

ALIEN PROPERTY CUSTODIAN

PROCESS FOR THE CONVERSION OF NATURAL FIBRES

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This invention relates to a wet treatment of natural fibres such as hemp, jute, flax, cocos fibres or the like in order to convert these materials into a form which is suitable for working up or for another subsequent treatment. The wet treatment of the fibrous materials is usually carried out in such manner that the bleaching good is treated in several baths, if necessary, with simultaneous mechanical permeation. According to type and quality of the fibres to be treated and the desired aims, as for instance, removal of incrustations, disintegration or division of fibre bundles, elimination of impurities and the like, baths of various composition, for instance, alkaline and/or acid baths may be used. After the end of the wet treatment the fibrous material is liberated from the excess liquid by centrifuging or squeezing, then, if desired, washed and dried whereupon the fibrous material is subjected to further treatments such as, for instance, reducing to fibres, bleaching and the like.

It is already known that vegetable fibres which have been subjected to a wet treatment of the aforementioned kind tend to strongly adhere together. In consequence thereof the drying operation will be rendered difficult as the removal of moisture from the inside of the fibre bundles is troublesome whilst on the other hand the pieces stuck together must again be torn asunder thereby involving particular working operations. A further disadvantage lies in the fact that the natural fibres treated according to one of the known processes have often a plain, for instance, a brownish shade of color.

These disadvantages may be avoided according to my invention by treating the fibres with a liquid containing one of the usual softening agents, such as for instance, known under the trade-marks Aviro, Gardinol, Brillantavirol, Brillantavivag which contains besides hydrogen peroxide or hydrogen peroxide evolving substances, higher molecular sulfonic acid derivatives and which show an alkaline, preferably a weak alkaline reaction. This operation step is inserted before the removal of excess liquid, which may be carried out, for instance, by centrifuging or the like. Thereby I may proceed, for instance, in such manner that in the course of a multi step treatment the fibres material is brought during the last operation step into a leviathan containing a liquid with a softening agent in the usually employed quantity and hydrogen peroxide where- by the liquid shows an alkaline, preferably weak

alkaline reaction. In order to render the bath alkaline, I prefer to use substances which likewise give a stabilizing effect. Such substances are all alkaline reacting phosphates, particularly sodium pyrophosphate. These phosphates may as a whole or partly also be replaced by ammonia. It has proved advantageous to abstain from a too strong alkalinity of the bath. The pH value may be about 7-9, or even more.

The contents of softening agents in the bath may be the usual one. The amount of hydrogen peroxide may be low, if desired, even very low if the consumed substances such as alkali and hydrogen peroxide are added continuously. The treatment liquid may circulate through the leviathan, for instance, in such manner that the consumed alkali and hydrogen peroxide are substituted outside the bath thereby returning always in a new and active state into the bath. The thus treated fibrous material may be freed from excessive water and dried as usual, for instance, by centrifuging.

Now I have made the surprising observation that the fibrous material treated according to my invention is lighter in color and shows almost no more tendency to adhere together. Both these successes could not be foreshadowed by any of the previously known processes. It is also surprising that strongly incrustated fibres may be made brighter in color through a treatment with liquids containing only small amounts of hydrogen peroxide. If desired, the color may be lightened to the same degree which hitherto was only attainable by special bleaching methods.

Example

Fibrous material subjected to a usual wet treatment are introduced into a avivage bath containing 2-3 grs/litre of a softening agent, such as for instance, Aviro or Gardinol, about 1-3 grs sodium pyrophosphate and/or ammonia and about 1-10, preferably 2-5 cc hydrogen peroxide (40 Vol%). According to kind and quality of the natural fibres as well as to the size of the operation vessel these fibres are kept for some time, for instance, 2-30 minutes in the bath, either still or agitated. The fibres are then squeezed, centrifuged and dried. The fibrous material thus obtained is disintegrated, has a very good aspect and very light color. It may be worked up as usual.

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