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LINER COATING COMPOSITION

Alfred A. Srere, Dayton, Ohio, assignor to The Miami Valley Coated Paper Co., Franklin, Ohio

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This invention relates to a coated liner for packaging purposes.

In the packaging of various articles or materials, such as articles or material in fluid, semi-fluid, or plastic condition, particularly where the articles or material have adhesive characteristics, it is very desirable that the material of which the package or container is made be so formed and of such characteristic that the contents will not only not penetrate or adhere to the container but also that the fibers of the container will be prevented from penetrating and adhering to the contents. The presence of fibers or foreign material in certain packaged material, such as synthetic rubber has a tendency to subsequently cause air pockets or accelerate deterioration of the manufactured product.

It is therefore an object of this invention to provide a coating or liner which can be applied to the inside of a fibrous container and which is so formulated that the contents will not penetrate the walls of the container, and the coating will also prevent any fibers of the container from adhering to the contents, and becoming separated from the container, penetrate into the contents and subsequently injuriously affecting the manufactured product.

Another object of this invention is to provide a coating for the inside of a container in which the coating may adhere to the contents and subsequently become amalgamated with the manufactured product without injury to the product.

A further object of this invention is to provide a coating which is of such composition that the ingredients thereof may be varied within predetermined limits so that the coating may be adapted to various products.

A further object of this invention is to provide a coating which will permit the use of paper or fibrous bags or cartons for material having an adhesive characteristic, thereby eliminating the necessity of shipping the material, such as synthetic rubber, asphalt, gums, resins or the like, in metal, wooden or plastic containers, and also reducing the packaging cost of such material. The coating stripping clean will prevent particles or pieces of the container from being separated from the container and thereby not only injuriously affecting the material and product formed therefrom, but also preventing clogging of pipes, strainers, valves or the like when the material is put in a fluid condition.

A coating adapted for coating the interior of a container, such as a paper bag, carton or other fibrous material, is formulated from fine talc, kaolin, protein, caustic soda, plasticizer and water. These ingredients are mixed in the following manner and proportions:

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Fine talc	pounds	1,600
Kaolin	do	400
Protein	do	220
Caustic soda	do	11
Plasticizer	gallons	3
Water	do	380

For plasticizing purposes glycerine, dextrine, syrup or molasses is used or a combination of these products or similar materials will serve.

The mixture of the ingredients is accomplished as follows: The fine talc and kaolin are initially mixed together with about 250 gallons of water for a period of about one hour. The protein and caustic soda are mixed together with about 130 gallons of water at a temperature of about 160° F. for a period of about two and one-half to three hours. The second mixture is then added to the composite mixture during the final mixing period to provide flexibility to the coating or liner.

The plasticizer provides a degree of flexibility to the finished product so that the coating will not crack off from the container during the ordinary handling of converting into a bag or carton. The complete mixture has a watery consistency, so as to render easy the application of the coating to the container.

A coating adapted for use in packaging asphalt is formulated from the following ingredients in the proportions indicated:

Fine talc	pounds	1,000
Bentonite	do	220
Plasticizer	gallons	6
Water	do	275

The talc and bentonite are mixed together for a period of thirty to forty-five minutes, and then plasticizer solution is added and mixing operation continued for a period of one and one-half to two hours at room or atmospheric temperature. The completed mixture has a watery consistency.

Another coating adapted for use in packaging asphalt is formulated from the following ingredients in the proportion indicated:

Kaolin	pounds	1,200
Casein	do	60
Protein	do	40
Plasticizer	gallons	6
Water	do	260

The above ingredients are mixed together in a single mixing operation covering a period of one

and one-half to two hours. The glycerine and/or other plasticizer provide plasticizing elements for giving flexibility to the coating, whereas, the casein and protein provide adhesiveness to the coating. The mixture has a watery consistency.

A batch formula providing a coating for use with gums, waxes and similar products is formulated from the following ingredients in the proportions indicated:

Fine talc	pounds	600
Kaolin	do	600
Protein	do	178
Plasticizer	gallons	6
Water	do	225

The talc and kaolin are mixed with water for one to one and one-half hours. A solution of protein and plasticizer are then added to the mix and the whole mixed together for a period of from one and one-half to two hours. The consistency of the complete mixture is watery.

As an example of protein for use with the examples herein given, edestin or similar vegetable protein may be used with this composition.

The coating hereinbefore described is applied to the container in any suitable manner, such as by brush coating, roll coating, spray coating or the like. The drying of the applied coating may be accomplished by atmosphere, heat, forced drying in a draft of air or passing the coated container over festoons.

The adhesive used in the several examples hereinbefore described are such that they will not penetrate the fibers of the container to such an extent as to cause pulling of the fibers or tearing of the container when the contents are removed therefrom. Where the contents stick to the coating or plastic liner, the latter will be removed either entirely or partially with the contents, coating the exterior of the contents and subsequently mixing without injurious results with the contents when the latter are made fluid and later formed into a solid or partially solid product. In other words, the adhesive capacity of the coating or liner is less than the adhesive characteristic of the contents, so that the coating or liner will peel from the container in such a manner that no fibers or parts of the container will adhere to the coating.

What I claim is:

1. A coated liner for application to the interior of a fibrous package consisting of the following ingredients in the proportions stated: Talc 1600 lbs., kaolin 400 lbs., protein 220 lbs., caustic soda 11 lbs., glycerine 3 gallons, water 380 gallons.

2. A liner coating composition for application to the interior of a fibrous package consisting of 70% talc, 18% kaoline, 10% protein and 2% caustic soda in a mixture of glycerine and water.

ALFRED A. SRERE.