SPECIFICATION OF PASHMINA (CASHMERE) FIBRE

Sub-Committee draft

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Introduction

Pashmina, popularly known as “Cashmere” is well known for its fineness, warmth, softness, desirable aesthetic value, elegance and timelessness in fashion. Pashmina is the down fibre derived from the hair of domesticated goat *Capra hircus* indigenous to Asia. The major fibre producing countries are Afghanistan, China, India, Iran, Mongolia, Nepal and Pakistan.

In Nepal, Pashmina is obtained from the mountain goat (*Capra hircus*) locally called “Chyangra” which lives at the altitude above 3,000 meters in the Himalayas. The history of Pashmina is traced back to prehistoric times in Nepal. Pashmina (Cashmere) products are one of the major exportable items from Nepal. The products include woven, knitted and non-woven products. Pashmina fibre is spun into the yarn which is used to manufacture different woven and knitted fabrics.

To address the quality issue of the Pashmina, the Government of Nepal (Former His Majesty Government of Nepal) has published a Gazette (Khanda 50, No. 28) on 2057-07-14 B. S. (2000-10-30 AD) which states only the average fibre diameter of Pashmina, which should be up to 17.5 micron as a single characteristic. This regulation also could not address the quality issue properly because the Pashmina fibre diameter and other parameters such as uniformity in fibre diameter have tremendous effect on the quality and price of Pashmina yarn and final products. Therefore, this standard defines the Pashmina fibre mainly on the basis of fibre source and its diameter to identify it i.e. how to differentiate it from other animal fibres and measuring the diameter of the fibre by applying internationally accepted test methods.

With the implementation of this standard, it is anticipated that the major issues on quality aspect of Pashmina products will be resolved.
SPECIFICATION OF PASHMINA (CASHMERE ) FIBRE:

1. **Scope:** This standard specifies the requirement of Pashmina (Cashmere) fibre in the form of raw fibre, scoured fibre, sliver, top, yarn and fabrics (woven, knitted and needle or punch felted).

2. **Normative References**


ISO 1833:2006, Part 4: Mixture of certain protein and certain others fibres (method using hypochlorite)


NS 273: 2049: Determination of wool fibre diameter- Projection microscope method. Or


ASTM D6500-00(2006): Test method for diameter of wool and other animal fibres using an Optical Fibre Diameter Analyzer.


IWTO-47-08: Measurement of the mean and distribution of fibre diameter of wool using an Optical Fibre Diameter Analyser (OFDA).

3. **Definition/Terminology:**

3.1 **Pashmina/Cashmere Fibre:** Pashmina / Cashmere is fine animal-hair fibre obtained from the undercoat of a domesticated Chyangra/Cashmere goat (Capra hircus).

*Note 1: Pashmina and Cashmere are the same term used interchangeably according to the region.*

*Note 2: Chyangra is the Nepali name given to Cashmere goat (Capra hircus).*

3.2 **Raw Pashmina/Cashmere fibre:** Un-cleaned Pashmina/Cashmere fibre having guard hair as it is taken from undercoat of Chyangra (Cashmere) goat.
3.3 Scoured Pashmina/ Cashmere fibre: Pashmina/Cashmere fibre washed, cleaned by mechanical and/or chemical method which removes impurities and foreign matters.

3.4 Sliver/ Top: An indefinitely long assembly of staple fibers, substantially parallel and without twist, and capable of being drafted.

3.5 Pashmina (Cashmere) Yarn: A yarn made of Pashmina (Cashmere) fibre, spun on the woolen as well as worsted system.

3.6 Woven Fabric: A fabric produced by interlacing (by weaving on a loom or a weaving machine) a set of warp threads and a set of weft threads normally at right angles to each other.

3.7 Knitted Fabric: Fabric constructed by interlocking a series of loops of one or more yarns by hand or by machine.

3.8 Needle/Punch Felt: Piercing tufts of raw wool hundreds of times using a very sharp needle with tiny barbs to sculpt various shapes and figures.

4. Requirement of Pashmina/Cashmere fibre:

4.1 Diameter:

The fibre shall be generally non-medullated and shall have mean diameter not exceeding 17.5 micron. The coefficient of variation around the mean shall not exceed 24%. There shall be no more than 3% (by weight) of cashmere fibres over 30 microns.

4.2 Surface morphology of fibre:

The Pashmina (Cashmere) fibre surface morphology shall be similar to the micrograph given in the following standards:


or


5. Testing Procedures:

5.1 Determination of fibre diameter:

The following methods shall be used to measure the diameter of Pashmina (Cashmere) fibre as relevant and applicable.
A. NS 273: 2049: Method for determination of fibre diameter. or

B. ISO 137: 2015: Wool – Determination of fibre diameter- Projection microscope method. or

C. ASTM D6500-00(2006): Test method for diameter of wool and other animal fibres using an Optical Fibre Diameter Analyzer. or

D. ASTM D2130-90(2008): Test method for Diameter of wool and other animal fibres by microprojection. or

E. IWTO-47-08: Measurement of the mean and distribution of fibre diameter of wool using an Optical Fibre Diameter Analyser (OFDA).

Note 1: Methods A, B, C and D are used for fibres in their various forms whereas method E is applicable to wool in the form of raw wool and sliver.

5.2 Morphology analysis

Morphological similarity shall be determined with the following test methods:


or


Note: ISO 17751-1:2016 and ISO 17751-2:2016 are applicable to loose fibres, intermediate products, and final products of cashmere, wool, other specialty animal fibres, and their blends.

6. Bibliography


Textile Terms and Definitions, 1997, The Textile Institute, Manchester, UK.


Cashmere and Camel Hair Manufacturers Institute web page accessed on 7th Sep, 2015.
Annex I

Abbreviations and General information

ASTM International: Originally known as the American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.

CVD: it stands for the coefficient of variation of fibre diameter. It is a measure of the variation in fibre diameter within a fleece sample, relative to the average (or mean) fibre diameter. The higher the CVD, the more variable is the fleece sample (for the same average fibre diameter).

IWTO: International Wool Textile Organization

Micron: 1/1,000 of a millimeter.

Wool: The term “Wool” and words derived or composed there from, qualified or otherwise, and in any language, should refer exclusively to the fibres of the fleece of the sheep, or of animals whose hair is generally assimilated to wool (alpaca, lama, vicuna, yak, camel, Cashmere goat, mohair goat, Cashgora goat, angora rabbit).

It is desirable to forbid the fleece of sheep being described as alpaca, llama, vicuna, yak, camel, cashmere, mohair, cashgora, angora, rabbit. There is no objection, for example, to camel hair or cashmere being described as wool; on the other hand the goods are mis-described if wool is given the name alpaca or cashmere for these names confer added qualities to the product in the eyes of the consumer (emphasis added for this review). (IWTO, Anonymous, 1997)