A laminated packing material consisting essentially of two outer, layer-like members and an intermediate array of spaced, parallel, stiffening rib members secured to said outer members. At least one of said outer members may comprise two layers of paper with an intermediate layer of fabric. The rib members may be in the form of relatively short, flat, strips of wood fiber board whose abutting ends are staggered from rib to rib.

6 Claims, 3 Drawing Figures
LAMINATED PACKING MATERIAL WITH SPACED PARALLEL REINFORCING MEMBERS

This application is a continuation of application Ser. No. 783,478, filed Dec. 13, 1968, now abandoned.

The present invention relates to a laminated packing material especially suitable for packing long objects such as, for example, as tubes, rods and the like. It is characterized by being very easy to form, at the same time as it has a sufficient stiffness for protecting a fragile packed object.

Hitherto there have been used for this purpose wood boxes, which, however, are expensive and have a relatively great weight.

The material according to the invention consists of two layers of paper and/or cloth or similar sheeted material and an intermediate layer of ribs made of some stiff material such as wood fiber board. The ribs are parallel and somewhat spaced from each other, and are secured to the surrounding layers by means of a suitable adhesive, for instance with glue. This compound structure can be bent in a direction perpendicular to the ribs but maintains its stiffness in the direction along the ribs.

The invention is illustrated more closely in the following specification taken in connection with the figures of the appended drawing, in which:

FIG. 1 is a perspective view of an example of how the packing material according to the invention can be manufactured;

FIG. 2 is a detailed perspective view of an embodiment of the packing material according to the invention; and

FIG. 3 illustrates an example of how packing material according to the invention can be used.

In FIG. 1 the outer layers are provided from supply rolls 1 and 7. On their adjacent sides they are provided with glue from containers 2 and 4. The ribs are supplied from a magazine 3, and means for holding and distributing the ribs are schematically indicated at 5. As can be seen at 6, the ribs are distributed in such a way that adjacent rows of ribs have their abutting ends at different longitudinal places. This is important in order to obtain stiffness of the packing material in the longitudinal direction. Pressure rolls 8a and 8b serve to press the outer layers and the ribs together. A crosswise movable saw, indicated at 9, serves to cut off suitable lengths of the laminated material.

FIG. 2 shows an example of a package material according to the invention. It has two outer layers A and B with an intermediate layer of wood fibers. Layer A is composed of two layers of strong crepe paper 10, each with a layer of asphalt on the adjacent sides. Between these layers 10, 10 there is a net of nylon 11. The weight of the layer A is 290 g/m². The other layer B consists of a layer of strong crepe paper 12 with a layer of asphalt and a layer of jute fabric on the outside. Layer B weighs 350 g/m². The paper and the fabric are treated with a substance that reduces the corrosion influence from the atmosphere, e.g., lithium nitride or a similar inhibitor. The ribs 14 are formed from a medium hard, water-resistant, wood fiber board having a thickness of 7 mm and a width of 25 mm. The spacing between the ribs is 5 mm.

FIG. 3 shows an example of a package made of the present material. The wrapping has been bent to a hexagonal shape and tied by strips. The end openings can, if desired, be covered with end plates, around which the wrapping is folded.

The invention is not limited to the described materials. For the outer continuous, flexible layers there can be used any material that has the suitable properties, i.e., paper, cloth, plastics and known equivalents. For forming the ribs wood fiber board is very convenient, but also wood or plastics can be used.

An important advantage of the present packaging material is that it can be manufactured in arbitrary lengths, the different longitudinal position of the joints between the ribs 6 in adjacent rows providing the necessary stiffness of any length of the material. The material will thus provide a continuous wrapping for objects having a length up to 25 meters.

I claim:

1. A laminated packing material comprising two layers of a continuous flexible material in face to face relationship having an intermediate layer attached to opposed faces of said flexible layers, wherein said intermediate layer comprises a plurality of elongated ribs in substantially parallel spaced relationship, each of said elongated ribs consisting of a row of consecutive shorter ribs, the joints between said shorter ribs in adjacent rows being situated in different positions in the direction along the ribs, the arrangement rendering the material stiff in arbitrary lengths along the ribs and flexible in the crosswise direction.

2. Laminated packing material as defined in claim 1, in which the ribs are bonded to the two outer layers with an adhesive.

3. Laminated packing material as defined in claim 1, in which the outer layers comprise paper.

4. Laminated packing material as defined in claim 1, in which the outer layers comprise woven fabric.

5. Laminated packing material as defined in claim 1, in which the ribs are made of wood fiber board.

6. Laminated packing material as defined in claim 4, in which the fabric consists of a nylon net.

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