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(54) **Method for removing either dry or damp dirt from a surface**

Verfahren zum Entfernen von trockenem oder feuchtem Schmutz von einer Oberfläche

Méthode pour enlever des salissures sèches ou humides d'une surface

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EP 0 858 764 B1

Description

[0001] The invention refers to a new application of synthetic fibres, generally called micro-fibres, for manufacturing a cloth to remove either dry or damp dirt.

[0002] To remove dirt from surfaces such as, for example, surfaces of glasses, furniture, metallic surfaces of cars, plastic-coated surfaces, taps and fittings, tiles, paving-tiles, silverware, crystal work, etc., it is necessary to make use of clothes which neither scratch the surfaces nor form haloes over them, but which are capable of removing dirt entirely.

[0003] The traditional cloth does not have such necessary requisites and call for the use of detergent substances which often spoil the surfaces to be cleaned.

[0004] Furthermore, since said traditional clothes are to be soaked with water mixed with chemical detergents, the drying out of said surfaces is to be carried out by making use of dry clothes, the cleaning so requiring more time to be done.

[0005] In some cases, for example if a car windscreen is to be cleaned by simply using water, in lack of proper detergent substances, dirt may not be removed.

[0006] At last, while removing either dust or, in particular, the earthy materials which gather over the metallic surface of cars during their motion, the traditional clothes may scratch the surfaces or not completely remove dirt.

[0007] The US Patent N. 4346,127 issued in August 24, 1992, discloses the process to prepare an absorbing mop material having a weight grams ranging from 100 to 750 gr/sqm, comprising a substrating of non woven fibres and flexible, porous polymeric binders.

[0008] This mop material contains non woven web of textile fibres of cellulose material, a polymeric aqueous dispersion of a thermo coagulating agents suitable for thermo regulation, and expanding agents instead of polyurethane and polyamide.

[0009] The other claims refer to other treatment and to inclusion of other components etc.

[0010] Therefore the invention relates above all to the procedure for preparing the absorbing mop and not to the applications and the mode to use the cloth, i.e. the use without detergent substances that spoil the surfaces to be cleaned, without the use of dry clothes to drying the surfaces with chemical detergents.

[0011] Furthermore the US Patent N. 4346,127 does not disclose the application to clean for example of the windscreen by simply using water in lack of proper detergent substances and removing the dust and earthy materials from the surface of a car with a dry cloth.

[0012] The aim of the present invention is to provide a method apt to remove dirt just by means of water and without any chemical detergent, so overcoming all the above said drawbacks.

[0013] After removing dirt without chemical detergents, the cloth may be rinsed, so to be once more well cleaned and ready for use.

[0014] The cloth, in use is apt to remove dry dirt by rubbing the surfaces which maybe used without scratching the surface, and which is also apt to remove damp dirt by means of an absorbing action obtained by simply making use of water.

[0015] Furthermore, the invention solves the problem of providing a method of using cloth which perfectly stands abrasion and tearing, and which has physical and chemical properties which do not get altered when the cloth is exposed to temperatures from -30°C up to +130°C.

[0016] The cloth used in the method according to the invention is made of synthetic fibres, i.e. micro-fibres preferably deriving from polyamide and polyurethane, which form velvet elements acting like micro-spoons and apt to gather and remove dry dirt without scratching the surfaces.

[0017] Another very important feature of the cloth used in the method according to the invention is due to the fact that, together with water, it first keeps damp dirt and then, after absorbing it, releases said dirt (water-repellent action) as soon as said cloth is washed by means of clean water.

[0018] In other words, the cloth, soaked with water, works like a soap, i.e. it reduces the surface tension of the water which touches dirt, so as to facilitate the absorption of said dirt.

[0019] This is achieved by a method according to claim 1, said Method for removing either dry or damp dirt from a surface, the surfaces being glasses, or metallic, wooden, plastic-coated and other similar surfaces, being characterised by the fact that a cloth made of micro-fibres, of polyamide and/or polyurethane and/or polyester is used, and that, prior to its use and once for all, the cloth is dipped in water brought to the boil for about 10 minutes.

[0020] In a preferred embodiment of the invention, the cloth is made of 50% of micro-fibres of polyamide and 50% of polyurethane micro-fibres.

[0021] In another embodiment, the cloth is made of 50% of micro-fibers of polyamide and 50% of microfibers of polyester.

[0022] Said compositions may however vary of 20% of the above indicated ones.

Claims

1. Method for removing either dry or damp dirt from a surface, the surfaces being glasses, or metallic, wooden, plastic-coated and other similar surfaces, **characterised by** the fact that a cloth made of micro-fibres, of polyamide and/or polyurethane and/or polyester is used, and that, prior to its use and once for all, the cloth is dipped in water brought to the boil for about 10 minutes.
2. Method as claimed in claim 1, **characterised by** the

use of a cloth made by 50% of micro-fibres of polyamide and 50% of polyurethane micro-fibres.

3. Method as claimed in claim 1, **characterised by** the use of a cloth made by 50% of micro-fibres of polyamide and 50% micro fibers of polyester. 5
4. Method as claimed in claims 2 and 3, **characterised by** the use of a cloth made by micro-fibres having compositions which may vary of about 20% of the above indicated ones. 10
5. Method as claimed in claim 1, **characterised by** the use of a cloth made by fibres suitable to stand temperature from -30°C up to + 130°C. 15
6. Method as claimed in claim 1, **characterised by** an absorbing action of the cloth.
7. Method as claimed in claim 1, **characterised by** using a cloth made of micro- fibres that cause, together with water, a soap-like effect which entraps dirt. 20
8. Method as claimed in claims 1 and 7, **characterised by** the fact that the micro-fibres of the cloth have to be structured so as to repel the water containing the dirt as soon as they are soaked with clean water. 25
9. Application of the method as claimed in previous claims, for removing dirt without using chemical detergents. 30
10. Application of the method as claimed in previous claims, for removing dirt, dust, sand only with water. 35

Patentansprüche

1. Methode, um von einer Oberfläche trockenen oder feuchten Schmutz zu entfernen, wobei die Oberfläche aus Glas, Metall, Holz, Plastiküberzug oder ähnlichem Material sein kann, **dadurch gekennzeichnet, dass** ein Stoff aus Polyamid und /oder Polyurethane und/ oder Polyester Mikrofasern verwendet wird und dass er vor Gebrauch, in einem einmaligen Vorgang, in siedend heissem Wasser, mindestens 10 Minuten lang behandelt wurde. 40
2. Methode gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der verwendete Stoff aus 50% Polyamid Mikrofasern und 50% Polyurethan Mikrofasern besteht. 45
3. Methode gemäß Anspruch 1, durch die Verwendung eines Stoffes **gekennzeichnet**, der aus 50% Polyamid Mikrofasern und aus 50% Polyester Mikrofasern hergestellt ist. 50

4. Methode gemäß den Ansprüchen 2 und 3, **dadurch gekennzeichnet, dass** der Stoff in seiner Zusammensetzung um ungefähr 20% von den oben angegebenen Bestandteilen abweichen kann.
5. Methode gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der verwendete Stoff aus Fasern besteht, die Temperaturschwankungen von - 30° C bis + 30° C standhalten.
6. Methode gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der Stoff eine Absorbierbarkeit in Proportion zu den Faserbestandteilen zeigt.
7. Methode gemäß Anspruch 1, die durch die Verwendung eines Stoffes **gekennzeichnet** ist, der aus Mikrofasern hergestellt wird, die in Kontakt mit Wasser einen seifenähnlichen, schmutzsammelnden Effekt zeigen.
8. Methode gemäß den Ansprüchen 1 und 7, **dadurch gekennzeichnet, dass** die Mikrofasern des Stoffes so beschaffen sind, dass sie den im Wasser enthaltenen Schmutz abweisen, sobald sie mit sauberem Wasser in Berührung kommen.
9. Anwendung der Methode gemäß den obengenannten Ansprüchen, um Schmutz ohne den Zusatz von chemischen Reinigungsmitteln zu entfernen.
10. Anwendung der Methode gemäß obengenannten Ansprüchen, um Schmutz, Staub, Sand unter abschließlicher Benutzung von Wasser zu entfernen.

Revendications

1. Méthode pour enlever la saleté soit sèche soit humide d'une surface, les surfaces étant des verres, des glaces, ou des surfaces en métal, en bois, en matière plastique, ou d'autres surfaces similaires, **caractérisée par le fait qu'on** utilise un chiffon en microfibres, de polyamide et/ou de polyuréthane et/ ou de polyester, et que, avant d'être utilisé et une fois pour toutes, le chiffon est trempé dans l'eau bouillie pour dix minutes.
2. Méthode comme revendiquée dans la revendication 1, **caractérisée par** l'emploi d'un chiffon composé de microfibres de polyamide (50%) et de microfibres de polyuréthane (50%).
3. Méthode comme revendiquée dans la revendication 1, **caractérisée par** l'emploi d'un chiffon composé de microfibres de polyamide (50%) et de microfibres de polyester (50%).
4. Méthode comme revendiquée dans les revendica-

tions 2 et 3, **caractérisée par** l'emploi d'un chiffon en microfibres dont la composition peut varier d'environ 20% par rapport à celles-là indiquées ci-dessus.

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5. Méthode comme revendiquée dans la revendication 1, **caractérisée par** l'emploi d'un chiffon en fibres qui peuvent supporter des températures de -30 °C jusqu'à 130 °C.

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6. Méthode comme revendiquée dans la revendication 1, **caractérisée par** une action absorbante du chiffon.

7. Méthode comme revendiquée dans la revendication 1, **caractérisée par** l'emploi d'un chiffon en microfibres qui, trempées dans l'eau, lui donnent la fonction d'un tissu-éponge retenant la saleté.

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8. Méthode comme revendiquée dans les revendications 1 et 7, **caractérisée par le fait que** les microfibres du chiffon doivent avoir une structure qui repousse l'eau contenant la saleté dès qu'elles sont trempées dans l'eau propre.

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9. Application de la méthode comme revendiquée dans les revendications précédentes, pour enlever la saleté sans employer aucun détergent chimique.

10. Application de la méthode comme revendiquée dans les revendications précédentes, pour enlever la saleté, la poussière le sable, n'employant que de l'eau.

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