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ANALYSIS OF THE PROCESS SIZING OF WARP YARN

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ABSTRACT

The surface of some fibers, especially spun yarns, is fluffy because the ends of the fibers protrude from the core. During weaving, the yarns are subjected to various mechanical effects. As a result of the formation of the humus, the tension of the threads increases, they are rubbed, stretched and bent under the influence of the scales, lamellae, flowers and the movement of the blade. As a result of these effects, the fibers that make up the yarn shrink, some of the fibers fall off, resulting in a decrease in the abrasion resistance of the yarn in the body, which increases the likelihood of its breakage.

The following technological requirements are set for the aggravation process:

- As the protruding ends of the fibers are glued together, the adhesion between them must be strengthened;
- the elongation of the threads during twisting should not exceed the established norm and there should be no plastic deformation in the threads;
- The speed of movement of the yarn should be set taking into account the drying capacity of the machine, the number of yarns in the body and the linear density;
- process waste should be kept to a minimum;
- during storage, the physical and mechanical properties should not deteriorate;
- The yarn itself should adhere well to the fibers, but should be easily and easily separated from the fabric when applying makeup.

Values of 16/1 text not sizing warp yarn used for the production of terry towels at Aisha Home Textile LLC on the RM-3 equipment in the training laboratory of NamETI.

A recipe for sizing yarn in 16/1 text.

- -500 liters of water
- -13 kg of starch
- -400 g of cottonseed oil
- -65 g of calcium soda

1. The average value (%) of the elongation at break not sizing of 16/1 text warp yarn.

$$O_{uu} = \frac{\sum_{\%}}{60} = \frac{253,5}{60} = 4,225 \approx 4$$

2. Average value (H) of tensile strength of not sizing in 16/1 text warp yarn.

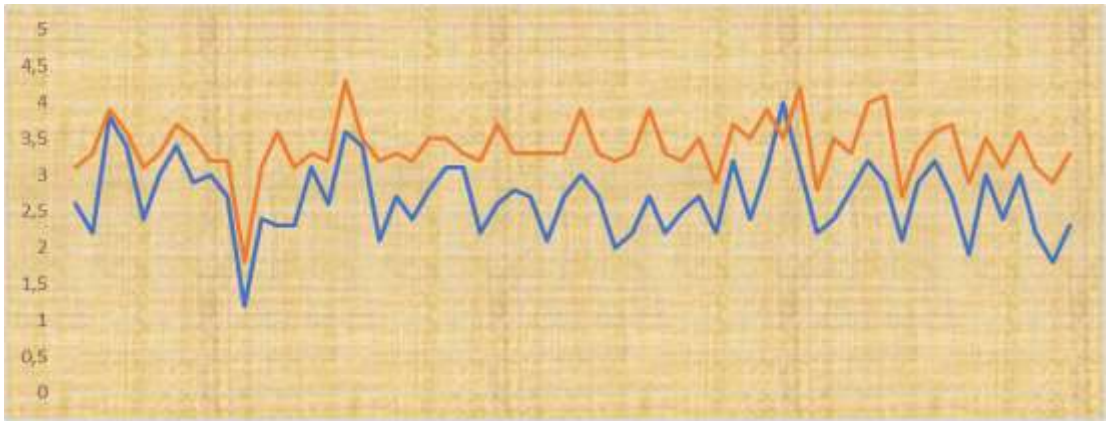
$$O_{uu} = \frac{\sum N}{60} = \frac{204,9}{60} = 3,415$$

3. The average value (%) of the elongated elongation of the sizing warp yarn in the text 16/1.

$$O_{uu} = \frac{\sum_{\%}}{60} = \frac{178,1}{60} = 2,968 \approx 3$$

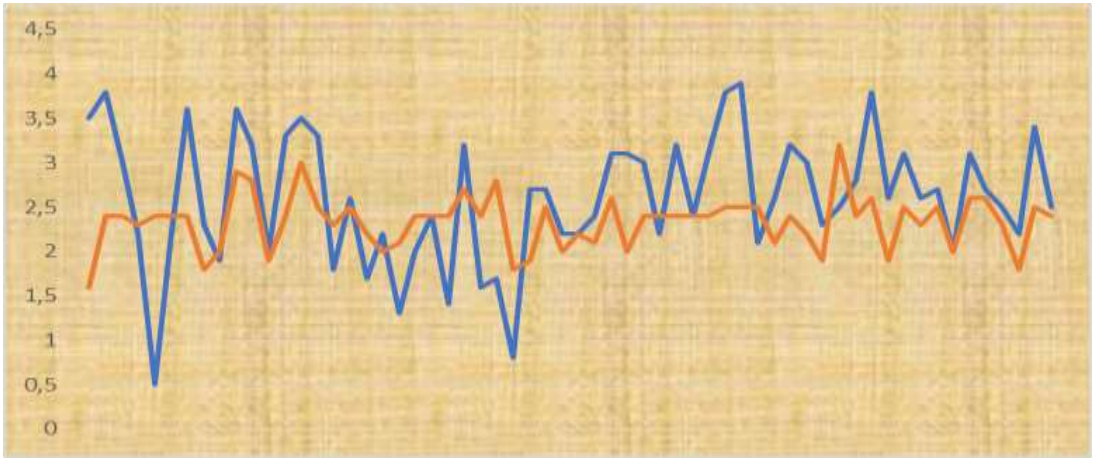
4. The average value of the tensile strength (H) of the sizing warp yarn in the text 16/1.

$$O_{uu} = \frac{\sum_N}{60} = \frac{246,2}{60} = 4,1.$$



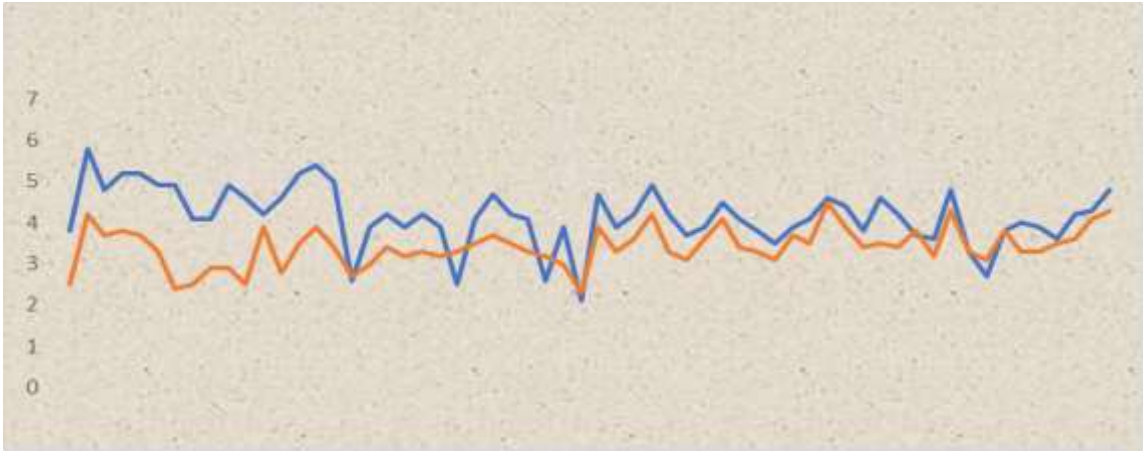
elongation at break of sizing yarn % tensile strength of the sizing yarn

Fig. 1. 34/1 tex sizing warp yarn breakdown elongation% index and breaking strength diagram.



elongation at break of sizing yarn % tensile strength of the sizing yarn

Fig. 34/1 tex not sizing warp yarn breakdown elongation% index and breaking strength diagram.



elongation at break of sizing yarn % tensile strength of the sizing yarn

Fig. 3. 16/1 tex not sizing warp yarn breakdown elongation% index and breaking strength diagram

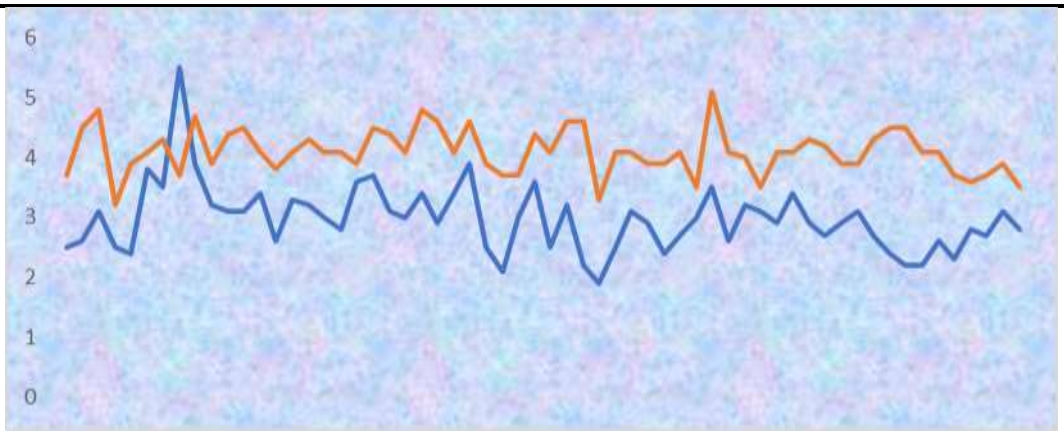


Fig. 4. 16/1 tex sizing warp yarn breakdown elongation% index and breaking strength diagram

Values of unraveling and post-unraveling of 34/1 text not sizing warp yarn used for the production of terry towels at the enterprise "Namangan Textile" LLC, determined on the equipment RM-3 in the training laboratory of NamETI.

34/1 text yarn recipe for warp yarn sizing.

- -1000 liters of water
- -50kg of corn starch
- -300g of cottonseed oil
- -300gr of soap
- -150g of caustic soda

1. The average value (%) of the elongation at break not sizing of 34/1 text warp yarn.

$$O_{uu} = \frac{\sum_{\%}}{60} = \frac{156,2}{60} = 2,6$$

2. Average value (H) of tensile strength of not sizing in 34/1 text warp yarn.

$$O_{uu} = \frac{\sum N}{60} = \frac{139,3}{60} = 2,321$$

3. The average value (%) of the elongation at break sizing of 34/1 text warp yarn.

$$O_{uu} = \frac{\sum_{\%}}{60} = \frac{160,6}{60} = 2,676 \approx 3$$

4. Average value (H) of tensile strength of sizing in 34/1 text warp yarn.

$$O_{uu} = \frac{\sum_{N}}{60} = \frac{199,729}{60} = 3,328$$

CONCLUSION

The purpose of sizing the threads in the body is to increase their resistance to many mechanical impacts. To do this, the yarn is soaked in a specially prepared adhesive and the surface of the yarn is covered with a thin film.

In conclusion, it is known that in the preparation of warping yarn for sizing, the processes of re-wrapping, selection, spinning and emulsification, transfer or binding are carried out. The process of digestion is also important. At Aisha Home Textile, a recipe for sizing was made. And this information was compared with

the process of making chords in another enterprise - Namangan textile. The most alternative variant of the preparation process was identified.

16/1 textile not sizing warp yarn used for the production of terry towels at Aisha Home Textile LLC and the unbreakable strength and elongation at break of 34/1 textile not sizing warp yarn used for the production of terry towels at Namangan Textile LLC. the subsequent breaking strength and elongation at break were studied.

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