACHINE WASHABLE PRODUCTS.
CARE CLAIM: machine wash – flat dry or machine wash – line dry

Property	Test method	Pass level
Relaxation dimensional change %: (maximum) 1 x 7A cycle	31	Width –4 < DC Length –4 < DC
Felting dimensional change (%: maximum) 1 x 5A cycle	31	Width –5 < DC Length –5 < DC
Total dimensional change (%: maximum)	31	Width –6 < DC Length –6 < DC
Colour fastness to wet alkaline contact Change of colour (grade: minimum) Stain wool (grade: minimum) Stain other fibre (main non-wool fibre in blend)	174	3–4 4 3–4
Colour fastness to machine washing Change of colour (grade: minimum) Stain wool (grade: minimum) Stain other fibre (main non-wool fibre in blend)	193	3–4 4 3–4
After wash appearance of filling (1 × 7A + 1 × 5A cycle) Products other than knop filled	–	Acceptable

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

NOTES

1. **Woolmark TM31: Dimensional stability**
   –5 < DC indicates that the shrinkage should not be greater than 5%.
   If a sample of the product is used in the test, the dimensions of suitable markings on the specimen may be used to assess dimensional change in length and width.

2. **Woolmark TM174: Colourfastness to wet alkali**
   This test applies to coloured filling material only.

3. **Woolmark TM193: Colourfastness to machine washing**
   Undyed and bleached white product must not be evaluated.
   'Stain other fibre' is defined as the most severely stained fibre in the adjacent fabric.
   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 pass according to part A but fail part B, 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.

4. **After wash appearance**
   'Acceptable' indicates a minimal level of fibre clumping, felting and consolidation after washing. In assessing the acceptability of a product for machine wash claim, the appearance of the filling before and after the specified cleaning or washing cycles will be considered.

ADDITIONAL NOTES

1. **TUMBLE DRY AS PART OF THE MACHINE WASHABLE CARE CLAIM**

   Any product to be labelled 'Tumble dry' must be sent to the Woolmark Management Group, who will submit the product to the designated Woolmark laboratory for testing and assessment of compliance to the appropriate specification. The product must be tumble dried after each wash cycle (7A or 5A) required under the claim machine washable.

   In assessing the acceptability of a product, the appearance before and after the washing and drying cycle will be considered.

2. **APPEARANCE RETENTION AFTER USE**

   Felting can occur during use (in addition to that during cleansing). It is essential that all products exhibit an acceptable degree of appearance retention during use, irrespective of care claim.

   To achieve satisfactory appearance after use, it may be necessary to use shrink-resist treated wools.

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