



Мастерская Lana

Пошив купальников для художественной гимнастики

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## Stretch mesh fabric overview

With the help of different samples of mesh fabric, we shall see what quality of fabrics the modern market offers.

There is a number of characteristics you should pay attention to already during purchase, there are some characteristics which can only be defined during the use of a garment. Leotards for the rhythmic gymnastics are expensive attire, which is regularly resold after a girl has outgrown it or changes her routine. That is why it is important to choose only high quality fabrics to make sure a leotard remains in a great condition for several seasons without losing its quality and appearance.

Fabric Characteristics, we should consider during purchase

Standing in front of an isle with different fabrics, first we should check the **colour** of a mesh. You should choose a colour, which is the closest to the human slightly tanned skin tone. It is common for gymnasts to use artificial tanning. Dark colours of mesh are best to avoid. Of course there can be different occasions when you need to use a darker or lighter colour of mesh. For example, a supplier "Chersa-sport" has a mesh in various colour range of skin tone: 232 – a colour of a light tan, 234 – slightly darker tone than 232, more brown tint, 1345 – slightly lighter than 232, with a pink tint, 2002 – a very light tone, almost without a tan, neutral.

After deciding on a colour, we should check the **consistency** of the mesh. A mesh should have an even weave texture, not losing its shape, easily regain its initial look after being stretched. It is not recommended buying a fabric with loose uneven texture, which starts pilling after a short period. A garment made out of that type of mesh will have a cheap look and will not last a long time.

Another important property of mesh is its **stretchability**, which we can check before purchasing.

Ideally we need a table and a ruler: we take mesh samples with the dimensions of 10 cm lengthwise and 10 cm crosswise. We need to maximally stretch the fabric lengthwise, measure its dimension being stretched at its maximum and write it down (for example 22cm). We do the same maximally stretching the fabric crosswise, measuring and writing dimensions down (for example 16 cm). In many textbooks a coefficient is calculated by dividing the initial measurement by the measurement of fully stretched mesh, i.e. lengthwise  $10/22=0.45$ , and crosswise  $10/16=0.67$ . In my opinion, this calculation is not convenient. It is easier for me to calculate the other way round, to divide the stretched measurement by the initial measurement; lengthwise  $22/10=2.2$ , and crosswise  $16/10=1.6$ . First this calculation is done easily without a calculator, and second it is more straightforward. Our coefficients show that the fabric stretches a fraction more than two times lengthwise, and a fraction more than 1.5 times crosswise.

During a purchase, it is most unlikely you would be able to make such precise measurements. But even by simply measuring by eye, we can check fabric stretchability lengthwise and crosswise. We take fabric in hands leaving 10cm of fabric between the hands and stretch it lengthwise and then crosswise. We can then see if it stretches lengthwise more than twice or less. Then take the same measurements crosswise.



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We can tell from our experience that a mesh with a coefficient of stretchability over 2 is worth buying, as leotards can fit fast growing children for 1.5 – 2 years, sometimes even 3. If a coefficient is less than 1.8, the use of a leotard shortens to 6 months – sometimes a year. Stretchability of mesh crosswise is not that important, coefficient of 1.4 is sufficient. Most beginners think a leotard should be cut out with maximum stretchability lengthwise – for the ease of putting a tightly fitted garment. This is not correct, to put on a leotard even without a zip is not a problem – it doesn't take long. A leotard has to be comfortable during the routine. A leotard is stretched at its most during a bridge exercise, if a leotard is not stretching well, it will constrain gymnast's movements.

	Stretchability lengthwise		Stretchability crosswise		Standard coefficient of stretchability		Convenient coefficient of stretchability	
	Initial size, cm	Stretched cm	Initial size, cm	Stretched cm	Length wise	Cross wise	Length wise	Cross wise
Chersa-sport <a href="http://www.biflex-ch.ru">www.biflex-ch.ru</a> product code 0719 (soft)	10	23	10	15	0.43	0.67	2.3	1.5
Chersa-sport <a href="http://www.biflex-ch.ru">www.biflex-ch.ru</a> product code 6287 (large holes)	10	25	10	16	0.4	0.63	2.5	1.6
Esta Tm <a href="http://www.estadance.ru">www.estadance.ru</a> TM150	10	25	10	18	0.4	0.55	2.5	1.8
Rocsi <a href="http://www.rocsi.ru">www.rocsi.ru</a> Nudo 4	10	18	10	17	0.55	0.59	1.8	1.7
Zodiak (Cristane Clover) <a href="http://www.zodiak-dance.com">www.zodiak-dance.com</a> Nude	10	24	10	14	0.42	0.71	2.4	1.4
Mesh from Margaret Demodiva's leotard	10	19	10	17	0.53	0.55	1.9	1.7
Mesh of an unknown manufacturer	10	15	10	18	0.667	0.55	1.5	1.8



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## **Fabric Characteristics, which we can define while making and using a garment.**

### **Fabric shrinkage**

We work with synthetic fabrics, which shouldn't shrink during a damp heat treatment. But there are exceptions. There are two main reasons: first – we use heat for setting an acrylic paint, second – we use hot fix rhinestones for decoration – a garment is under constant high heat and damp treatment. To our regret we have come across a fabric with 10% shrinkage. We had to first decorate the mesh under high temperatures, then heat treat it again, before cutting out and sewing garment pieces together. Of course, it is an exception out of all range of fabrics, used in leotard construction. A new sample of mesh gave 5% shrinkage, after the first use it regained its original size, thus that kind of fabrics does not have to undergo heat treatment.

### **Fabric deformation**

Some fabrics have a tendency to stretch lengthwise or crosswise without recovering to the original size. We came across that kind of mesh, which would stretch lengthwise 10-15% during its use. As a result, the width of the leotard had to be taken in and the sleeves had to be shortened numerous times.

Fabric deformation lengthwise in most cases works in our favour, as a leotard grows with its owner. From my experience, I had few gymnasts who wore leotards for more than 3 seasons, changing in height from 140 cm to 160 cm. Without a doubt it depends on how a child grows. But we had few occasions when a leotard made 3 years ago was practically the same size as when it was just made.

### **Lycra thread damage**

One of the biggest drawbacks of mesh is lycra thread tear and its protruding out of fabric. It mostly happens in parts with the highest tension caused by stretching (armholes) or rubbing (side seams). It is usually not very visible while worn, but when a garment is hung on a clothes rack, overly stretched and deformed armholes with white fuzziness on the side seams don't look appealing. While protruding threads can be cut off, there is nothing that can be done to fix overly stretched parts.

### **Impregnated mesh**

There are mesh fabrics, sold impregnated with antiperspirant, antidust, etc. sprays. Unfortunately it is rare we get fabric certification, so I cannot give a proper statistics. What are the possible drawbacks of those, to say, good properties? Unfortunately, impregnation can lower adhesiveness of fabric, which doesn't allow to paint fabric, decorate it with glitter, cold or hot fix rhinestones. When we had to deal with impregnated mesh we ended up using its wrong side as a right side, because rhinestones would fall off the impregnated surface under the smallest impact, no matter which technique and what adhesive we would use to glue them on.