puncture the inner and/or outer container, which is avoided by the labyrinth sections.

Preforms and preform assemblies will be discussed and disclosed for forming a container.

In view of the above, in accordance with a first aspect of the present invention, there is provided a container of a bag-in-container type, wherein a neck region of the container is provided with at least one opening extending substantially radially there through, into a space between the outer container and an inner container adjacent thereto, wherein the neck region is an integral part of the container and is provided with coupling elements, preferably at opposite sides of said at least one opening, seen in circumferential direction, for coupling of a connecting device to the container for introducing a pressure fluid through said at least one opening into a space between the inner and outer container, wherein the at least one opening is provided through the neck region of the outer container and wherein the container is manufactured from preforms that are formed by injection moulding.

In accordance with a second aspect of the present invention, there is provided a set of preforms specifically configured for forming a container as ~~describes~~ described herein.

In accordance with a third aspect of the present invention, there is provided a set of preforms for forming a container of a bag-in-container type, comprising an inner preform and an outer preform, wherein a neck region of one of the preforms, preferably an outer preform is provided with at least one opening extending substantially radially through the outer preform, into a space between the outer preform and the inner preform, wherein the neck region is provided with coupling elements, preferably at opposite sides of said at least one opening, seen in circumferential direction, for coupling of a connecting device to a BIC container after blow moulding of the preforms, for introducing a pressure fluid through said at least one

opening into a space between the inner and outer container, wherein the inner preform and the outer preform are formed by injection moulding.

In accordance with a ~~third~~fourth aspect of the present invention, there is provided a method for forming a set of preforms for integrally blow moulding a BIC type container, wherein an inner preform is inserted into an outer preform, wherein the inner preform is connected to the outer preform by at least a ring, welded or glued to a free end of at least one of the inner and outer preforms, wherein the ring can be an integral part of or can be connected to the other of the inner and outer preform, such that a space between the inner and outer preform is closed off by said ring and wherein at least one opening is provided through a neck region of the ~~inner preform or~~ outer preform, opening into said space and preferably extending substantially radially through a wall of said neck region, and wherein the inner preform and the outer preform are formed by injection moulding.

In accordance with a ~~fourth~~ fifth aspect of the present invention, there is provided a tapping assembly for a beverage, comprising a container as described herein or formed from a set of preforms as described herein or using a method as described herein, wherein the assembly further comprises a connecting device, connected or connectable to the neck portion of the container, wherein the connecting device comprises at least one connecting element for connecting to the at least one opening, wherein the connecting element is connected to a source of pressurised gas.

In order to further elucidate the present invention, embodiments thereof shall be disclosed and discussed hereafter, with reference to the drawings. Therein shows:

Fig. 1 in side view part of an assembly according to the disclosure, showing a neck region of a container with a connecting device, in a first embodiment;

Fig. 2 in side view part of an assembly according to the disclosure, showing a neck region of a container with a connecting device, in a second embodiment;

Fig. 3 in perspective view the embodiment of fig. 1;

Fig. 4 in cross sectional side view along the line IV - IV in fig. 3 the first embodiment;

Fig. 5 in cross sectional side view along the line V - V in fig. 3 the first embodiment;

Fig. 5A in a view according to fig. 5 an alternative embodiment, especially of the valve and of the container, for example according to fig. 14 C and D and fig. 15A, wherein the connecting device has been rotated such that the connecting elements are in engagement with the container;

Fig. 6 in perspective view the embodiment of fig. 2;

Fig. 7 in cross sectional side view along the line VII - VII in fig. 6 the second embodiment;

Fig. 8 in cross sectional side view along the line VIII - VIII in fig. 6 the second embodiment;

Fig. 9 a gas connecting unit of a connecting device, in perspective view, from a top and a bottom side;

Claims

1. Container of a bag-in-container type, wherein a neck region of the container is provided with at least one opening extending substantially radially there through, into a space between the outer container and an inner container adjacent thereto, wherein the neck region is an integral part of the container and is provided with coupling elements, preferably at opposite sides of said at least one opening, seen in circumferential direction, for coupling of a connecting device to the container for introducing a pressure fluid through said at least one opening into a space between the inner and outer container, wherein the at least one opening is provided through the neck region of the outer container and wherein the container is manufactured from preforms that are formed by injection moulding.

2. Container according to claim 1, manufactured by blow moulding from at least an inner and an outer plastic preform, wherein the inner and outer preform are preferably integrally blow moulded to form the bag-in-container type container, such that the outer preform forms at least part of the outer container and the inner preform forms at least part of the bag or inner container, and wherein a closure ring is provided to the inner and outer container, at least closing off the space between said inner and outer container.

3. Container according to claim 2, wherein the outer container and inner container have first and second neck regions respectively, wherein the ring is connected to the free ends of the first and second neck regions, preferably by welding.

4. Container according to any one of claims 1 - 3, wherein the bag is suspended by a neck region of the bag in the neck region of the outer container, wherein the neck regions both have a free end opposite a body portion of the container, wherein a closure ring is mounted to the free ends

of the inner and outer container, preferably by welding, wherein an edge of the free end of the neck region of the inner container lies at a level closer to the body portion of the container than an edge of the free end of the neck region of the outer container, such that the ring extends at least partly into the neck region of the outer container.

5. Container according to claim 3 or 4, wherein the at least one opening in the neck region is positioned at a level between the free ends of the neck regions of the inner and outer containers to which the ring is connected.

6. Container according to any one of the previous claims, wherein the inner container is provided at the neck region with an outward facing flange, which has an edge positioned close to or in abutment with an inner surface of the outer container above the at least one opening, substantially closing off the space between the neck regions of the inner and outer container, for preventing debris from entering the space between the inner and outer container, especially during mounting of a closure ring to the inner and/or outer container.

7 Container according to any one of claims 1 - 6, wherein the inner container has a free edge opposite a body portion of the container, which free edge is provided with an annular groove open to the side opposite the body portion, and wherein a ring is mounted to the free edge, having a skirt extending into said groove.

8. Container according to any one of claims 1 - 7, wherein the or a ring has been mounted to the inner and outer containers by spin welding.

9. Container according to any one of claims 1 - 8, wherein the or a ring is provided with an opening, opening into the bag or inner container, which opening is closed by a valve, preferably an aerosol type valve, and/or a valve mounted to the ring by clinching.

10. Container according to any one of claims 1 - 9, wherein the ring is provided with at least one circumferential wall part, preferably extending

substantially parallel to a longitudinal axis of the container or at least of the neck regions thereof, wherein teeth are provided on said wall part for engaging a spin welding tool.

11. Container according to any one of claims 1 - 10, wherein at least one of the inner and outer preform is provided with spacer elements, at least in a transition area between the neck regions and the body portion of the container, preventing close contact between at least part of the inner surface of the outer container and the outer surface of the inner container.

12. Set of preforms specifically configured for forming a container according to any one of claims 1 - 11.

13. Set of preforms for forming a container of a bag-in-container type, comprising an inner preform and an outer preform, wherein a neck region of one of the preforms, preferably an outer preform is provided with at least one opening extending substantially radially ~~there~~-through the outer preform, into a space between the outer preform and ~~a part of~~ the inner preform ~~adjacent thereto~~, wherein the neck region is provided with coupling elements, preferably at opposite sides of said at least one opening, seen in circumferential direction, for coupling of a connecting device to a BIC container after blow moulding of the preforms, for introducing a pressure fluid through said at least one opening into a space between the inner and outer container. wherein the inner preform and the outer preform are formed by injection moulding.

14. Set of preforms according to claim 12 or 13, wherein the inner and outer preform are for preferably integrally blow moulding to form the bag-in-container type container, wherein a closure ring is mounted on the inner and outer preform, at least closing off the space between said inner and outer preform.

15. Set of preforms according to claim 14, wherein the outer preform and inner preform have first and second neck regions respectively, wherein

the ring is connected to the free ends of the first and second neck regions, preferably by welding.

16. Set of preforms according to any one of claims 12 - 15, wherein the inner preform is suspended in the outer preform by a neck region of the inner preform, wherein the neck regions both have a free end opposite a body portion, wherein a closure ring is mounted to the free ends of the inner and outer preforms, preferably by welding, wherein an edge of the free end of the neck region of the inner preform lies at a level closer to a bottom forming portion of the outer preform than an edge of the free end of the neck region of the outer preform, such that the ring extends at least partly into the neck region of the outer preform.

17. Set of preforms according to claim 15 or 16, wherein the at least one opening in the neck region is positioned at a level between the free ends of the neck regions of the inner and outer preform to which the ring is connected.

18. Set of preforms according to any one claims 12 - 17, wherein the inner preform is provided at the neck region with an outward facing flange, which has an edge positioned close to or in abutment with an inner surface of the outer preform above the at least one opening, substantially closing off the space between the neck regions of the inner and outer preforms, for preventing debris from entering the space between the inner and outer preforms, especially during mounting of a closure ring to the inner and/or outer preform.

19 Set of preforms according to any one of claims 12 - 18, wherein the inner preform has a free edge opposite a bottom forming portion, which free edge is provided with an annular groove open to the side opposite the bottom forming portion, and wherein a ring is mounted to the free edge, having a skirt extending into said groove.

20. Set of preforms according to any one of claims 12 - 19, wherein the or a ring has been mounted to the inner and/or outer preforms by spin welding.

21. Set of preforms according to any one of claims 12 - 20, wherein the or a ring is provided with an opening, opening into the inner preform, which is sufficiently large for entering a blow moulding core tool, such as a stretch rod, into the inner preform during blow moulding the preforms into a BIC type container and for pressure release passed said tool.

22. Set of preforms according to any one of claims 12 - 21, wherein a ring is provided with at least one circumferential wall part, preferably extending substantially parallel to a longitudinal axis of the preforms or at least of the neck regions thereof, wherein teeth are provided on said wall part for engaging a spin welding tool.

23. Set of preforms according to any one of claims 12 - 22, wherein the inner and outer preforms each have a body forming portion extending from the respective neck regions, said body forming portions including bottom forming portions, wherein a longitudinal outer length of the body forming portion of the inner preform is substantially equal to a longitudinal inner length of the body forming portion of the outer preform.

24. Set of preforms according to any one of claims 12 - 23, wherein the outer preform has a substantially cylindrical body forming portion extending from the neck region, which is at least partly substantially cylindrical, the body forming portion and the neck region preferably having coinciding longitudinal axes, wherein a maximum outer cross section of the body forming portion is smaller than an average cross section of the substantially cylindrical portion of the neck region.

25. Set of preforms according to claim 24, wherein a flange is provided between the substantially cylindrical part of the neck region and the body forming portion of the outer preform.

26. Set of preforms according to claim 24 or 25, wherein the neck region of the outer preform is provided with an inward reaching shoulder, wherein the inner preform has an outward reaching flange, adjacent to or resting at least partly on said shoulder, wherein said flange and/or said shoulder preferably comprises at least one spacer element or passage for providing a passage between the flange and the shoulder.

27. Set of preforms according to claim 25 ~~and~~ or 26, wherein the shoulder is provided at a level substantially the same as the level of the flange.

28. Set of preforms according to any one of claims 12 - 27, wherein at least one of the inner and outer preform is provided with spacer elements, at least in a transition area between the neck regions and the body portion of the container, preventing close contact between at least part of the inner surface of the outer container and the outer surface of the inner container.

29. Method for forming a set of preforms for integrally blow moulding a BIC type container according to any one of claims 1 to 11, wherein an inner preform is inserted into an outer preform, wherein the inner preform is connected to the outer preform by at least a ring, welded or glued to a free end of at least one of the inner and outer preforms, wherein the ring can be an integral part of or can be connected to the other of the inner and outer preform, such that a space between the inner and outer preform is closed off by said ring and wherein at least one opening is provided through a neck region of the ~~inner preform or~~ outer preform, opening into said space and preferably extending substantially radially through a wall of said neck region, and wherein the inner preform and the outer preform are formed by injection moulding.

30. Method for forming a BIC type container using a set of preforms according to any one of claims 12 - 28 or a method according to claim 29, wherein part of a blow moulding tool is inserted into the inner preform through an opening in a or the ring closing off a space between the inner

and outer preform and integrally blow moulding the set of preforms into the container, thereby preferably allowing pressure equilibration between said space and the environment of the container through said at least one opening in the neck region, at least during blow moulding of the container.

31. Tapping assembly for a beverage, comprising a container according to any one of claims 1 - 10 or formed from a set of preforms according to any one of claims 12 - 28 or using a method according to claim 29 or 30, wherein the assembly further comprises a connecting device, connected or connectable to the neck portion of the container, wherein the connecting device comprises at least one connecting element for connecting to the at least one opening, wherein the connecting element is connected to a source of pressurised gas.