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(54) Packaged solid stick product

Hülle für ein festes stiftförmiges Produkt

Etui pour produit en forme de bâton solide

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The present invention is directed to a package for a solid stick. More particularly, the invention is directed to an antiperspirant (we include within the term “antiperspirant” a deodorant, deodorant/antiperspirant or antiperspirant) stick package (e.g., for underarm use).

A conventional package for a solid stick, such as a conventional antiperspirant stick package, comprises a barrel for containing an antiperspirant stick. The barrel has an opening through which a first end of the stick can be exposed for use. A second, opposite end of the antiperspirant stick is supported on a movable product support member within the barrel. The support member can be moved as by pushing or with the use of a screw feed mechanism, for example, for adjusting the amount of the antiperspirant stick which extends beyond the barrel opening. The upper edge of the barrel about the opening is a relatively narrow edge which is not itself adapted to be used in applying the stick.

To use the antiperspirant stick of this type of conventional package, the user adjusts the stick relative to the barrel until the end of the stick protrudes through the opening of the barrel a sufficient distance for rubbing the end of the stick against the underarm. This distance is typically one quarter inch to one half inch. The product is elevated with respect to the barrel to this extent so as to avoid contacting the underarm with the relatively narrow edge of the barrel. The elevated portion of the stick is subject to crumbling, cracking and breakage during use because of the stresses placed on the stick during application, all of the application forces being borne by the stick itself. This conventional antiperspirant stick package is also disadvantageous in that it does not allow the user to precisely control the amount of stick which is being applied and, further, because the stick itself cannot be used to the very bottom of the stick without the possibility of contacting the underarm with, e.g., the movable product support member and/or the relatively narrow edge of the barrel.

An example of a package for a solid stick is shown in U.S. Patent No. 4,605,330. The package disclosed in this patent includes a tubular container body with an open upper end and a lower end substantially closed by a base member. Included within the container body is a follower embedded in and adhered to the solid stick, the follower being able to be fully retracted within the container body so that the entire inner volume of the container body may be filled with the solid stick, thereby minimizing wastage of container space. This patent further discloses that the upper edges of the follower structure are curved such that the effective upper surface of the follower is dome-shaped, such curved upper surface being preferred for followers for, e.g., solid antiperspirant packages to maximize consumer comfort and minimize product waste.

However, this patent does not contemplate an applicator surface for applying the solid stick. Further, this patent does not describe any correspondence between an applicator surface, as part of the package, and the bottom support for the stick.

U.S. Patent No. 2,917,765 discloses a dispensing container for materials such as creams, pastes and salves, using a screw-operated piston assembly to expel the material from the container through dispensing openings in a dispensing head onto the dispensing head, the dispensing head then acting as an applicator for applying the material. The material expelled is not a stick; and the dispensing head of this patent, having a plurality of openings therein but not being entirely open over the container, is not usable with a stick within the contemplation of the present invention.

French patent no. 73.21079 (2,188,980) discloses a dispenser for a pasty substance comprising a tubular sleeve containing the pasty substance and a support member in the sleeve supporting pasty substance in the sleeve. The support member and the sleeve are relatively axially displaceable and the sleeve is axially displaceable in a cup-shaped base which surrounds the base of the sleeve. The support member is itself supported by means of a member extending through the lower end of the sleeve, and the open end of the tubular sleeve is provided with a radially extending circumferential application flange. The dispensing head may optionally have a number of radially extending open notches for helping to dispense the product. As may readily be appreciated, such a dispensing technique is not appropriate to the solid-stick for which the invention is designed. Furthermore, the prior art problem mentioned above, of the action of mechanical forces on an extended stick, would not occur in the case of a pasty product which would generally be extended only to be flush with the top of the dispenser.

An object of the present invention is to provide an improved package for a stick which avoids the aforementioned disadvantages with conventional packages. More specifically, an object of the invention is to provide an improved package for a solid stick, such as an antiperspirant solid stick, which overcomes the deficiency of current stick packages related to crumbling, cracking and breakage during use.

A further object of the present invention is to provide an improved package for a solid stick having a means for applying the stick with reduced drag (by reduced drag, we mean that the stick can glide more easily on the skin) while allowing the consumer to rub the stick material in without a relatively narrow barrel edge contacting his or her skin.

An additional object of the invention is to provide an improved package for a solid stick which enables the stick to be used to the very bottom of the stick.

Another object of the invention is to provide an improved package for a stick which permits the consumer to deliver a visible adjustable dose of stick to be applied and then to apply and rub in the predetermined visible amount using the package.
According to the present invention there is thus provided a packaged antiperspirant solid stick product comprising; a barrel for holding an antiperspirant solid stick of a type subject to crumbling, cracking and breakage during use because of stresses placed on the stick when all of the application forces are borne by the stick, and an antiperspirant solid stick of said type wherein in such a way that an end portion of the antiperspirant solid stick can be elevated from the barrel and can protrude therefrom for use, the barrel having an opening through which said end portion of the antiperspirant solid stick protrudes for use and having a wall thickness in the region of the opening that is relatively narrow; and a moveable support member for elevating the antiperspirant solid stick so that the said end portion protrudes from the barrel as aforesaid; the packaged product further including an applicator surface provided about the entire periphery of the barrel and having an opening co-extensive with the opening to facilitate application of the antiperspirant solid stick, this applicator surface being a continuously smooth surface, extending outwardly from the barrel so as to be relatively wide as compared to the wall thickness of the barrel, and then extending downwardly, whereby the applicator surface enables the antiperspirant solid stick to be elevated a smaller distance out of the barrel than the distance that would be required in its absence, in order to avoid undesirable contact of the relatively narrow wall with a surface to which the antiperspirant solid stick is applied, thereby reducing crumbling, cracking and breakage of the solid stick due to forces on the stick during use when the end portion protrudes.

The barrel has an opening through which the end of the product can be exposed for use. The applicator surface extends outwardly from the opening of the barrel about at least a portion of the periphery of the opening, and preferably about the entire periphery. The applicator surface is formed integrally with the barrel in the disclosed, preferred embodiment of the invention but may be formed as a separate member and attached to the barrel. The applicator surface has an inner surface portion, closest to the opening in the barrel, and an outer surface portion extending toward an outer free end of the applicator surface. The outer surface portion of the applicator surface is rounded for reducing drag during application of the solid stick. The applicator surface has a width sufficient to aid in applying and rubbing in the stick. This width is preferably at least about 3/16 inch (4.76 mm) and more preferably about 1/4 inch (6.35 mm) or more; the outer surface portion should be rounded with, e.g., a preferred radius of curvature of about 3/16 inch when the width of the applicator surface is 1/4 inch.

The applicator surface of embodiments of the present invention has an inside edge, closest to the opening at the top of the barrel, and an outside edge furthest from the opening at the top of the barrel. When the barrel is held vertically, with the opening at the top, the outside edge of the applicator surface is below the level of the inside edge (with respect to the top of the barrel), so as to provide a surface to reduce drag during application of the stick. For example, the applicator surface can be curved, in extending away from the opening at the top of the barrel, so as to have such outside edge below the level of the inside edge; alternatively, the applicator surface can have a flat portion extending from the inside edge thereof, with a further, curved portion extending from such flat portion, so as to provide the outside edge below the level of the inside edge.

The means for supporting the stick further comprises a movable support member for supporting the end of the stick opposite the end which can be exposed from the package for use; while not limiting, push-up or propel/repel type packages, among others, can be used to provide support member (and thereby stick) movement. The support member is movable for adjusting the amount of the stick which is exposed for use. The support member has a support surface which contacts the stick. The support surface and at least the portion of the applicator surface adjacent the exposed end of the stick have like configurations as seen in cross section so that the stick can be used to the very bottom of the stick. In one, preferred form of the invention the support surface and the applicator surface have the same outwardly convex configuration as seen in cross section which facilitates application and rubbing in of the stick on the curved underarm. In another form of the invention, the support surface and the applicator surface adjacent the exposed end of the stick are both flat as seen in cross section. The applicator surface and the barrel are oval shaped in the preferred form of the invention but could be any other shape including round.

The package of the invention is designed to allow the user to deliver a visible adjustable dose of solid stick above the level of the applicator surface which can then be rubbed in. This permits the user to accurately control the amount of solid stick that is applied.

These and other objects, features and advantages of the present invention will become more apparent from the following description when taken in conjunction with the accompanying drawings, which show, for purposes of illustration, several embodiment in accordance with the present invention.

Brief Description of the Drawings

Figure 1 is a top view of a preferred embodiment of the package of the invention for a solid stick, particularly an antiperspirant solid stick; Figure 2 is a cross-sectional view of the package taken along the line A-A of Figure 1; Figure 3 is a top view of the barrel and integral applicator of the package; Figure 4 is a cross-sectional view of the barrel and
applicator taken along the line A-A in Figure 3; Figure 5 is a cross-sectional view of the barrel and applicator taken along the line B-B of Figure 3; Figure 6 is a top view of the movable support member for supporting the bottom of the antiperspirant solid stick in the package; Figure 7 is a cross-sectional view of the movable support member taken along the line A-A in Figure 6; Figure 8 is a cross-sectional view of the movable support member taken along the line B-B of Figure 6; Figure 9 is a cross-sectional view of another form of the barrel and applicator for the package of Figure 1; Figure 10 is a top view of a package for a solid stick; and Figure 11 is a cross-sectional view of the package of Figure 10 taken along the line A-A.

[0019] Referring now to the drawings, a package 1 according to a first embodiment of the invention and its component parts are illustrated in Figures 1-8. The package 1 is especially adapted for use with a solid antiperspirant stick, but could be used with other stick products such as lip balm, insect repellent, etc. The package 1 comprises a removable cap 2 for closing the package to protect the solid stick therein. The cap is removed to permit application of the solid stick by the user (e.g., where the product is an antiperspirant, the product can be applied to a person’s underarms).

[0020] The package 1 further comprises a barrel 3 containing an antiperspirant solid stick 4. The wall of the barrel 3 closely surrounds the stick 4 as shown in Figure 2. Both the stick and barrel are oval shaped in the embodiment of Figures 1-8 but other shapes could be used. An applicator 5 having an upwardly facing applicator surface 6 as shown in Figure 2 is formed integrally with the barrel 3 at the top end thereof. Fig. 5 also shows applicator 5 having applicator surface 6, and also shows back edge 26 of the barrel. The applicator surface 6 extends outwardly from and completely around the periphery of an opening 7 (see Fig. 4) at the upper end of the barrel 3 through which the stick 4 is dispensed for use.

[0021] The lower end or bottom 8 of the stick 4 is supported within the package on the oval-shaped, movable support member 9 for movement up or down within the package relative to the barrel 3. A central portion of the movable support member 9 is provided with a threaded coupling sleeve 10 for cooperation with an elevator screw 11. The lower end of the elevator screw is axially fixed but rotatable within an opening 12 in the closed, bottom end of the barrel 3. The elevator screw 11 includes a tapered section 13 which can be snap fitted within the opening 12 using resilient tabs 20, in the bottom of the barrel 3 to retain the elevator screw 11 in the position shown in Figure 2 while permitting the screw to be rotated by means of a knob 14 provided on the lower end of the screw. The bottom of the barrel 3 is dished inwardly to accommodate the knob 14 so that the package 1 can stand upright with the lower, outer peripheral portion of the barrel 3 resting on a flat supporting surface. Rotation of the knob 14 permits the user to raise or lower the movable support member 9 relative to the barrel 3 and thus raise and lower the stick 4 relative to the barrel 3. The stick 4 is shown in its lowered position in Figure 2 with the top of the stick flush with the applicator surface.

[0022] The several components of the package 1, including the cap 2, barrel 3, applicator 5 and coupling sleeve 10 are preferably each formed of plastic as by molding, although other materials can be used. For example, the cap, barrel and applicator can be made of polypropylene, with the movable support member made of high-density polyethylene. The elevator screw can be made of talc-filled polypropylene. The molding technique is known in the art. The applicator 5 is formed integrally with the barrel 3 in the embodiment of Figures 1-8 but can be formed as a separate component and attached to the barrel as by snap fitting, for example, as illustrated in the form of the invention shown in Figure 9 of the drawings. The applicator surface 6 about the opening 7 is outwardly convex, as seen in cross section, in the direction of elongation of the oval shaped barrel. This contour lends itself to the smooth application of the antiperspirant stick 4 to the underarm. The applicator surface 6 of the applicator 5 extends outwardly from the stick 4 a sufficient distance to aid in applying and rubbing in the antiperspirant. In the illustrated embodiment, the applicator surface 6 extends approximately 1/4 inch beyond the periphery of the stick 4 about the entire periphery of the stick. The outer surface portion of the applicator surface 6 is rounded (curved downward) for reducing drag during application of the antiperspirant. The outer surface portion ends in free end 15, which is below the applicator surface edge adjacent the barrel. The outer surface portion part that downwardly extends to free end 15 of the applicator is a cooperating surface upon which the lower skirt 16 of the cap 2 can be slidably fitted and removed with slight resistance. The cap 2 can have ribs 27 associated therewith to maintain the cap in a proper position relative to the barrel 3.

[0023] Various well-known techniques can be used to fill the barrel 3 with the solid stick material. For example, the known top-fill method (wherein molten stick material is poured into the open top of the barrel and the product allowed to solidify) can be used. Moreover, to form a stick with a curved upper surface as shown in Fig. 2, the molten material can be poured into the open top of the barrel and allowed to solidify, with the material then being raised to protrude from the top of the barrel (or barrel/applicator), and the protruding portion then milled or shaved so as to provide the curved upper surface. Such milling or shaving to provide the curved upper surface are techniques known in the art.

[0024] To use the antiperspirant stick 4 within the
A packaged antiperspirant solid stick product comprising:

a barrel (3) for holding an antiperspirant solid stick (4) of a type subject to crumbling cracking and breakage during use because of stresses placed on the stick when all of the application forces are borne by the stick and an antiperspirant solid stick (4) of said type held therein in such a way that an end portion of the antiperspirant solid stick can be elevated from the barrel (3) and can protrude therefrom for use, the barrel (3) having an opening (7) through which said end portion of the antiperspirant solid stick (4) protrudes for use and having a wall thickness in the region of the opening (7) that is relatively narrow; and

a moveable support member (9) for elevating the antiperspirant solid stick (4) so that the said end portion protrudes from the barrel (3) as aforesaid;

the packaged product further including an applicator surface (6) provided about the entire periphery of the barrel (3) and having an opening coextensive with the opening (7) to facilitate application of the antiperspirant solid stick (4), this applicator surface (6) being a continuously smooth surface, extending outwardly from the barrel (3) so as to be relatively wide as compared to the wall thickness of the barrel (3), and then extending downwardly, whereby the applicator surface (6) enables the solid stick (4) to be elevated a smaller distance out of the barrel (3) than the distance that would be required in its absence, in order to avoid undesirable contact of the relatively narrow wall with a surface to which the antiperspirant solid stick (4) is applied, thereby reducing crumbling, cracking and breakage of the solid stick due to forces on the stick during use when the end portion protrudes.

2. A packaged antiperspirant solid stick product according to claim 1, wherein the part of said applicator surface (6) which extends downwardly is greater in length than the part which extends outwardly.

3. A packaged antiperspirant solid stick product according to claim 1 or 2, wherein the surface of the support member (9) and the applicator surface (6) adjacent to the opening are both flat when viewed in cross-section.

4. A packaged antiperspirant solid stick product according to any of claims 1 to 3, wherein the applicator surface (6) includes:

(a) an inner surface portion closest to the opening (7) of the barrel (3) and extending out from the opening (7), and

(b) an outer surface portion that is rounded downwardly, extending from the inner surface portion to a free end (15) which is spaced from the exterior surface of the barrel (3).

Claims

1. A packaged antiperspirant solid stick product comprising;

- a barrel (3) for holding an antiperspirant solid stick (4) of a type subject to crumbling cracking and breakage during use because of stresses placed on the stick when all of the application forces are borne by the stick and an antiperspirant solid stick (4) of said type held therein in such a way that an end portion of the antiperspirant solid stick can be elevated from the barrel (3) and can protrude therefrom for use, the barrel (3) having an opening (7) through which said end portion of the antiperspirant solid stick (4) protrudes for use and having a wall thickness in the region of the opening (7) that is relatively narrow; and

- a moveable support member (9) for elevating the antiperspirant solid stick (4) so that the said end portion protrudes from the barrel (3) as aforesaid;

the packaged product further including an applicator surface (6) provided about the entire periphery of the barrel (3) and having an opening coextensive with the opening (7) to facilitate application of the antiperspirant solid stick (4), this applicator surface (6) being a continuously smooth surface, extending outwardly from the barrel (3) so as to be relatively wide as compared to the wall thickness of the barrel (3), and then extending downwardly, whereby the applicator surface (6) enables the solid stick (4) to be elevated a smaller distance out of the barrel (3) than the distance that would be required in its absence, in order to avoid undesirable contact of the relatively narrow wall with a surface to which the antiperspirant solid stick (4) is applied, thereby reducing crumbling, cracking and breakage of the solid stick due to forces on the stick during use when the end portion protrudes.
5. A packaged antiperspirant solid stick product according to any preceding claim, wherein the moveable support member (9) includes a screw feed mechanism comprising an elevator screw 11 such that upon rotation of the elevator screw (11) the antiperspirant solid stick (4) is pushed up from the bottom so as to protrude through the opening (7) and to be exposed for use.

6. A packaged antiperspirant solid stick product according to any preceding claim, wherein the applicator surface (6) has a width of at least 3/16" (4.76mm) so as to aid in applying and rubbing in the antiperspirant solid stick (4).

7. A packaged antiperspirant solid stick product according to any preceding claim, wherein the portion of the applicator surface (6) that extends downwardly is approximately parallel to the barrel (3).

8. A packaged antiperspirant solid stick product according to any preceding claim, wherein the applicator surface (6) extending outwardly has a flat surface and then curves downwardly.

9. A packaged antiperspirant solid stick product according to any one of claims 1 to 7 wherein the applicator surface (6) extending outwardly is curved downwardly.

10. A packaged antiperspirant solid stick product according to any preceding claim, wherein the applicator surface (6) is formed integrally with the barrel (3).

11. A packaged antiperspirant solid stick product according to claim 10, in which the applicator surface (6) is formed from a continuation of the wall of the barrel (3), extending from the opening (7) first outwardly and then downwardly, being of approximately constant cross-section.

12. A packaged antiperspirant solid stick product according to any of claims 1 to 9, wherein the applicator surface (6) is a separate piece (5') fitted to the opening of the barrel (3).

13. A method of using a packaged antiperspirant solid stick product according to any one of the preceding claims to apply the antiperspirant solid stick to the surface, comprising the steps of:

   elevating the antiperspirant solid stick (4) from the barrel (3) so that an end portion thereof is exposed for use;
   pressing the exposed end portion against the surface using the barrel in such a way that pressure is transmitted from the barrel through the antiperspirant solid stick to the surface; and
   moving the exposed end portion against the surface while continuing to apply pressure so that the antiperspirant solid stick is rubbed on the surface.

**Patentansprüche**

1. Verpacktes festes stiftförmiges schweißhemmendes Produkt, mit einem Zylindergehäuse (3) zum Halten eines festen schweißhemmenden Stiftes (4) von einer Art, die während der Benutzung wegen Belastungen auf den Stift zerbröckelt, springt und bricht, wenn alle auftretenden Kräfte durch den Stift aufgefangen werden, und einem darin in einer solchen Weise gehaltenen festen schweißhemmenden Stift (4) dieser Art, dass ein Ende des festen schweißhemmenden Stiftes zum Gebrauch aus dem Zylindergehäuse (3) nach oben geschoben werden und daraus hervorsteht, wobei das Zylindergehäuse (3) eine Öffnung (7) aufweist, durch die das Ende des festen schweißhemmenden Stiftes (4) zum Gebrauch hervorsteht, und eine Wandstärke in dem Bereich der Öffnung (7) besitzt, die relativ schmal ist; und einem bewegbaren Stützelement (9) zum Hochschieben des festen schweißhemmenden Stiftes (4), so dass das Ende wie oben erwähnt aus dem Zylindergehäuse (3) hervorsteht; wobei das verpackte Produkt weiter eine Applikationsfläche (6) um den gesamten Umfang des Zylindergehäuses (3) und mit einer sich mit der Öffnung (7) auf einer Linie erstreckenden Öffnung enthält, um das Aufbringen des festen schweißhemmenden Stiftes (4) zu erleichtern, wobei diese Applikationsfläche (6) eine kontinuierlich glatte Fläche ist, die sich von dem Zylindergehäuse (3) nach außen erstreckt, so dass sie im Vergleich zu der Wandstärke des Zylindergehäuses (3) relativ breit ist, und sich dann nach unten erstreckt, wodurch es die Applikationsfläche (6) ermöglicht, den festen Stift (4) weniger aus dem Zylindergehäuse (3) nach oben herauszuschieben als es ohne sie erforderlich wäre, um einen unerwünschten Kontakt der relativ schmalen Wand mit einer Fläche, auf die der feste schweißhemmende Stift (4) aufgebracht wird, zu vermeiden, wodurch ein Zerbröckeln, Springen und Brechen des festen Stiftes aufgrund von Kräften auf den Stift während des Gebrauchs, wenn das Ende hervorsteht, verringert wird.

2. Verpacktes festes stiftförmiges schweißhemmen-
des Produkt nach Anspruch 1, wobei der Teil der Applikationsfläche (6), der sich nach unten erstreckt, länger als der sich nach außen erstreckende Teil ist.

3. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach Anspruch 1 oder 2, wobei die Fläche des Stützelements (9) und die Applikationsfläche (6) angrenzend an die Öffnung im Querschnitt beide flach sind.

4. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der Ansprüche 1 bis 3, wobei die Applikationsfläche (6) aufweist:
   (a) einen am nächsten an der Öffnung (7) des Zylindergehäuses (3) angeordneten inneren Flächenabschnitt, der sich von der Öffnung (7) nach außen erstreckt; und
   (b) einen äußeren Flächenabschnitt, der nach unten gebogen ist und sich von dem inneren Flächenabschnitt zu einem freien Ende (15) erstreckt, das von der Außenseite des Zylindergehäuses (3) einen Abstand aufweist.

5. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der vorhergehenden Ansprüche, wobei das bewegbare Stützelement (9) einen Schneckenmechanismus mit einer Höhenschraube (11) aufweist, so dass bei Drehung der Höhenschrauben (11) der feste schweißhemmende Stift (4) vom Boden nach oben geschoben wird, so dass er durch die Öffnung (7) hervorsteht und zum Gebrauch freigelegt wird.

6. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der vorhergehenden Ansprüche, wobei die Applikationsfläche (6) eine Breite von wenigstens 3/16" (4,76 mm) aufweist, um so das Aufbringen und Abreiben des festen schweißhemmenden Stiftes (4) zu unterstützen.

7. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der vorhergehenden Ansprüche, wobei der Teil der Applikationsfläche (6), der sich nach unten erstreckt, etwa parallel zu dem Zylindergehäuse (3) ist.

8. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der vorhergehenden Ansprüche, wobei die sich nach außen erstreckende Applikationsfläche (6) eine ebene Fläche besitzt und sich dann nach unten krümmt.

9. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der Ansprüche 1 bis 7, wobei die sich nach außen erstreckende Applikationsfläche (6) nach unten gekrümmt ist.

10. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der vorhergehenden Ansprüche, wobei die Applikationsfläche (6) einstückig mit dem Zylindergehäuse (3) ausgebuchtet ist.

11. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach Anspruch 10, bei dem die Applikationsfläche (6) aus einer Weiterführung der Wand des Zylindergehäuses (3) gebildet ist, wobei sie sich zuerst von der Öffnung (7) nach außen und dann nach unten erstreckt, wobei sie einen etwa konstanten Querschnitt aufweist.

12. Verpacktes festes stiftförmiges schweißhemmendes Produkt nach einem der Ansprüche 1 bis 9, wobei die Applikationsfläche (6) ein separates Teil (5') ist, das an der Öffnung des Zylindergehäuses (3) angebracht ist.

13. Verfahren zur Verwendung eines verpackten festen stiftförmigen schweißhemmenden Produkts nach einem der vorhergehenden Ansprüche, um den festen schweißhemmenden Stift auf eine Fläche aufzubringen, mit den Verfahrensschritten:

   Hochschieben des festen schweißhemmenden Stiftes (4) aus dem Zylindergehäuse (3), so dass ein Ende davon zum Gebrauch freiliegt; Drücken des freigelegten Endes gegen die Fläche, wobei das Zylindergehäuse in einer solchen Weise benutzt wird, dass der Druck von dem Zylindergehäuse durch den festen schweißhemmenden Stift auf die Fläche übertragen wird; und Bewegen des freigelegten Endes gegen die Fläche, während weiterhin Druck ausgeübt wird, so dass der feste schweißhemmende Stift auf der Fläche Verrieben wird.

Revendications

1. Produit anti-transpiration en bâtonnet solide conditionné, comprenant :

   un barillet (3) pour contenir un bâtonnet solide anti-transpiration (4) du type sujet à un émiettement, une fissuration et une rupture durant l'utilisation en raison de contraintes placées sur le bâtonnet quand toutes les forces d'applications sont supportées par le bâtonnet, un bâtonnet solide anti-transpiration (4) dudit type contenu en lui de telle manière qu’une partie d’extrémité du bâtonnet solide anti-transpiration peut être extrait du barillet (3) et peut dépasser de lui en vue d’une utilisation, le barillet (3) ayant une ouverture (7) à travers laquelle ladite partie d’extrémité du bâtonnet solide anti-trans-
2. Produit anti-transpiration en bâtonnet solide conditionné, selon la revendication 1, dans lequel la partie de ladite surface applicatrice (6) qui s'étend vers le bas est de plus grande longueur que la partie qui s'étend vers l'extérieur.

3. Produit anti-transpiration en bâtonnet solide conditionné, selon la revendication 1 ou 2, dans lequel la surface de l'élément de soutien (9) et de la surface applicatrice (6) adjacente à l'ouverture sont toutes deux plates en regardant en coupe transversale.

4. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications 1 à 3, dans lequel la surface applicatrice (6) comprend :

(a) une partie de surface intérieure très proche de l'ouverture (7) du barillet (3) et s'étendant depuis l'ouverture (7), et
(b) une partie de surface extérieure qui est arrondie vers le bas, s'étendant depuis la partie de surface intérieure en direction d'une extrémité libre (15) qui est espacée de la surface extérieure du barillet (13).

5. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel l'élément de soutien mobile (9) comprend un mécanisme d'avance à vis comprenant une vis élévatrice (11) telle qu'en cas de rotation de la vis élévatrice (11), le bâtonnet solide anti-transpiration (4) est poussé depuis le fond de manière à dépasser à travers l'ouverture (7) et à être découvert pour une utilisation.

6. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel la surface applicatrice (6) a une largeur d'au moins 3/16" (4,76 mm), afin d'aider à appliquer et frotter le bâtonnet solide anti-transpiration (4).

7. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel la partie de la surface applicatrice (6) qui s'étend le long du bas est approximativement parallèle au barillet (3).

8. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel la surface applicatrice (6) s'étend le long du bas possède une surface plate, puis s'incurve vers le bas.

9. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications 1 à 7, dans lequel la surface applicatrice (6) s'étend le long du bas est incurvée vers le bas.

10. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel la surface applicatrice (6) est formée solidaire du barillet (3).

11. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes, dans lequel la surface applicatrice (6) est formée à partir d'un prolongement de la paroi du barillet (3), en s'étendant à partir de l'ouverture (7) d'abord vers l'extérieur, puis vers le bas, en étant de section transversale approximativement constante.

12. Produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications 1 à 9, dans lequel la surface applicatrice (6) est une pièce séparée (5) montée sur l'ouverture du barillet (3).

13. Procédé d'utilisation d'un produit anti-transpiration en bâtonnet solide conditionné, selon l'une quelconque des revendications précédentes pour appliquer le bâtonnet solide anti-transpiration sur une surface, comprenant les étapes consistant à:

- faire sortir le bâtonnet solide anti-transpiration
(4) depuis le barillet (3) de sorte qu'une partie d'extrémité de celui-ci soit découverte pour l'utilisation ; appuyer la partie d'extrémité découverte contre la surface en utilisant le barillet de telle manière que la pression est transmise du barillet à la surface par l'intermédiaire du bâtonnet solide anti-transpiration ; et déplacer la partie d'extrémité découverte contre la surface tout en continuant à appliquer une pression, de sorte que le bâtonnet solide anti-transpiration est frotté sur la surface.