

ALIEN PROPERTY CUSTODIAN

PROCESS FOR SIZING OF FIBROUS MATERIALS

Rudolf Anton Hirsch, Vienna, VII, Germany;
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This invention relates to the sizing of fibrous materials such as threads.

As raw threads lack the necessary strength to resist the mechanical strains to which they are subjected in weaving looms, they are sized before weaving. This sizing consists in impregnating the threads with an adhesive liquid which is not removed until after weaving.

The present invention relates to an improved process for the preparation of a sizing liquid of this kind. On going into a sizing shop, one notices a white deposit beneath the sizing machine which is a result of fraying or of the shedding of certain additional weighting substances.

This fraying occurs when the fibres adhering to the thread do not lie close to the threads but become friable as a result of excessive drying and fall away at the first contact with a mechanical resistance. The goods thus suffer not only a loss in weight but an increase in the roughness of the outside of the thread. The shedding of weighting substances occurs when the sizing fluid is not homogeneous, does not adhere to the thread in the dry state and consequently does not serve its purpose.

The hitherto known sizing products have also other disadvantages. The usual fecula sizes are not made sufficiently homogeneous by employing the hitherto known products. They do not keep and they often give off an odour which is objectionable to the workman.

All these disadvantages are overcome by the sizing process according to the present invention, which may be applied to all industrial processes which require a size for glueing down fibres, which otherwise have a tendency to fray or fall off, and in particular to those processes which include smoothing and calendering, or the like while applying heat; that is, operations such as ironing, polishing and varnishing, which are employed in bleaching and in the manufacture of certain so-called bedded papers or cardboard.

The process according to the present invention consists in its essentials in using for the production of fecula, or the like, a homogeneous mixture of a caustic base in an aqueous solution and polyvalent alcohols such as glycerine. If this mixture is employed, the fecula, or the like which is used for making the size, may be weaker than that used hitherto. At the same time, the process results in the production of a size which is more powerful and which leaves the threads more flexible. Fraying and the shedding or the loss of weighting substances are almost entirely prevented.

Thus with more economical means a better product is produced. Still better results are obtained by adding a softening agent or a fatty solvent. The following are examples of the process.

Example 1

In preparing a sizing product for treating threads and fabrics, the following mixture may be used:

	Grams
Caustic soda of 40° Bé.....	60
Glycerine	40
or alternatively	

	Grams
Caustic soda of 40° Bé.....	60
Glycerine	39.5
Methyl-glycol (or of Igepont T).....	0.5

The proportions may vary within a fairly wide range according to the rapidity of drying which is required or according to the fibre to be treated. With 60 grams of caustic soda, the quantity of glycerine used may vary between approximately 8 grams. On the other hand, the caustic soda may be replaced by any other caustic alkali such as potash or the caustic alkali carbonates.

The sizing product is thus prepared by mixing approximately 35 kgs of fecula with 600 litres water and 350 grams of a liquid as mentioned above. A certain amount of water may be added. In practice, this process results in a saving in fecula of approximately 20% over the process hitherto used.

This process and product may be applied not only to the sizing of threads, but in all operations in which it is necessary to increase the resistance and elasticity of fibres or threads while at the same time smoothing them in particular for dressing, twisting, polishing or sewing threads, the varnishing of fabrics, and drying.

Example 2

In the case of laundering process, instead of the fecula, the starch usually employed in this industry may be used. It is added to the mixture of caustic alkali and a higher polyvalent alcohol such as glycerine.

The inventor has found a proportion of 1% of this mixture gives satisfactory results. The following proportions are advised:

Starch	grams.. 400
The mixture of caustic soda and glycerine	do.... 4
Water	litres.. 100

It has been found that the use of a starch prepared in this way improves the polish and reduces the temperature to which it is necessary to heat the iron.

When sizing papers, it is preferable to employ the fecula described previously, the proportions of which remain the same.

By "fecula" the inventor means not only feculae from tubercles but also the meals themselves from which feculae are extracted.

RUDOLF ANTON HIRSCH,