NEW CONSTRUCTION I STUDY OF MOISTURE TRANSMISSION IK PROPERTIES OF DOUBLE-LAYER POROUS KNITTED FABRIC

Oralov Lazizbek Sayibanazar ugli

Namangan Institute of engineering and technology, assistant

Phone: +998945024949

Email: lazizbekoralov1@gmail.com

Khalikov Qurbonali Madaminovich

Namangan textiles industry institute , professor

ABSTRACT

In this paper, 5 samples were woven on a Mayer&Cie knitting machine to determine the moisture permeability of a double-layer porous knitted fabric with a new structure and their moisture permeable properties were studied through observation and comparison methods. The best samples were recomended for producing of underwear.

Key words: *two layered, porous, patterned, knitted fabrics, fabric, top surface, bottom surface, humidity, radius, polyester, properties, cotton thread.*

Determining the wetness of two-layer porous knitted fabrics woven on a Mayer&Cie knitting machine is important for underwear.

Determination of moisture permeability, moisture control properties of the fabric affect the human sense of moisture. Different standards that determine the wet elasticity of fabrics methods can use this device. For example, non-woven fabrics wet transfer time, elasticity is tested according to the ISO 9073-8 standard. However, there is standards clothes wet transfer feature to measure able not. Moisture tester device (MMT) textile of fabrics wet flexibility three in size determines [1-2].

In order to expand the range of knitted fabrics, as well as to expand the technological capabilities of the WELL KNITE model (Taiwan) 26-class double circular needle knitting machine, 5 variants of the two-layer porous knitted fabric structure and its weaving method were developed. Developed variants of two-layer porous knitted fabric are made using a base fabric when connecting independent layers, and they differ from each other in terms of pattern type, rapport, shape retention and a number of other indicators. does. The technological parameters of the knitted fabric with two-layer porous pattern were determined by the experimental method in the laboratory of the Namangan Institute of Engineering and Technology, the measurement results are presented in Table 1. As a result of the conducted

practical research, the texture structure, physical properties and appearance of the knitted fabric were determined. The experiment was conducted in a room with an air temperature of 22ºC and a relative humidity of 65%. The method of observation and comparison was used to obtain the results of the experiment.

Indicators of moisture permeability of knitted fabrics with porous pattern

Table 1

INDICATORS		OPTIONS				
		Sample 1	Example 2	3 - sample	Example 4	Sample 5
Threads types, linear density	back towards	Hype thread 11/2 tex	Polyester thread 17 tex	Cotton thread 20 tex	Polyester thread 8 tex	Polyester thread 8 tex
	front side	Cotton thread 20 tex	Cotton thread 20 tex	Cotton thread 20 tex	Cotton thread 20 tex	Cotton thread 20 tex
	lean	Polyester thread 17 tex	Polyester thread 17 tex	Polyester thread 17 tex	Polyester thread 33 tex	Polyester thread 33 tex
Moisturize time (sec)	high surface	5.523	19,094	120.0	120.0	120.0
	bottom surface	120.0	23.306	10,858	12.445	4.259
Absorption rate (%/sec)	high surface	4.5228	416.4267	0.0	0.0	0.0
	bottom surface	0.0	24.9185	65.6735	63.435	46.4332
Maximum hydration radius (mm)	high surface	5.0	20.0	0.0	0.0	0.0
	bottom surface	0.0	20.0	15.0	15.0	5.0
Spread speed (mm/sec)	high surface	0.8479	0.8236	0.0	0.0	0.0
	bottom	0.0	1.3923	1.3226	1.3226	1.1206

	surface					
One bilaterally spread ability (%)		-1466.5137	64.1395	765.3347	545.1123	875.4805

In the samples of option III and IV, the index of wet elasticity was higher compared to our other samples. We recommend these samples for the production of underwear [3-4] .

In the sample of variant III, the time of wetness of the upper layer is very short, the percentage of wetness is low, the radius of wetting of the upper layer is small, and the speed of moisture propagation is low. Bottom of the layer wet pants time a lot, wet pants percent pas of the layer wet pants time moderate, moist pants percentage top, layer hydration radius average, wet spreading speed is low (Fig. 1).
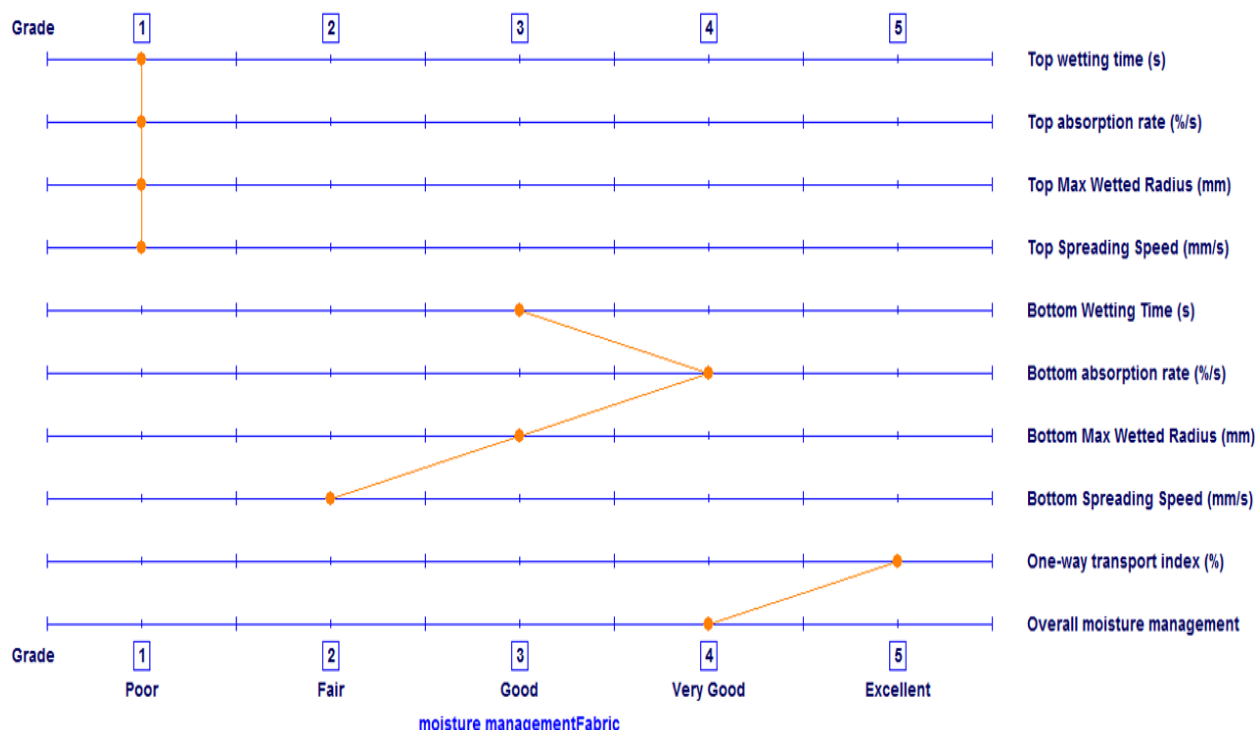

Figure 1. The sample of variant III wet permeability pointers.

In the example of option IV top of the layer wet pants time moderate, moist pants percentage is low, high of the layer hydration radius small, wet spreading the speed is low [5]. Bottom of the layer wet pants time a lot, wet pants percent pas, of the layer hydration radius big wet spreading speed top (Fig. 2).
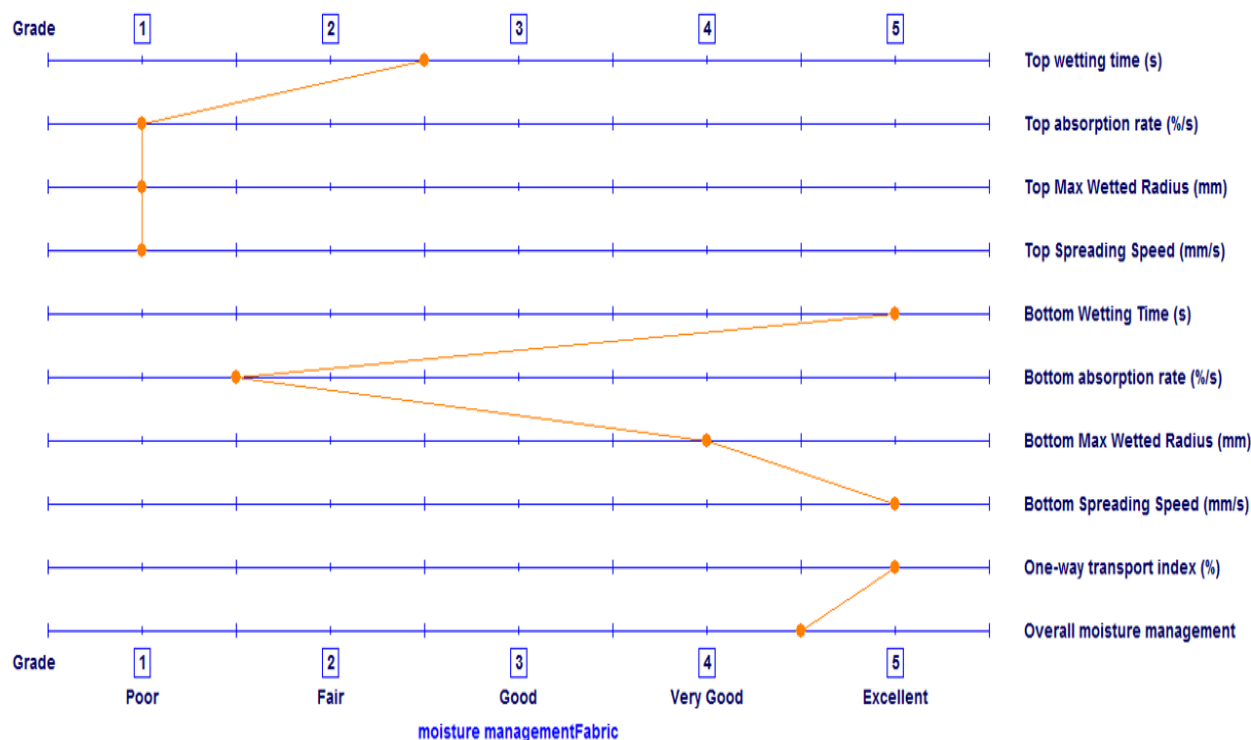
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Figure 2. The sample of variant III wet permeability pointers .

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