

As a result of the bricks or stones used, external or internal walls built in the normal way are not regular and rough crooked wall surfaces arise which can become damaged through various environmental factors.

5 To compensate for this lack of regularity special plastering is required both inside and outside. Usually a two to three centimetre thick single layer plaster is used or a double layer of plaster is used which likewise has an overall thickness of about two to three centimetres. This
10 method of operation causes high material and labour costs and with larger buildings automatically causes a loss of space which can make a significant difference. Furthermore these types of walls have to be left to dry over a long period. In general a drying time of five to six weeks is
15 anticipated.

The object of the invention is to provide a brick or stone built plastered internal or external wall, which has optimum regularity and is plastered in a particularly advantageous way, and also a protective decorative layer
20 which is to be applied to such walls.

According to the invention the external or internal wall is first built of aerated concrete blocks. At least the joins on the built wall surface are then covered either by mortar and/or a material with aerated concrete granules or by an
25 excess of adhesive which is squeezed out from the joins and then spread over same. A moisture-regulating layer which is capable of expansion and has a low inflammability and a structured surface containing a mixture of fibres is then applied to this wall. The fibre mixture can thereby
30 consist only of natural fibres, only of plastics fibres or of any composition of natural and plastics fibres.

The joins are covered so that they do not produce an undesired pattern on the wall. This cover can be produced by mortar or a material with aerated concrete granules. Often the blocks are placed one on top of the other using
5 an adhesive which is used to excess. As the blocks are pressed together the excess adhesive is squeezed out from the joins. This oozing excess adhesive is then spread out by a trowel or spatula so that the joins are closed flat.

10 It is within the scope of the invention, if required, to coat the entire wall which has been built of aerated concrete blocks with a thin bed mortar which can be about two to three millimetres thick. However it is also possible to provide a filling or to apply a thin plaster of
15 about two to three millimetres. This extremely thin wall covering serves to coat the wall and/or mortar joins. The structured surface comprising a mixture of fibres is then applied to this coating. This coating of a mixture of natural fibres has special material properties such as the ability to expand, to breathe, to control moisture, to
20 retain heat and absorb sound.

In particular this mixture of natural fibres can consist of natural products, such as cotton, grasses and plants which are mixed together. Natural fibres are used here which are very stable and mutually compatible and whose weight is
25 such that after the coating has been applied a uniform surface image is produced.

The natural fibres are anchored together. This leads to a high cross linking. The fibres do not lie independently of each other side by side and on top of each other but have
30 been twisted and anchored together by joining with a fluid, more particularly water. This produces a great extensibility so that even with great temperature differences the coating can expand and contract without

changing the coated surface. Similarly the coating does not come away from the wall. Once applied and dried, the coating becomes a component part of the underlayer since the fibres also anchor in part in the underlayer.

- 5 Advantageously the fibre mixture is made up of cotton fibres of the following composition

12% - 23% spinning cotton
30% - 40% first cut linters
43% - 53% second cut linters.

- 10 A particularly advantageous layer which has low flammability, is able to expand and regulates moisture, is obtained if the fibre mixture contains cotton fibres of the following composition

- 15 17% spinning cotton
35% first cut linters
48% second cut linters.

- 20 The fibres of the spinning cotton can have a length of 20 mm - 50 mm. The first cut linters can have lengths in the range from 2.5 mm - 6 mm and the second cut linters used can have a length in the range from 2 mm - 3.5 mm. It has proved particularly advantageous to use linters with a length of about 3 mm.

- 25 The cotton fibres used have a perfect crystalline structure (Example: linters 2.15 cellulose, 1.48 crystallinity).
Fibres with a high alignment of micellar strands and fibrils are preferred.

When processing the fibres, first an alkaline pressure cooking is carried out followed by a multi-stage bleaching. Sodium chloride and caustic soda solution are used in

particular for bleaching. After drying, the material is calendered. The cotton is then flocked.

5 In addition to the main constituent cotton, coconut fibres, ground rice shells, whole rice shells, Andes grass and vermiculite can also be used as additives. The different length cotton fibres used for this cotton coating are dispersible with water.

10 A further coating has different cotton portions. Cotton fibres of different lengths are mixed together and by way of example Asiatic grasses, plants and tree constituents eg parts of a Japanese cypress, are added. All the said additives can be added to the coating according to the invention individually or in any composition.

15 Such coatings result in good sound insulation properties. The sound absorption is very good. Furthermore a good heat insulation is achieved. The coating according to the invention regulates the moisture since it is in a position to absorb moisture without alterations to the structure. Moisture regulation in the sense of this patent application
20 does not mean running water.

A further advantage can be seen in that dirty or damaged wall parts can be easily improved by a new or secondary coating.

25 All the decor wishes required of natural and synthetic fibres can be fulfilled.

According to a further invention, a low-flammable expanding moisture-regulating coating layer is provided which can be applied to external and internal walls, particularly as plaster, and has a structure surface which contains a
30 mixture of twisted and anchored fibres. It can be used as

a coating layer for replastering, ie renovating work, or as a coating for new buildings whose external or internal walls are made from any building material. According to the invention the fibres used in this coating comprise a
5 cotton mixture according to one of claims 16 - 24. The mixture of fibres used in this coating can also contain in addition to cotton, additives of cork, coconut fibres, ground rice shells, whole rice shells and Andes grass as well as vermiculite. Asiatic grasses and plant and tree
10 constituents can also be mixed with the cotton.

An embodiment of the invention is illustrated in the drawing.

The drawing shows a perspective partial view of an external or internal wall 1. This external or internal wall 1 is
15 made of aerated concrete blocks 2. The use of aerated concrete blocks 2 ensures regularity of the external or internal wall 1. The external or internal wall 1 can be built accurately to the measurements required so that subsequent compensating work is no longer necessary. The
20 wall surface 4 has joins 4. As shown diagrammatically, to produce the wall cladding the joins 4 are covered by mortar 5 or a material based on aerated concrete granules. This cover is provided to prevent the joins 4 from showing through. The structured coating 6 is applied to the wall
25 surface 3 with the joins 4 covered as shown at 5. This structured coating 6 covers the entire wall surface 3 and serves both for decoration and sound and heat absorption. Furthermore an extensive fire protection can be achieved in dependence on the thickness of the coating layer 6 which is
30 to be applied to the wall 1.

As shown in the right-hand section of the drawing, the entire wall surface 3 can however be coated with a layer of thin bed mortar 5. This thin bed mortar 5 is about one to

two millimetres thick. If required a sludge can be applied. Furthermore a thin plaster with a thickness of two to three millimetres can be used. This coating layer 5 serves mainly to cover the wall and mortar joins. The
5 structured coating layer 6 of a mixture of fibres is then applied to the layer 5.



PATENT CLAIMS

1. A coating layer, more particularly plaster, to be applied to an external or internal wall,

characterised in that

5 this layer consists of a mixture of intertwisted and anchored cotton fibres of the hirsutum family with the following composition:

10 12% - 23% spinning cotton
30% - 40% first cut linters
43% - 53% second cut linters.

2. Coating layer according to claim 1

characterised in that

the fibre mixture contains cotton fibres of the following composition:

15 17% spinning cotton
35% first cut linters
48% second cut linters.

3. Coating layer according to claim 1 or 2

characterised in that

20 the spinning cotton has a length of 20 mm - 50 mm.

4. Coating layer according to at least one of claims 1-3

characterised in that



the first cut linters have a length of 2.5 mm - 6 mm and a fibre diameter in the range from 17 μ m - 27 μ m.

5. Coating layer according to at least one of claims 1-4 characterised in that

5 the first cut and second cut linters have a cellulose content of 83% - 86%.

6. Coating layer according to at least one of claims 1-5 characterised in that

the second cut linters have a length of 2 mm - 3mm.

10 7. Coating layer according to at least one of claims 1-6 characterised in that

the second cut linters have a fibre diameter of 17 μ m - 27 μ m.

8. Coating layer according to at least one of claims 1-7

15 characterised by

an addition of cork, coconut fibres, ground rice shell, whole rice shell and Andes grass and vermiculite.



9. Coating layer according to at least one of claims 1-8

characterised in that

the mixture comprises natural fibres cotton of different lengths, Asiatic grasses and plant and tree constituents.

- 5 10. Use of a coating layer according to at least one of
claims 1 - 9 as a plaster for the external or internal wall
of aerated concrete blocks wherein the joins are covered
either by mortar and/or a material with aerated concrete
granules or by the excess adhesive which is squeezed out of
10 the joins and spread over same.