CONTAINER SIDE WALL, CONTAINER WITH SUCH A CONTAINER SIDE WALL, AND PRODUCT-TRANSPORTING RECEPTACLE WITH SUCH A CONTAINER SIDE WALL.

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ABSTRACT
A polymerizable dental adhesive composition having bactericidal activity and high storage stability prior to curing. Said composition comprising hydrolysis-stable polymerizable monomers, a water soluble organic solvent, an initiator and a stabilizer.
The invention concerns a container sidewall for containers as well as a container with at least one such container sidewall. Moreover, the invention concerns product-transporting receptacle comprising such a container.

The container sidewall functions as a stabilizing means. Such stabilizing means, for example, so-called sandwich structures, are generally known and are utilized in different fields of application, for example, insulation technology, truck superstructures, industrial construction, advertisement boards, stage construction, furniture building etc. Sandwich structures comprise in general two stiff cover layers between which a more light-weight core material, for example, honeycomb structures of paper, lightweight wood, polyurethane, styrofoam or the like is arranged. When producing such sandwich structures, for example, first the cover layers are placed into a mold and are secured in place from the exterior by means of pressure plates at the desired spacing or are maintained in the desired shape and subsequently filled with polyurethane foam, for example. Alternatively, in case of shape-stable core materials the cover layers can be clamped together with the core material in a mold and pressed, glued or welded. This manufacture is relatively labor-intensive and cost-intensive and requires additional molds and machines that, for example, must also be matched in a complex way to the shape to be produced of the sandwich structure or to the form of the starting materials; this makes the production of the sandwich structures even more expensive.

Containers for bulk material and corresponding sidewalls are also generally known. An example for such containers are barrels or kgs, cardboard packages or intermediate bulk containers (IBC) that are rigid and often heavy (rigid intermediate bulk container, RIBC) or lightweight and flexible (flexible intermediate bulk container, FIBC) wherein the latter are also referred to as “big bag” and are essentially in the form of large bags with rectangular or round cross-section. The RIBC’s that often are comprised of metal or plastic material are used frequently for transporting liquid or pasty materials and FIBC’s are used frequently for transporting flowable bulk material, for example, construction materials such as sand, gravel, or rocks but also pharmaceutical substances, foodstuff or their intermediates. The specifications of such FIBC’s can be found in DIN EN standard 1898 (Specifications for flexible intermediate bulk containers (FIBC)).

As a result of the flexibility of the FIBC’s, in particular of their lateral surfaces, bulk material filled into such an FIBC that is resting on solid ground force the lateral surfaces outwardly so that they are caused to assume a convex shape and the FIBC even assumes a spherical shape in case of suspended transport. In this way, on the one hand, as a result of a reduced footprint the stability of the filled FIBC is negatively affected and, on the other hand, an efficient space utilization during transport or storage is worsened as a result of bulging of the FIBC.

Up to now, for reducing bulging rigid wooden or plastic pallets have been inserted into the FIBC’s. In this case, however, the plates contact the bulk material or transported goods and the plates must be secured with regard to tilting or toppling over; this makes more difficult handling before and during the filling process and increases costs. Alternatively, for stabilizing the FIBC corner-to-corner bracing is used also but such bracing also contacts the bulk material or transported goods. Also, the plates must be provided with through openings because otherwise a uniform filling of the FIBC’s is made more difficult. Moreover, by means of these measures only a mediocre straightening of the outer shape of the FIBC’s is achievable because the pressure forces generated by the bulk material or transported goods are essentially received and/or transmitted only locally and this also reduces the stability and makes difficult handling of the FIBC’s. Moreover, the FIBC’s are also stabilized by means of rigid plates that are placed or inserted between inner and outer surfaces, for example, made of wood or metal; however, as a result of excess material required for the inner and outer surfaces in order to enable placement or insertion, i.e., a play between these surfaces, handling of such FIBC’s, in particular before the filling process, is made difficult and the stability is reduced.

An object of the invention resides therefore in that a lightweight, stable, easily producible and inexpensive container sidewall for containers is to be provided. Moreover, a lightweight and easy-to-use container with at least one such container sidewall is to be provided which in particular is foldable and is distinguished by excellent shape stability especially in the filled state. Moreover, a product-transporting receptacle is to be provided that comprises at least one such container.

This object is solved in accordance with the invention by a container sidewall with the features of claim 1. For this purpose, on a container sidewall with two parallel oriented boundary surfaces that delimit at least partially a cavity at least one connecting means for the two boundary surfaces is provided in the area of the cavity wherein the cavity is filled or fillable at least partially with a shape-stabilizable material.

In this way, a simple manufacture and customizing of the container sidewall are enabled because the shape of the container sidewall can be determined by means of the shape of the cavity. The labor, material and cost expenditures are thus reduced because the use of complex molds or machines is no longer required. Moreover, the container sidewalls can be flexible, expandable or both. In addition, high cutting and puncture resistance are provided as well as high tear resistance.

For example, a least one container sidewall that is stiffened and/or shape-stabilized by means of the shape-stabilizable material can be connected to at least one flexible element, for example, a flexible container sidewall, for example, by sewing, gluing, welding or the like.

With respect to the container, this object is solved according to the invention in that the container provided for receiving goods to be transported comprises a plurality of sidewalls wherein at least one of the sidewalls is embodied as a container sidewall of the aforementioned and subsequently described kind. In this way, a lightweight construction of the container results which container is also flexible, i.e., at least partially foldable. Moreover, an excellent shape stability, for example, after erecting the container, is ensured, in particular in the filled state. For example, a container having a fill volume of 1,000 cm³ could weigh 5 to 15 kg.

In regard to the product-transporting receptacle, this object is solved in that the container comprises at least one first container and one second container of the aforementioned and subsequently described kind. The product-transporting receptacle comprises at least one...
porting receptacle is thus, on the one hand, lightweight and flexible, i.e., at least partially foldable and, on the other hand, is stable, in particular in the filled state. For example, a high lateral stability, particularly in case of filling with liquid or pasty materials, is provided. Moreover, the manufacture of the product-transporting receptacle is simple and inexpensive because essentially the same machines used for the manufacture of the first and the second containers are used and/or similar working steps are carried out in this connection.

Advantageous embodiments of the invention are the object of the respective dependent claims. The employed claim dependencies in this connection refer to the further embodiment of the object of the independent claims by the features of the respective dependent claims; the dependencies are to be understood as a waiver in regard to obtaining an independent object protection for the feature combinations of the subordinate dependent claims. Moreover, with regard to the interpretation of the claims for a detailed concrete embodiment of a feature in a dependent claim, it is to be understood that such a limitation is not present in the preceding claims.

In a preferred embodiment of the container sidewall at least one of the boundary surfaces is comprised at least partially of a fabric. In this way, a high flexibility as well as minimal weight are ensured. Moreover, an excellent force uptake and force distribution are ensured by means of the fabric.

Especially preferred is a polymer tape fabric, fiber fabric or a combination of both. In this connection, the fabric can comprise, for example, monofilament fibers, multi-filament fibers or a combination thereof.

Preferably, the fabric comprises at least partially a synthetic and/or a natural polymer, in particular a biopolymer. Moreover, the fabric can at least partially be coated with such polymer. In this way, in accordance with the selection of the polymer an excellent stability as well as, for example, resistance with regard to solvents can be achieved and moreover an inexpensive manufacture is ensured.

Especially preferred is a polymer tape fabric, fiber fabric or a combination of both. In this way, weather resistance, excellent foodstuff compatibility or excellent hygiene properties are ensured. The polymer polypropylene is especially preferred.

When the natural polymer is a biopolymer, for example, a biopolymer of a group comprising a polyhydroxy alkanate, polyolactate or a combination thereof, use an excellent biodegradability or recyclability is ensured, for example.

Preferably, a web, a seam, a rivet, a button, an adhesive connection, a weld connection or a combination thereof are provided as connecting means. When the connecting means is a web, it can be particularly in the form of a tie, a thread, a monofilament fiber, a multi-filament fiber, or a binding warp of the fabric; this ensures a simple manufacture of the container sidewall.

It is especially preferred that the cavity is structured by means of a plurality of webs into communicating fields. In this way, a substantially more uniform fillability is ensured and the manufacturing expenditure is thus reduced and costs are reduced. Moreover, a uniform force uptake and force transmission as a result of a substantially uniform material strength are ensured.

It is moreover preferred that the shape-stabilizable material is, for example, a granular material, a liquid, a gel, a gas, a foam or a combination thereof. This material can therefore be filled simply and inexpensively into the cavity, for example, by being poured, cast, injected, blown, sucked in or the like. Moreover, in this way a substantially uniform fillability of the cavity and/or distribution of the shape-stabilizable material in the cavity is provided. For example, the material can comprise polyurethane, a resin, bentonite or the like.

It is especially preferred that the shape-stabilizable material is a polyurethane hard foam. Such a material is lightweight and after solidification is shape-stable; this provides, on the one hand, minimal weight and, on the other hand, excellent stabilization properties. Moreover, an excellent thermal insulation with regard to heat and cold is ensured.

Especially preferred, the shape-stabilizable material in the cavity is at least temporarily transferable into a substantially shape-stable form. This can be realized, for example, by polymerization, curing, solidification, fusing, gluing or the like, can be provided for a limited time or can be permanent.

The shape-stabilizable material can be filled, for example, by means of a fill opening that is in particular closable, into the cavity. When the fill opening after introduction of the shape-stabilizable material into the cavity is closable, it is ensured that in case of a material that slowly assumes its shape-stable state the material remains in the cavity until at least a partial stabilization has been reached. Moreover, the closability makes it possible that the shape-stabilizable material can be distributed easily in the cavity, for example, by inverting, pivoting or the like.

Preferably the edges of a first boundary surface are connected at least partially to edges of a second boundary surface in order to form the cavity. In this connection, the edges can be connected for example by means of a seam, a weld connection, an adhesive connection or a combination thereof. In this way, the cavity can be easily and inexpensively formed and a seal-tightness of the connection relative to the shape-stabilizable material is ensured.

Preferably, the container sidewall has a rod-shaped or flat geometry and can be additionally deformable or shaped along at least one axis. In this way, excellent adaptability to a shape, for example, of transported goods and/or stored goods can be ensured. For example, a flat container sidewall can be provided as a pallet, for example, for packaged goods or the like, and/or can also be used in case of goods arranged on such a pallet (or a conventional pallet) for lateral stabilization of the goods.

In a preferred embodiment of the container the container comprises at least one first opening adjoining at least one sidewall for introducing or filling in the goods. Additionally or alternatively, the first opening can be an integral component of the boundary surface or the first opening can replace a sidewall, in particular an upper sidewall, at least partially.

The container can comprise, for example, a second opening that adjoins at least one boundary surface for removing transported goods. In this way, a simple removal of the transported goods, for example, in that it pours, falls, flows, runs or the like from the container. In this connection, it can be provided that the removal opening is integrated into a bottom side of the container.
When the container comprises a first opening, it can be closable, for example, by means of a closure flap of flexible or non-flex material, for example, a fabric. When the container comprises a first opening and a second opening, the first opening, the second opening or both openings can be closable. Additionally or alternatively, for at least one opening an introducing or filling aid and/or a removal aid, for example, a socket, a funnel, a chute, a projection of the like can be provided. Such aid can be realized at least partially of a flexible material, for example, a fabric. When, for example, a socket or a funnel of flexible material is present, it can be closable, for example, by a clamp, a clip, a tie, a strap, or the like. Additionally or alternatively, the removal opening can be generated at the time of removal, for example, by means of a cut. In this connection, on the surface of a container sidewall a preferred location can be provided and can be marked for locating it more easily, for example, by color.

It is especially preferred that the first and second openings are arranged opposite one another so that a simple and substantially complete introduction and/or filling and removal of the transported goods is ensured. For example, the first and second openings can be arranged on an upper side-wall and a lower sidewall.

Preferably, the container comprises at least one suspension means; in this way a simple transport, for example, a suspended transport, is ensured. For example, the container comprises one, two, four or more suspension means. In this connection, the suspension means may be connectable, for example, to at least one boundary surface or a connecting location of at least two boundary surfaces. Additionally or alternatively, the suspension means can be an integral component of the boundary surface and/or the connecting location. In this way, a safe, simple and inexpensive realization of the suspension means can be ensured.

It is especially preferred that the container is at least partially foldable, in particular in a substantially empty state. In this way, it is ensured that the container can be stored and transported in a space-saving and inexpensive way.

In a preferred embodiment of the product-transporting receptacle according to claim 27 an outer contour of the first container is matched to an inner contour of the second container in such a way that the second container receives the first container or can receive the first container. In particular, the first container can be provided for receiving the goods. The first container will also be referred to here and in the following as an inner part and the second container as an outer part.

It is especially preferred in this connection that at least one container sidewall of the first container and/or of the second container is effective for shape stabilization of the product-transporting receptacle. In this way, material savings as well as simplification of the manufacture and thus cost reduction are achieved.

It is especially preferred that two oppositely positioned container sidewalls of the first container and two oppositely positioned container sidewalls of the second container are effective for shape stabilization of the product-transporting receptacle wherein the opposite container sidewalls of the first container relative to the oppositely positioned container sidewalls of the second container are arranged such that, as a whole, four shape-stabilizing container sidewalls result.

In this connection, the product-transporting receptacle can comprise at least one support, for example, of metal, wood, plastic material, biopolymer composite material or the like for stabilization. The at least one support can be, for example, tubular, rod-shaped, flat or the like, for example, an angle piece. Additionally or alternatively, the support can be arranged in at least one corner area.

In an especially preferred embodiment of the invention, the container sidewall according to the invention has at least one mobility strip that extends about the entire height of the sidewall and that operates as a hinge; the mobility strip is free of stabilizable material and its width corresponds at least to the length of the connecting means. Advantageously, both boundary surfaces at least partially are comprised of fabric and the fabrics are connected in the area of the mobility strip across the entire height of the container sidewall in an impermeable way for the shape-stable material. The connection is realized in particular by sewing or interweaving of the two fabrics. When filling the container sidewall with the shape-stabilizable material, the thus formed mobility strip is free of shape-stabilizable material and maintains thus its flexibility so that the mobility strip can operate as a hinge. In this way, it is achieved that the container sidewall is foldable even in the state filled with the shape-stabilizable material. Advantageously, the container sidewall has at two opposed ends a mobility strip, respectively, as well as a third mobility strip between the two first mobility strips. In this connection, the strips are also free of shape-stabilizable material and their width corresponds at least to the length of the connecting means. By means of this configuration an even more improved folding of the container sidewall is achieved when it is connected with further container sidewalls to form a container. In an especially preferred configuration of a container according to the invention, at least two opposite container sidewalls are provided with one of several configurations of the aforementioned mobility strips. Advantageously, the container has in this connection a substantially cubical shape with four container sidewalls according to the invention of which at least two opposed sidewalls each have three mobility strips of the aforementioned kind. In this way, a space-saving folding of the container in the empty state is possible. The bottom and the top of the container are preferably formed by a fabric with a closable opening for filling or emptying the container.

Embodiments of the invention will be explained in the following with the aid of the drawing in more detail. Objects or elements that correspond to one another are identified in the Figures with same reference numerals.

The, or each, embodiment is not to be understood as a limitation of the invention. Instead, in the context of the present disclosure, numerous variations and modifications are possible, in particular such variants, combinations and/or materials that, for example, by combinations or modification of individual features or elements, described in connection with the general or special description part as well as in the claims and/or the drawings, are apparent to a person skilled in the art with regard to the solution of the object and, by combinable features lead to a new object, also in regard to the manufacturing processes. It is shown in:

FIG. 1 a schematic perspective illustration of a cross-section of a container sidewall according to one embodiment of the invention;

FIG. 2 a schematic illustration of a cross-section of a further embodiment of the container sidewall according to FIG. 1.
FIG. 3 a schematic perspective illustration of a further embodiment of the container sidewall according to FIG. 1.

FIG. 4 a schematic perspective illustration of a further embodiment of the container sidewall according to the invention according to FIG. 3.

FIG. 5 a schematic perspective illustration of a further embodiment of the container sidewall according to the invention according to FIG. 4;

FIGS. 6a, 6b, & 6c schematic cross-sections of different embodiments of a container according to the invention;

FIG. 7 a semi-transparent schematic illustration of a further embodiment of a container according to the invention;

FIG. 8 a schematic cross-section of a further embodiment of a container according to the invention;

FIG. 9 a schematic cross-section of a further embodiment of a container according to the invention in accordance with FIG. 8 provided with supports;

FIGS. 10a, 10b a semi-transparent schematic illustration of an outer part of a further embodiment of a container according to the invention;

FIG. 11 a semi-transparent schematic illustration of an inner part of an embodiment of a container according to the invention according to FIG. 10a and/or 10b;

FIG. 12 a schematic cross-section of an embodiment of a product-transporting receptacle according to the invention with an inner part and an outer part;

FIG. 13 a schematic cross-section of a further embodiment of the product-transporting receptacle according to the invention in accordance with FIG. 12;

FIG. 14 shows a container according to the invention in three-dimensional illustration;

FIG. 15 shows a side view of the container sidewall XV according to the invention illustrated in FIG. 14;

FIG. 16 shows the object of FIG. 15 in a section view according to the line XVI-XVI; and

FIG. 17 shows a cross-section illustration of the object of FIG. 14 with two partially folded container sidewalls.

In the following, elements that function in the same way are identified with the same reference numeral, should this be beneficial.

FIG. 14 shows a schematic perspective illustration of a cross-section of a container sidewall 10 according to the invention with two parallel arranged boundary surfaces 12a, 12b, for example, made of a fabric 14a, 14b that are connected to one another at the edges 16, for example, by sewing, and in this way delimit a cavity 18. In addition or alternatively, the edges 16 can be glued, welded or connected in a similar way. In the area of the cavity 18 the two boundary surfaces 12a, 12b are connected to one another by a plurality of connecting means 20, here in the form of webs 22a, 22b, 22c, 22d, for example, made of polypropylene tapes, so that the boundary surfaces 12a, 12b essentially do not surpass a spacing that is determined by the length of the webs 22a, 22b, 22c, 22d. In this way, fields 24 that communicate with one another are formed whose shape is determined by the arrangement of the webs 22a, 22b, 22c, 22d in the cavity 18. This construction is referred to here and in the following as a spaced-apart double fabric 25. Additionally or alternatively, the connecting means can comprise multi-filament fibers or the like.

Additionally, the cavity 18 is fillable with a shape-stabilizable material 18a, for example, a polyurethane foam, in particular polyurethane hard foam. In this connection, the shape-stabilizable material 18a will be distributed in the fields 24 because they communicate with one another (communicating fields) so that after solidification of the foam a substantially stiff container sidewall 10 with the capability of force uptake and force distribution results. A shape of the container sidewall 10, for example, a flat shape, results in principle from the shape of the cavity 18, the spacing of the boundary surfaces 12a, 12b, and the fill volume. In this connection, the length of the webs 22 determines the thickness of the container sidewall 10 but in the areas that are not connected by means of webs 22a, 22b, 22c, 22d pillow-like bulges of the fields 24 can occur within certain limits. Filling of the cavity 18 with the shape-stabilizable material 18a is realized, for example, by means of an at least partially open edge 16 or a fill opening 26. In the case of a fill opening 26, the fill opening can be closed, for example, tied off, sewn shut or the like, after the shape-stabilizable material has been filled in or after solidification of the shape-stabilizable material 18a.

FIG. 2 shows schematically simplified a cross-section of a further embodiment of a container sidewall 10 that substantially corresponds to that disclosed in connection with FIG. 1. However, the webs 22a, 22b of the spaced-apart double fabric 25 are embodied as doubled webs 26a, 26b, 26c, 26d, for example, as a binding warp 28a, 28b.

FIG. 3 shows a schematic perspective illustration of a further embodiment of a container sidewall 10 that substantially corresponds to that disclosed in connection with FIG. 1. As a result of the arrangement of the webs 22a-22d, after filling the cavity 18, for example, with polyurethane foam, convex support elements 30a, 30b, 30c, 30d, 30e result that project past the surface of the container sidewall 10 at least upwardly and downwardly. In this connection, support elements 30a, 30b, 30c, 30d, 30e are advantageously provided at least in the corner areas 32a, 32b, 32c, 32d of the container sidewall 10. Moreover, the support elements 30a, 30b, 30c, 30d, 30e can be located also in the central area of the container sidewall 10.

FIG. 4 shows schematically simplified a further embodiment of a container sidewall 10 which is substantially identical to that described in connection with FIG. 3 but comprises support elements 30f, 30g along two opposed edges 16.

FIG. 5 shows schematically simplified a container sidewall 10 that corresponds substantially to that illustrated in FIG. 4 and has a second opening 34 in a central area of the container sidewall 10. This second opening 34 is surrounded by an annular support element 36.

All support elements 30a-30g, 36 illustrated in FIGS. 3 to 5 can be formed by partially removing webs 22a-22b or it is possible not to provide webs 22a-22b at the corresponding locations from the outset.

FIG. 6a shows a schematically simplified cross-section of an embodiment of a container 38 according to the invention with flexible sidewalks 40a, 40b, 40c, 40d and an interior 42 delimited by them wherein the sidewalks 40a, 40b, 40c, 40d correspond in their configuration to the configuration of the spaced-apart double fabric 25 as illustrated in FIG. 2 and at least partially are fillable with shape-stabilizable material 18a so that a container sidewall 10 of the kind illustrated in FIG. 2 is obtained. In this connection, neighboring sidewalks 40a, 40b, 40c, 40d are connected to one another by sewing at connecting locations 44a, 44b, 44c, 44d. In addition or alternatively, they can also be connected by gluing, welding or the like. In the embodiment illustrated in FIG. 6a the
interior 42 is delimited by an annular sidewall 40a that has no connecting locations 44a, 44b, 44c, 44d (shown in FIG. 6a). [0064] The basic configuration corresponds to that illustrated in FIG. 6a. Alternatively, as illustrated in FIG. 6c, the annular boundary surface 40a comprises a connecting location 44a.

[0065] FIG. 7 shows a semi-transparent schematic illustration of a further embodiment of a container 38 according to the invention with rectangular cross-section. A sidewall 40a-40d, here a lower sidewall 46, corresponds in its configuration to container sidewall 10 illustrated in FIG. 5 and is connected to the adjoining container sidewalls. An upper sidewall 48 comprises a first opening 50 with a filling aid 52, here a flexible upwardly open filling socket 54 where the first and second openings 50, 53 are substantially positioned opposite another. The fill opening 50 can be optionally or the first opening 50 can replace the upper sidewall 48. In this connection, the rectangular cross-section can be square, for example.

[0066] On the upper corner 54a, 54b, 54c, 54d of the container 38 there are suspension means 56a, 56b, 56c, 56d, for example, loops which are connected to the connecting locations 44a, 44b, 44c, 44d, for example, are sewn in or the like. Additionally, or alternatively, the suspension means 56a, 56b, 56c, 56d can also be connected to the sidewalls 40a, 40b, 40c, 40d, for example, by sewing, or can even be formed by them.

[0067] Moreover, the second opening 44 can comprise a removal aid, for example, a removal socket, and the first, the second or both openings 44, 50 can be closable by means of a closure means, for example, a clip, a clamp, a tie, or the like and/or can be covered by means of a web of flexible material.

[0068] FIG. 8 shows a schematic cross-section of a further embodiment of a container 38 according to the invention in which four walls 40a-40d are connected flexibly to one another at connecting locations 44a-44d. Two oppositely positioned sidewalks 40b, 40d are container sidewalks 10a, 10b of the aforementioned kind and two oppositely positioned sidewalks 40a, 40c are flexible.

[0069] Moreover, two further container sidewalks 10c, 10d are movably connected at an edge 16b, 16c to the connecting locations 44b, 44d and in this way, like a hinge, are foldable so that a foldability of the container 38 results. Additionally or alternatively, two or both sidewalks 48, 46 (shown in FIG. 7) can also be container sidewalls 10a and movably connected to the connecting locations 44b, 44d and thus be foldable or foldable.

[0070] FIG. 9 shows a schematic cross-section of a further embodiment of container 38 according to the invention in accordance with FIG. 8, wherein additionally in the area of the connecting locations 44c, 44b, 44c, 44d a support 10v, 10w, 10x, 10y, 10z is located, respectively. It can be tubular, rod-shaped or flat and can be comprised of metal, wood, plastic material, biopolymer, composite material, for example, a rod-shaped element filled with foamed polyurethane, or the like.

[0071] FIG. 10a shows a semi-transparent schematic illustration of an outer part 58 of a further embodiment of a container 38 according to the invention. It corresponds substantially to container 38 illustrated in FIG. 7 but two opposed sidewalks 40b, 40d are embodied as container sidewalks 10a, 10b as described above and two opposed sidewalks 40a, 40c are flexible. At the upper corners 54a, 54b, 54c, 54d of the outer part 58 of the container 38 there are suspension means 56a, 56b, 56c, 56d connected to the connecting locations 44a, 44c, 44d, and the first and second openings 34, 50 are rectangular and are delimited by stays that are formed by the upper and lower sidewalks 48, 46.

[0072] The outer part 58 illustrated in FIG. 10a corresponds substantially to that illustrated in FIG. 10a, but the first and second openings 54, 50 are round.

[0073] FIG. 11 shows a semi-transparent schematic illustration of an inner part 60—first container 38—of an embodiment of the container 38 according to the invention which is combinable with the outer part 58—second container 60a—as illustrated in FIG. 10a or 10b, for example, is insertable into this second container 60a (see FIGS. 10a and 10b). In this connection, two oppositely positioned sidewalks 40b, 40d are container sidewalks 10a, 10b and two oppositely positioned sidewalks 40a, 40c are flexible. The first and second openings 50, 53 are connected to a fill socket 54 or a removal socket 61. Preferably, the inner part 60 has an outer edge length which is smaller than a corresponding inner edge length of the outer part 58 (illustrated in FIGS. 6a and 6b) so that the inner part 60 can be inserted into the outer part 58 and therefore both parts 58, 60 provide a product-transporting receptacle 62.

In this connection, the sidewalks of the inner and outer parts 60, 58 (see FIGS. 10a, 10b) can contact at least partially, for example, position-lockingly, frictionally, or position-lockingly and frictionally. The inner part 60 is provided for receiving the goods to be transported.

[0074] FIG. 12 shows a schematic cross-section of an embodiment of a product-transporting receptacle 62 according to the invention with an inner and outer parts 60, 58 (first and second containers 38, 60a) in which the inner part 60 is inserted into the outer part 58 so that the container sidewalks 10a, 10b, 10c, 10d are arranged substantially parallel to one another so that the product-transporting receptacle 62 is foldable. Before filling is done, the inner and outer parts 60, 58 are turned by 90 degrees relative to one another so that the four container sidewalks 10a, 10b, 10c, 10d stabilize the goods to be transported on four sides.

[0075] FIG. 13 shows a schematic cross-section of a further embodiment of a product-transporting receptacle 62 according to the invention in accordance with FIG. 12 wherein additionally a support 10v, 10w, 10x, 10y, 10z is provided, respectively, in the area of the connecting locations 44a-44d of the outer part 58.

[0076] FIG. 14 shows a container 38 according to the invention with four container sidewalks 10a, 10b, 10c, 10d of which two opposite sidewalks 10a, 10b each have three mobility strips 63, respectively, that extend across the entire height h of the container sidewalks 10a, 10b. FIGS. 15 and 16 illustrated the positioning and configuration of the mobility strips 63. One mobility strip 63 is arranged on the oppositely positioned ends of the container sidewalks 10a, 10b, and a third mobility strip 63 is located centrally between the first two mobility strips 63. The two further container sidewalks 10a, 10b are each provided with only two mobility strips 63 on opposite sides of the container sidewalks 10a, 10b. Positioning and arrangement of the mobility strips 63 and the thus enabled foldability of the container 38 can be taken from FIG. 17. The width w of the mobility strips 63 corresponds at least to the length l of the connecting means 64. The container 38 illustrated in FIG. 14 has moreover suspension means 56a, 56b, 56c, 56d for transport of the container 38 and comprises a first opening 15 with a filling aid 52 that can be closed off by closure means 64, here in the form of ties.
What is claimed is:
1-35. (canceled)
36. A container sidewall comprising a first and a second parallel oriented boundary surfaces of a flexible fabric that delimit at least partially a cavity, wherein said first and second boundary surfaces, in the area of said cavity, are connected to one another by a plurality of connecting means so as to form communicating fields, wherein in said cavity with said communicating fields a shape-stabilizing material is distributed and is present in a shape-stabilized form so that the container sidewall is reinforced and/or shape-stabilized.
37. The container sidewall according to claim 36, wherein said flexible fabric is a tape fabric, a fiber fabric, or a combination thereof.
38. The container sidewall according to claim 36, wherein said flexible fabric comprises monofilament fibers, multi-filament fibers or a combination thereof.
39. The container sidewall according to claim 36, wherein said flexible fabric at least partially comprises a synthetic polymer, a natural polymer, or a combination thereof.
40. The container sidewall according to claim 36, wherein said connecting means is selected from a web, a seam, a rivet, a button, an adhesive connection, a weld connection or a combination thereof.
41. The container sidewall according to claim 40, wherein said web is a binding warp of said flexible fabric, a thread, a tie, a monofilament fiber or a multi-filament fiber.
42. The container sidewall according to claim 36, wherein said shape-stabilizable material comprises a granular material, a liquid, a gel, a foam, or a combination thereof.
43. The container sidewall according to claim 42, wherein said shape-stabilizable material is a polyurethane hard foam.
44. The container sidewall according to claim 36, comprising a fill opening for filling said shape-stabilizable material into said cavity.
45. The container sidewall according to claim 44, wherein said fill opening is closeable.
46. The container sidewall according to claim 36, wherein edges of said first boundary surface are connected at least partially to edges of said second boundary surface in order to form said cavity.
47. The container sidewall according to claim 46, wherein said edges of said first and second boundary surfaces are connected to one another by a seam, a weld connection, an adhesive connection, by weaving or a combination thereof.
48. The container sidewall according to claim 36 having a rod-shaped or a flat geometry.
49. The container sidewall according to claim 36, comprising a mobility strip extending across an entire height of the container sidewall and operating as a hinge, wherein said mobility strip is free of said shape-stabilizable material and has a width that corresponds at least to a length of said connecting means.
50. The container sidewall according to claim 49, wherein said first and second boundary surfaces in the area of said at least one mobility strip, across the entire height of the container sidewall, are connected to one another so as to be impermeable for said shape-stable material.
51. The container sidewall according to claim 49, wherein said first and second boundary walls are connected by sewing and/or weaving.
52. The container sidewall according to claim 49, wherein the container sidewall has three of said mobility strip, wherein a first and a second one of said mobility strips are positioned at opposite ends of the container sidewall and wherein a third one of said mobility strips extends between said first and second mobility strips.
53. A container for receiving goods to be transported, comprising at least two oppositely positioned container sidewalls according to claim 49.

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