TOILET SEAT COVER

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ABSTRACT

A toilet seat cover comprising a sheet of polymeric material configured essentially in the shape of a toilet seat. The sheet has a portable form and a usable form. The sheet is of flexible material, and has a surface that allows the sheet to be secured on a toilet seat when in a usable form by pressing the same onto the toilet seat. The sheet is removable from the toilet seat by peeling the sheet from one peripheral portion of the sheet to an opposite peripheral portion of the sheet. The sheet is transportable by being placed into a portable form for carrying in one's pocket or carrying case.
TOILET SEAT COVER


BACKGROUND

[0002] The present invention relates to hygienic covers, and more particularly, but not exclusively, relates to a flexible hygienic cover for use on a toilet seat.

[0003] The use of hygienic covers on toilet seats has become commonplace. Nonetheless, there is an ever-present challenge to provide reusable flexible hygienic toilet seat covers. Thus, there is a need for additional contributions in this area of technology.

SUMMARY

[0004] In one embodiment, a toilet seat cover is made of a sheet of polymeric material configured essentially in the shape of a toilet seat. The sheet has a portable form and a usable form. The sheet is made of a flexible material and has a surface that allows the sheet to be secured on a toilet seat when in the usable form by pressing the same onto the toilet seat. The sheet is removable from the toilet seat by peeling one peripheral portion of the sheet to an opposite peripheral portion of the sheet. When placed into the portable form, the sheet is transported by carrying the sheet in one’s pocket, purse, or carrying case.

[0005] Further embodiments, forms, features, aspects, benefits, objects, and advantages of the present application shall become apparent from the detailed description and figures provided herewith.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a perspective view of the toilet seat cover of the invention in its usable form applied to a toilet seat;

[0007] FIG. 2 is a perspective top view of the toilet seat cover of the invention;

[0008] FIG. 3 is a perspective top view of another version of the toilet seat cover of the invention;

[0009] FIG. 4 is a side view of the toilet seat cover of the invention;

[0010] FIG. 5 is a perspective view of the toilet seat cover of the invention in one portable form;

[0011] FIG. 6 is a perspective view of the toilet seat cover of the invention in another portable form; and

[0012] FIG. 7 is a perspective view of the toilet seat cover of the invention in another portable form.

DETAILED DESCRIPTION OF A SPECIFIC EMBODIMENT

[0013] The present invention provides a new and improved toilet seat cover 10 which is provided essentially in the shape of a toilet seat. The toilet seat cover 10 is impervious to moisture, has at least one smooth surface, may be colored in a variety of colors, or may have printing thereon.

[0014] The new and improved toilet seat cover 10 of the invention has an exterior periphery 12 and an interior periphery 14.

[0015] Toilet seat cover 10 may cover the entire seat as shown in FIG. 2 or may cover only a portion of the seat as shown in FIG. 3.

[0016] Toilet seat cover 10 of the invention has a portable form 16 and a usable form 18. The usable form 18 of the toilet seat cover 10 is shown in FIGS. 1, 2 and 3. The portable form 16 of the toilet seat cover 10 is shown in FIGS. 5-7. As shown in FIG. 5, the toilet seat cover 10 of the invention may be rolled into a tubular form 20 when not in use and in fact placed in a tube (not shown) for storage between uses. Alternatively, toilet seat cover 10 may be folded into a pack 22 as shown in FIG. 6 or merely compressed into a wad as shown in FIG. 7. In each of these portable forms of the toilet seat cover 10 of the invention, toilet seat cover 10 may be easily transported from one use to another in one’s pocket, purse or carrying case.

[0017] In all versions of the toilet seat cover 10, toilet seat cover 10 has a surface 24 thereon which allows said cover 10 to be secured to a conventional toilet seat when in said usable form 18 illustrated in FIGS. 2 and 3 by pressing the same to the toilet seat. In specific embodiments, the toilet seat cover 10 may be manufactured from sheet materials chosen from the group of sheet materials consisting of polyethylene terephthalate sheets, polyethylene sheets, polypropylene sheets, and other hydrocarbon sheets, silicon sheets, other polymer sheets, and paper sheets having at least one surface coated with polyethylene terephthalate, polypropylene, polyethylene, other hydrocarbons, silicon, other polymer materials, and composites thereof.

[0018] In one version, toilet seat cover 10 is comprised of sheet material comprising a thermal plastic core layer 26 having a first side 28 and a second side 30, and an additional layer 32 secured to one of said first 28 and second 30 sides comprising a polypropylene homopolymer, a solid antiblock and a silicone oil. The composite film has a stable coefficient of friction and release character despite mishandling during use.

[0019] Optionally, a functional layer 34 which is printable or treatable for printing is laminated on the other of the sides 28, 30 of the core layer 26 such that advertising and the like may be placed upon the cover 10.

[0020] In specific embodiments, core layer 26 may be any polymer made from a two to four carbon atom olefins such as ethylene or butane-1, or a copolymer made predominantly of propylene with minor amounts of another olefin, usually a two to four carbon atom olefin.

[0021] In other specific embodiments, the functional layer 34 may comprise an olefin homopolymer such as polypropylene or polyethylene. Other suitable polymers include a copolymer of ethylene, propylene, and/or butylenes and/or another olefin having five to ten carbon atoms or a mixture of these olefin polymers.

[0022] In other specific embodiments, the additional layer 32 is comprised of a highly crystalline polypropylene. Highly crystalline polypropylene polymers include those having a decalin soluble content of about 1% to about 5% by weight, meso pentads equal to or greater than about 85% (C
NMR spectroscopy), 0.1% to 0.5% weight of cross-linked anti-block particles, and from about 0.1% to 2% weight of silicone oil.

[0023] In specific embodiments, the solid anti-blocks of the invention include, but are not limited to, fully cross-linked or non-melt-able polysiloxanes, polymethylmethacrylate particles and partially cross-linked polysiloxanes such as described in U.S. Pat. No. 5,840,419.

[0024] In general, the toilet seat cover 10 of the instant invention comprises at least two layers, the core layer 26 and the additional layer 32. However, it is contemplated that a functional layer 34 can be also utilized so as to allow for advertising and logos and other printing to be placed upon the cover 10. It is also contemplated that intermediate layers can be incorporated between the core layer 26 and the outer most skin layers if desired.

[0025] In another specific embodiment, the additional layer 32 is comprised of a silicone polymer such as sold under the identification FDA Grade “A” silicone by JADAR of Andover, N.J. Layer 32 is preferably made of about 20 to about 30 Shore “A” silicone, the lower the durometer the stickier the silicone. In specific embodiments, the thickness of the about 20 to about 30 Shore “A” silicone layer will be from about 0.012 to about 0.20 inches. Complete specifications can be found at 21 CFR 177.2600 and include:

All FDA approved ingredients
Extreme high and low temperature resistant
OV/Ozone resistant Non-toxic, chemically inert
Excellent gasketing material Low compression set
Fungus Resistant

[0026]

<table>
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<tr>
<th>PHYSICAL PROPERTIES</th>
<th>Test Method</th>
<th>Typical Properties</th>
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<tr>
<td>Specific Gravity, G/CC</td>
<td>ASTM D297</td>
<td>1.12</td>
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<tr>
<td>Durometer, Shore “A”</td>
<td>ASTM D240</td>
<td>30 +/- 5</td>
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<tr>
<td>Tensile Strength, PSI</td>
<td>ASTM D412</td>
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<tr>
<td>Tear, PSI DIE “B”</td>
<td>ASTM D624</td>
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[0027] 30 Shore “A” silicone with no reinforcement can easily tear. Thus, layer 32 in accordance with the invention must either have a durometer above 30 plus or minus 5 or be reinforced in some manner. In a specific embodiment, silicone having a durometer lower than 30 Shore “A” silicone may be superimposed on a fiberglass reinforcement sheet core layer 26.

[0028] In another specific embodiment, 20 Shore “A” silicone is overlaid with a fiberglass reinforcement core layer 26 which is overlaid with a 40 to 50 Shore “A” silicone top layer 34.

[0029] In another specific embodiment, a 20 to 30 Shore “A” silicone layer is overlaid with a polyester top layer 34. The core layer 26 can be eliminated. In all embodiments if a fiberglass reinforcing material is utilized as the core layer 26, then a top layer 34 must be utilized as the fiberglass layer may cause irritation to a person’s skin.

[0030] All forms of the toilet seat cover 10 may be manufactured by providing sheeting as above-described. After the multi-layered sheet is provided, the toilet seat cover 10 may be die cut from the sheet. In those embodiments utilizing 20 to 30 Shore “A” silicone, the sheets may also be injected molded.

[0031] In specific embodiments of toilet seat cover 10, said sheet material may have a thickness from about 0.2 mm to about 0.4 mm. In a specific embodiment, toilet seat cover 10 is a sheet of silicone having a thickness of about 0.2 mm.

[0032] In other specific embodiments of the toilet seat cover 10, the sheet material is disposable. In still other versions of the toilet seat cover 10, the sheet material can be sterilized with soap and water between uses. In still other versions of the toilet seat cover 10, the sheet material can be sterilized with any of the known methods of sterilizing including steam, radiation and the like.

[0033] In use, toilet seat cover 10 can be easily removed from the toilet seat when desired by peeling the cover 10 from the toilet seat. Once removed from the toilet seat, toilet seat cover 10 can be easily placed in its portable form 16 for storage or carrying until it is used once again.

[0034] Toilet seat cover 10 may be carried in one’s pocket or purse and applied to toilet seats prior to use to maintain some degree of cleanliness. While it has been said heretofore that no diseases may be transmitted from unclean toilet seats, that statement is no longer true. Toilet seat cover 10 of the invention in its portable form 16 may be placed in its usable form 18 and pressed onto any conventional toilet seat, utilized, removed from the toilet seat by grasping the toilet seat cover 10 adjacent any exterior edge 12 and peeling the toilet seat cover 10 from the toilet seat, and placing the cover 10 in one or more of its portable forms 16 and returned to one’s pocket, purse or carrying case until the next use.

[0035] The toilet seat cover 10 of the invention may be shaped to adhere to any standard public toilet seat and any standard private toilet seat existing. The toilet seat 10 is designed to adhere to any toilet seat, and yet not to adhere to the user’s body after using the toilet seat cover 10 such that the user can stand up without the toilet seat 10 adhering to him or her and be either disposed or rolled to be carried in a compact tubular carrying case or folded so as to be reused. The contaminated side of the toilet seat cover 10 may face itself when folded or rolled so as to be handled without contaminating the hands even after use. The toilet seat cover 10 of the invention may be then unrolled or unfolded and reused.

[0036] The toilet seat cover 10 of the invention is designed to be cleaned easily by soaking in hot bleach water to disinfect, washing in a dishwasher or machine or cleaning with other disinfectant cleansers that are readily available. All of the materials utilized in the manufacture of the toilet seat cover 10 desirably are resistant to aging and weathering and inhibit the growth of bacteria or molds and are odorless and hypoallergenic.

[0037] The toilet seat cover 10 is especially useful for travelers. The traveler can use the toilet seat cover 10 in gas
stations and other public restrooms or in hotel rooms. When using for an extended stay in a hotel room, once positioned for use the toilet seat cover 10 may be left there for the entire stay.

[0038] The toilet seat cover 10 is also advantageous for use with toddlers or children. Many children use the toilet seat for balance and often grab on to the toilet seat to maintain there balance. The toilet seat cover 10 shields the child from touching the seat with his or her hands. When lifting toddlers on to the toilet seat, often other toilet seat covers fall off as the child is being lifted on to the seat. The toilet seat cover 10 of the invention will remain on the toilet seat during this process.

[0039] The toilet seat cover 10 is also useful for companies or business whose employees need to share the restroom facility with the public. The employees can have their own personal toilet seat cover 10 to use in such restrooms. The toilet seat cover 10 is especially convenient to use for obese people who can not hover over a toilet seat or elderly people or handicapped people who need to actually sit on the toilet seat. The toilet seat cover 10 is designed both for these people and is especially convenient for these people and for people who suffer from verminophobia (fear of germs).

[0040] Functional layer 34 of the toilet seat is designed to be printed on. Printing can be accomplished on silicone with silicone inks on a white surface or with oil based inks on polyester surfaces. Designs identifying an employer, comprising trademarks, or logos identifying athletic teams and the like can be utilized on the toilet seat cover to provide a variety of themes which will appeal to its user.

[0041] While specific embodiments of the invention have been shown and described herein for purposes of illustration, the protection offered by any patent which may issue upon this application is not strictly limited to the disclosed embodiment; but rather extends to all structures, steps and arrangements which fall fairly within the scope of the claims which are appended hereto:

What is claimed is:

1. A toilet seat cover comprising a sheet of polymeric material configured essentially to be the shape of a toilet seat, said sheet having a portable form and a usable form, said sheet being of flexible material, said sheet having a surface that allows said sheet to be secured on a toilet seat when in said usable form by pressing the same onto the toilet seat, said sheet being removable from the toilet seat by peeling said sheet from one peripheral portion of said sheet to an opposite peripheral portion of said sheet, said sheet being transportable by being placed into said portable form for carrying in one's pocket, purse or carrying case.

2. The toilet seat cover of claim 1 wherein said sheet may cover substantially the entire surface of a toilet seat or a portion of the entire surface of the toilet seat.

3. The toilet seat cover of claim 1 wherein said sheet in said portable form is chosen from the group of portable forms consisting of rolling said sheet into a tubular form, folding said sheet into a folded form, wadding said sheet into a wad of smaller dimensions, and all other ways of reducing the size of said sheet.

4. The toilet seat cover of claim 1 wherein the sheet material of said sheet is chosen from the group of sheet materials consisting of polyethylene-terephthalate sheets, polypropylene sheets, polyethylene sheets, other hydrocarbon sheets, silicon sheets, other polymer sheets, composites thereof and paper sheets having at least one surface coated with said sheet materials.

5. The toilet seat cover of claim 1 wherein said sheet material has a thickness from about 0.2 mm to about 0.4 mm.

6. The toilet seat cover of claim 1 wherein said sheet material comprises a core layer and an additional layer of a polypropylene copolymer, an anti-block, and a silicone oil.

7. The toilet seat cover of claim 1 wherein said sheet is impervious to moisture.

8. The toilet seat cover of claim 1 wherein said sheet has opposite smooth surfaces.

9. The toilet seat cover of claim 1 wherein said sheet is colored.

10. The toilet seat cover of claim 1 wherein said sheet further includes a functional layer having printing thereon.

11. The toilet seat cover of claim 1 wherein said sheet is sterilizable.

12. The toilet seat cover of claim 1 wherein said carrying case is chosen from the group of carrying cases consisting of purses, totes, bags, briefcases, suitcases, packages and other carrying cases.

13. The toilet seat cover of claim 1 wherein said sheet is removable from the toilet seat and capable of being placed into said portable form for carrying in one's pocket or carrying case, said sheet covering the entire surface of a toilet seat or a portion of the entire portion of a toilet seat, said sheet in said portable form is chosen from the group of portable forms consisting of a roll of said sheet into a tubular form, a folded form of said sheet, a wad of said sheet, and all other resulting forms of reducing the size of said sheet.

14. The toilet seat cover of claim 1 wherein said sheet is removable from the toilet seat and capable of being placed into said portable form for carrying in one's pocket or carrying case, said sheet covering the entire surface of a toilet seat or a portion of the toilet seat, said sheet in said portable form being chosen from the group of portable forms consisting of rolling said sheet into a tubular form, folding said sheet into a folded form, wading said sheet into smaller dimensions, and all other ways of reducing the size of said sheet, said material of said sheet being chosen from the group of sheet materials consisting of polyethylene-terephthalate sheets, polypropylene sheets, polyethylene sheets, other hydrocarbon sheets, silicon sheets, other polymer sheets, composites thereof and paper sheets having at least one surface coated with said sheet materials.

15. The toilet seat cover of claim 14 wherein said sheet is impervious to moisture.

16. The toilet seat cover of claim 14 wherein said sheet has opposite smooth surfaces.

17. The toilet seat cover of claim 14 wherein said sheet is sterilizable.

18. The toilet seat cover of claim 14 wherein said sheet is cleanable between uses.

19. The toilet seat cover of claim 18 wherein said sheet is sterilizable between uses.

20. The toilet seat cover of claim 1 wherein said sheet is removable from the toilet seat and capable of being placed into said portable form for carrying in one's pocket or carrying case, said sheet covering the entire surface of a toilet seat or a portion of the toilet seat, said sheet in said portable form is chosen from the group of portable forms consisting of rolling said sheet into a tubular form, folding
said sheet into a folded form, wadding said sheet into smaller dimensions, and all other ways of reducing the size of said sheet, the sheet material of said sheet is chosen from the group of sheet materials consisting of polyethylene, terephthalate sheets, polypropylene sheets, polyethylene sheets, other hydrocarbon sheets, silicon sheets, other polymer sheets, composites thereof, and paper sheets having at least one surface coated with said sheet materials, said sheet being impervious to moisture, said sheet having opposite smooth surfaces, said sheet being sterilizable, said sheet being cleanable between uses.

21. The toilet seat cover of claim 1 wherein said sheet material of said sheet comprises a thermal plastic core layer having first and second sides, and an additional layer secured to one of said first and second sides comprising a polypropylene homopolymer, a solid anti block and a silicone oil.

22. The toilet seat cover of claim 21 wherein a functional layer is superimposed on the other of said first and second sides of said core layer.

23. The toilet seat cover of claim 22 wherein said functional layer is chosen from the group of polymeric sheets comprising an olefin homopolymer such as polypropylene or polyethylene, copolymers of ethylene, propylene, or a mixture of these olefin polymers.

24. The toilet seat cover of claim 22 wherein said core layer is a polymeric layer chosen from the group of polymers made from two to four carbon atom olefins, a copolymer made predominantly of propylene with minor amounts of other olefins, and combinations thereof.

25. The toilet seat cover of claim 1 wherein said sheet material of said sheet comprises a thermal plastic core layer having first and second sides, and an additional layer secured to one of said first and second sides, said additional layer being comprised of highly crystalline polypropylene.

26. The toilet seat cover of claim 1 wherein said sheet material of said sheet comprises a thermal plastic core layer having first and second sides, and an additional layer secured to one of said first and second sides, said additional layer being of FDA Grade "A" silicone having from about 20 to about 30 Shore and a thickness from about 0.012 to about 0.20 inches.

27. The toilet seat cover of claim 26 wherein said core layer is reinforced with glass fibers.

28. The toilet seat cover of claim 1 wherein said sheet is a sheet of FDA Grade "A" silicone having a durometer above 30.

29. The toilet seat cover of claim 1 wherein said sheet is a sheet of FDA Grade "A" 20 Shore silicone overlaid with a fiberglass reinforced core layer which is overlaid with a FDA Grade "A" silicone having a durometer from about 40 to about 50 Shore.

30. The toilet seat cover of claim 1 wherein said sheet is a sheet of FDA Grade "A" silicone of about 20 to about 30 Shore overlaid with a polyester top layer.

31. The toilet seat cover of claim 1 wherein said sheet is a sheet of FDA Grade "A" silicone material of at least 30 Shore having a thickness from about 0.12 to about 0.2 inches.

32. The toilet seat cover of claim 1 wherein said sheet is of silicone material having a durometer of less than 30 superimposed upon a reinforcement core layer.

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