

What is claimed is:

1. A supporting device for microorganisms comprising a web and a base layer, said web comprising:

first fibers formed of a polyolefin type synthetic resin, and

second fibers formed of a polyolefin type resin having a melting temperature lower than that of said first fiber material;

said base layer is formed of a nonwoven cloth;

said web is fixed to said nonwoven cloth by means of a needle punch; and

said first fibers are bonded with each other together with said nonwoven cloth by melting of said second fibers,

~~2. A supporting device for microorganisms according to claim 1, wherein: said nonwoven cloth has said first fibers in fluffed state which are provided on a surface opposite to a surface which is bonded to said web.~~

~~3. A supporting device for microorganisms according to claim 1 or 2, wherein said web is formed of 40 to 80 weight % of said first fibers and 60 to 20 weight % of said second fibers.~~

4. A supporting device for microorganisms according to claim 1 or 2, wherein said melting temperature of said second fibers is lower than that of said first fibers by 10 to 100°C.

~~5. A method of producing a supporting device for microorganisms comprising the steps of:~~

- ~~(1) preparing a web out of
first fibers formed of a polyolefin type synthetic resin, and
second fibers formed of a polyolefin type synthetic resin having a melting temperature lower than that of said first fibers;~~
- ~~(2) stacking said web with a base layer formed of a nonwoven cloth and fixing by means of a needle punch to form a laminate; and~~
- ~~(3) heating said laminate at a temperature lower than the melting temperature of said first fibers and higher than the melting temperature of said second fibers to fuse said second fibers to bond said first fibers with each other together with said nonwoven cloth.~~

26. A method of producing a supporting device for microorganisms comprising the steps of:

- (1) preparing a web out of
first fibers formed of a polyolefin type synthetic resin, and
second fibers formed of a polyolefin type synthetic resin having a melting temperature lower than that of said first fiber material;
- (2) stacking said web with a base layer formed of a

nonwoven cloth and fixing by means of a needle punch to form a laminate;

(3) treating said laminate in needle punch process with a fluffing needle from said web side so as to provide said nonwoven cloth surface with fluffings formed of said first fibers; and

(4) heating said fluffed laminate at a temperature lower than the melting temperature of said first fibers and higher than the melting temperature of said second fibers to fuse said second fibers to bond said first fibers with each other together with said nonwoven cloth.

~~7. A method of producing a supporting device for microorganisms according to claim 5 or 6, wherein said web is formed of 40 to 80 weight % of said first fibers and 60 to 20 weight % of said second fibers.~~

8. A method of producing a supporting device for microorganisms according to claim 5 or 6, wherein said melting temperature of said second fibers is lower than that of said first fibers by 10 to 100°C.

ABSTRACT OF THE DISCLOSURE

A supporting device for microorganisms according to the invention comprises: a web W_1 including first fibers formed of a polyolefin type synthetic resin and second fibers formed of a polyolefin type resin having a melting temperature lower than that of the first fibers; and a nonwoven cloth f_1 acting as a base layer. The web W_1 is fixed to the nonwoven cloth f_1 by means of a needle punch. The first fibers are bonded with each other by melting of the second fibers as well as with the nonwoven cloth f_1 . This supporting device can not only prevent the coming off of the first fibers, which contribute to adhering microorganisms, but also substantially eliminate the weight dispersion between the devices because the nonwoven cloth f_1 can prevent an uneven winding of the web in the needle punching process.