This invention relates to a method of treating textile fibres to be embedded in natural or synthetic caoutchouc. It is an object of the invention to increase the adhesion between textile fibres, more particularly, artificial cellulose fibres and the caoutchouc mass in which they are embedded.

When the textile insertions in caoutchouc masses, such as the so-called "cords" in pneumatic and, more particularly, in motor car tires, were replaced by artificial cellulose fibres, it was found that the adhesion between the caoutchouc masses and the cellulose structures embedded therein to increase their strength was less than with the insertions of cotton used before. Many proposals have been made to improve the adhesion between artificial cellulose fibres or threads and caoutchouc and, amongst other means, the preliminary treatment of the artificial cellulose structures with latex containing casein was found to be a suitable expedient.

We have found that the adhesion between natural or synthetic caoutchouc, more particularly, synthetic caoutchouc based on mixed polymerisates of butadiene and styrol, such as that known under the registered trade-mark "Buna S" and synthetic caoutchouc threads embedded therein, can be increased very efficiently by treating the cellulose threads with solutions of tri-oxy-benzols CsHs(OH), and drying them thoroughly, before they are embedded into the caoutchouc mass.

Example

So-called "cords" of artificial silk material of the type now used in the production of motor car tires instead of the originally employed cotton cords, are thoroughly impregnated with an aqueous solution of pyrogallol CsHs(OH) of 2 percent strength and the cords are then exposed to a centrifuging operation and gradually and thoroughly dried. Now the cords are embedded in synthetic caoutchouc, made of butadiene and styrol (registered trade-mark "Buna S"). The adhesion between the artificial silk cords and the rubber mass is thus very greatly increased and is about twice as high as that which would be obtained without the pyrogallol treatment.

The method of the present invention has been described in detail with reference to specific embodiments. It is to be understood, however, that the invention is not limited by such specific reference but is broader in scope and capable of other embodiments than those specifically described.

We claim:

1. In a method of embedding artificial cellulose textile materials in a caoutchouc mass, the steps which comprise treating the artificial cellulose textile materials with a solution consisting essentially of free tri-oxy-benzol and drying the textile materials with such free tri-oxy-benzol therein before the embedding operation.

2. In a method of embedding artificial cellulose threads in a caoutchouc mass, the steps which comprise treating the artificial cellulose threads with a solution consisting essentially of free tri-oxy-benzol and drying the artificial cellulose threads with such free tri-oxy-benzol therein before the embedding operation.

3. In a method of embedding cords of artificial cellulose material in the caoutchouc mass of pneumatic tires, the steps which comprise treating the cords with a solution consisting essentially of free tri-oxy-benzol and drying the cords with such free tri-oxy-benzol therein before the embedding operation.

4. In a method of embedding cords of artificial cellulose material in the caoutchouc mass of pneumatic tires, the steps which comprise treating the cords with an aqueous solution consisting essentially of free pyrogallol and drying the cords with such free pyrogallol therein before the embedding operation.

5. A method of embedding artificial cellulose threads in a caoutchouc mass, comprising treating the artificial threads with an approximately 2% aqueous solution solely of a tri-oxy-benzol, drying the threads, whereby the capacity of the threads for adhesion to the caoutchouc is increased, and thereupon embedding the threads in a synthetic caoutchouc.

6. A caoutchouc mass having incorporated therein artificial cellulose threads after treatment of the latter with a free tri-oxy-benzol.

7. A caoutchouc mass having incorporated therein artificial cellulose threads after treatment of the latter with an adhesion increasing agent consisting essentially of free pyrogallol.

8. A caoutchouc mass having incorporated therein artificial cellulose threads of increased adhesion to caoutchouc imparted by a pre-treatment of the threads with a solution consisting essentially of free tri-oxy-benzol followed by drying.

9. A method of treating artificial cellulose threads for increasing their adhesion to caoutchouc material, in which the artificial cellulose threads are treated with a solution consisting essentially of free tri-oxy-benzol and dried with such free tri-oxy-benzol therein before being embedded in said caoutchouc material.

10. In a method of embedding artificial cellulose threads in a caoutchouc mass comprising mixed polymerisates of butadiene and styrol, the steps which comprise treating the artificial cellulose threads with a solution consisting essentially of free tri-oxy-benzol, and drying the artificial cellulose threads with such free tri-oxy-benzol therein before the embedding operation.

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