

The present invention relates in general terms to inflatable cushion packaging.

French patents FR-A-2063701 and FR-A-2625172 in particular disclose a packaging item comprising a rigid box, for example a parallelepiped, against the internal walls of which are respectively provided six inflatable cushions. Each cushion or group of cushions includes an inflating pipette which may pass through a hole fashioned in the equivalent face of the box in order to enable said cushion or group of cushions to be inflated from the outside.

Following inflation, an object to be packaged is therefore tightly wedged between the internal faces of the cushions which, as a result of their deformability, adjust to the shape and/or size of said object.

A packaging item of this kind may therefore be used to package articles of various dimensions and shapes by suitably wedging them on each occasion.

A known packaging item of this kind has several disadvantages, however.

Firstly, it may be awkward to position the cushions or groups of cushions correctly in the deflated or semi-inflated state.

Secondly, to enable the cushions to adapt easily to objects of different sizes, it is desirable to give them specially designed profiles, for example trapezoidal, which makes them more complicated to manufacture.

Finally, it may be noted that a known packaging item of this kind must include a specially designed rigid box, in that the box must be provided with at least one hole to enable a pipette to pass through for the purposes of inflation from the outside.

To overcome the various disadvantages of the prior art, the present invention provides an inflatable cushion which is easy to produce and which can be used to wedge suitably one or more objects to be packed in any rigid box, said inflatable cushion and the object being quick and easy to install in the box. Another aim of the

invention is to provide a packaging item comprising a conventional box and at least one cushion which can be easily inflated from the outside of the box after closure thereof without any special modifications having to be made to the box.

More particularly, the invention relates to an inflatable packaging cushion including:

- an external peripheral edge adapted to the shape and to the dimension of a packing receptacle,
- at least one internal opening capable of receiving at least one object to be packaged,
- a plurality of recesses extending from each internal opening towards the peripheral edge, said recesses delimiting in pairs wedging parts capable of coming into contact with the object, zones for preferential pivoting of the wedging parts being defined, during the inflation process, between said recesses and the peripheral edge, said wedging parts being able to pivot about the preferential pivoting zones in order to vary the size and/or the shape of each internal opening and to adapt it to objects of different sizes and/or shapes, whilst exerting a holding pressure on the object or objects.

The inflatable cushion according to the invention, which is advantageously of a one-piece design, therefore makes it easy, after inflation, to wedge tightly one or more objects to be packed between the internal faces of said wedging parts which, by pivoting, adapt to the shape of said object or objects.

In a preferred embodiment of the inflatable cushion according to the invention, each internal opening has a rectangular shape, said recesses extending from each of the corners of each rectangle towards the peripheral edge of said cushion and thus delimiting in pairs four wedging parts per opening, which are capable of coming into contact with the object to be packaged.

The internal opening therefore has a shape well suited to receiving one or more fragile objects essentially in the shape of a parallelepiped.

Furthermore, since the packaging receptacles designed to hold the inflatable cushion according to the invention are themselves usually in the shape of a parallelepiped, it is particularly advantageous for the external peripheral edge of said cushion essentially to describe a rectangle in the deflated state, each internal opening being placed in such a manner that at least some of the recesses extend in the direction of the corners of said peripheral edge.

It is therefore quick and easy to install in a parallelepipedal packaging box the cushion according to the invention in a deflated or semi-inflated state and the object to be packaged. Inflation of said cushion placed inside the box is then completed until the object to be packaged is suitably squeezed by said wedging parts and the latter form shock absorbers between the object and the lateral walls of the packaging box.

Another aim of the present invention is to provide a packaging item including a box made from rigid cardboard or the like, at least one inflatable cushion according to the invention and at least one other inflatable cushion placed above or below at least one object to be packaged.

According to the invention, this other inflatable cushion, especially for a packaging item including a box provided with at least one articulated closure flap, one edge of which is adjacent to a corner of the box, includes a self-sealing inflating valve located in a corner region of said cushion, said inflating valve being placed, when said cushion is installed in the box, in the region of the corner, which enables said cushion to be inflated from outside, after closing said flap, by means of an inflating hose inserted into said inflating valve and passing via a space located between the articulated closure flap and at least one face of the box adjacent to the corner.

This other inflatable cushion according to the invention may therefore be advantageously inflated from the outside when the packaging box is closed, without the box having to have special holes to allow the inflating hose to pass through, which means that any packaging boxes with articulated closure flaps already on the packaging market can be used.

The invention also relates to a method for packaging at least one article with the aid of the packaging item described above and including a box, one opening of which can be closed by articulated flaps, comprising the steps consisting in:

- a) placing at least a first inflatable cushion according to the invention, in the deflated or semi-inflated state, as well as the article or articles, inside the box via its opening, the article or articles being located in each internal opening of each cushion,
- b) completing the inflation of said cushion and then arranging, in the box, at least one other inflatable cushion according to the invention in the deflated or semi-inflated state, an inflating hose being inserted into the self-sealing valve of said inflatable cushion,
- c) closing the flaps of the box in such a way that said inflating hose emerges outside said box through the space located between a flap and at least one face of the box,
- d) inflating said cushion from outside the box.

In order to provide better protection for the object to be packaged, the method according to the invention also comprises a preliminary step consisting in arranging another cushion in said box.

Other features and advantages of the present invention will become clear from a reading of the following detailed description of a preferred embodiment of the invention given by way of example and illustrated by the accompanying drawings in which:

- Figure 1 is a plan view of a first embodiment of an inflatable cushion according to the invention in the deflated state,
- Figure 2 is a plan view of the inflatable cushion in Figure 1 in the inflated state,
- Figure 3 is a perspective view of the inflatable cushion in Figure 1, in the inflated state,
- Figure 4 is a plan view of a first variant embodiment of the inflatable cushion in Figure 1, in the deflated state,

- Figure 5 is a plan view of a second variant embodiment of the inflatable cushion in Figure 1, in the deflated state,
- Figure 6 is a plan view of an inflatable cushion according to the invention in the deflated state, including a corner self-sealing valve,
- Figure 7 is a drawing in section along the line A-A' of the corner self-sealing valve of the inflatable cushion in Figure 6,
- Figure 8a is a detail illustrating the corner self-sealing valve and the two guide tabs of the inflatable cushion in Figure 6,
- Figure 8b is a view in section along the line B-B' of the valve and the two tabs in Figure 8a,
- Figure 9 is a detail illustrating a variant embodiment of the self-sealing valve in Figure 6,
- Figure 10 is a perspective drawing of a box for a packaging item according to the invention,
- Figure 11 is a plan view of a variant of the inflatable cushion in Figure 6,
- Figure 12 is a plan view of another variant of the inflatable cushion in Figure 6,
- Figure 13 is a plan view of another cushion according to the invention in the deflated state.

By way of introduction it should be noted that identical or similar members or parts in the various figures have been designated by the same reference symbols as far as possible and will not be described in each instance.

With initial reference to Figures 1, 2 and 3, these show a first embodiment of an inflatable cushion 100 for a packaging item according to the invention, designed to wedge and protect one or more objects to be packaged.

As these figures show, this inflatable cushion 100 has an external peripheral edge 101 which, in this case, essentially describes a rectangle and which is generally adapted to the shape and size of a packaging receptacle, for example a box made from rigid cardboard or the like. Secondly, this inflatable cushion 100 has an internal opening 102, which may be rectangular, for example, and is capable of receiving at least one object 500 to be packed, and a plurality of recesses 103, in

this case four recesses 103 extending from each of the corners of the rectangular internal opening 102 towards the peripheral edge 101 of said cushion 100 and, more particularly, in the direction of the corners of said peripheral edge 101. According to the embodiment illustrated by Figures 1, 2 and 3, the inflatable cushion 100 is made from two sheets of flexible plastic, in this case vinyl polyethylene acetate, which are juxtaposed and welded together in the region of their edges along the welding lines LS.

It will be noted that vinyl polyethylene acetate is a particularly advantageous material, firstly because it is flexible enough to adapt to the contours of the object to be packaged and, at the same time, strong enough not to be perforated by any very projecting or pointed portions of the object; secondly, it can be incinerated without giving off toxic fumes or can be recycled.

As Figures 2 and 3 show more clearly, the recesses 103 delimit in pairs wedging parts 104, 105, 106, 107, in this case four wedging parts, which are capable of coming into contact with the object 500 to be packaged, pivoting (as will be shown later) around preferential pivoting zones 108 defined between said recesses 103 and the peripheral edge 101.

According to the invention, the pivoting of said wedging parts 104, 105, 106, 107 around the preferential pivoting zones 108 makes it possible to vary the size and/or shape of the internal opening 102 to adapt it to objects of different sizes and/or shapes, whilst exerting a holding pressure on the object or objects to be packaged as a result of a righting moment exerted in the region of the pivoting zones 108. In this particular case, the shape of each recess 103 and/or of the peripheral edge 101 is such that, in this region, two preferential pivoting zones 108 are defined which are located respectively at two locations where the space between said recess 103 and the external peripheral edge 101 of said cushion 100 is the least.

In this example, as the three figures in question show, the peripheral edge 101 is substantially straight between two corners and each recess 103 is shaped substantially like a drop of water, that is to say shaped by two lines 103b, 103c

diverging from one corner of the internal opening 102 towards the peripheral edge 101 and connected by a rounding 103a close to said edge.

It will be noted that, in the region of the rounding 103a, there are two places where the space between said recess 103 and said external peripheral edge 101 is the least, and these two places define two preferential pivoting zones 108. It is obvious that the shapes of said recesses 103 and/or of the peripheral edge 101 as described are not unique, and that persons skilled in the art will be able to make any modifications they wish in the knowledge that it is sufficient to create at least one narrow section between one recess 103 and the peripheral edge 101 in order to define at least one preferential pivoting zone 108.

For example, it is possible for the external peripheral edge 101 to have scallops in the region of each recess 103 in order to define the preferential pivoting zones 108 with said recess.

Secondly, as Figure 3 shows more clearly, the shape and the dimension of the recesses 103 and of the peripheral edge 101 are such that, during the inflation process, two adjacent wedging parts pivot spontaneously in opposite directions, this spontaneous pivoting being due in particular to the fact that inflation of the cushion will give rise to certain tensions in the material thereof, particularly in the region adjacent to the recesses, and to the fact that these tensions are at a minimum after such pivoting has occurred.

The advantage will be noted that, according to the embodiment shown in Figure 3, the four lateral intersecting edges of the object 500 placed in the inflatable cushion 100 are engaged in said recesses 103 and are not therefore in contact with the cushion, thus minimising the risk of wear or damage to the cushion by these intersecting edges. As a result of their deformability, said recesses also constitute preferential shock absorption zones.

The inflatable cushion 100 shown in Figures 1, 2 and 3 has a self-sealing inflating valve 109 situated on one side of the peripheral edge 101 and enabling said cushion

to be inflated or deflated by means of an inflating hose which is inserted in said valve. It should be noted that this inflating valve 109 can be placed on any edge of said cushion 100, for example on the edge of the internal opening 102, naturally opening into the interior of said opening.

Figure 4 shows a variant embodiment of the inflatable cushion 100 in Figure 1, here with two internal openings 102, 102' which are square in shape. It also has eight recesses 103, 103' which extend from each of the corners of each square internal opening 102, 102' towards the peripheral edge 101 of said cushion 100. In this case, the cushion has four bevelled panels at the four corners. The internal openings 102, 102' are placed so that each opening 102, 102' has two recesses 103, 103' extending in the direction, respectively, of two corners of said peripheral edge 101 and two recesses 103, 103' extending, respectively, towards the centres of the longitudinal portions 101a, 101b of the peripheral edge 101. The cushion 100 shown in Figure 4 therefore has eight pivoting wedging parts 104, 105, 106, 107, 104', 105', 106', 107', each defined by two successive recesses, said wedging parts being capable of coming into contact with one or more objects to be packed. Furthermore, as Figure 4 shows, the cushion 100 has a fixed central wedging part 110 which extends between said openings 102, 102' and which has a central hole 117 produced by cutting the two sheets forming the cushion and welding the cut edges of said sheets along the line LS. This circular central hole acts as a shock absorber when said cushion is placed between the face of a packaging box and an object to be packed. Furthermore, this circular hole 117 reduces the thickness of the cushion in the inflated state.

Figure 5 shows another variant embodiment of the inflatable cushion 100 in Figure 1 comprising two internal openings 102, 102', each essentially straight. The parallel internal openings 102, 102' have a recess 103, 103' at each end. The cushion 100 therefore has four recesses 103, 103', each of the recesses extending in the direction of a corner of the peripheral edge 101. The cushion 100 also has three wedging parts 104, 104', 105. Two of the wedging parts 104, 104' are pivoting, and each is delimited by the two recesses 103, 103' extending from said openings. The third wedging part is a fixed central part 105 between the two openings 103, 103'.

In the centre of the central wedging part 105, the cushion 100 also has two circular holes 117 which, as has already been explained, help to reduce the thickness of the inflated cushion and act as a shock absorber. As with the cushion in Figure 4, the four corners of this cushion have a bevelled panel.

Figure 6 shows another inflatable cushion 200 according to the invention. This other inflatable cushion 200 has been specially designed for insertion into a packaging item according to the invention as shown in Figure 10 and comprising, in particular, a box 10 provided with articulated closure flaps, one of the edges of which is adjacent to one corner of the box, and an inflatable cushion 100 of the type shown in Figures 1, 2, 3, 4 and 5. Two of the flaps are designated by reference symbols 303 and 304.

According to the embodiment in Figure 6, the inflatable cushion 200 is made from two sheets 220 of flexible plastic, for example vinyl polyethylene acetate, welded together in the region of their edges along the welding line LS. As Figure 6 shows, the inflatable cushion 200 is of rectangular shape, thus adapting to the shape and dimension of the box 10. This cushion shape is the preferred one, given that the majority of packaging receptacles are essentially in the shape of a parallelepiped.

The inflatable cushion 200 also preferably has a self-sealing inflating valve 210 situated in a corner region of said cushion 200. When the latter is installed in the box 10, said inflating valve 210 is therefore placed in the region of a corner 300 of the box, which enables said cushion 200 to be inflated from the outside, following closure of the articulated flaps, by means of an inflating hose 400 inserted in said valve 210 and passing via a space located between the flaps 303 and 304 and the box faces 301, 302 adjacent to said corner 300. This inflation feature is of particular interest because it makes it possible to use a flapped packaging box without any special fittings through which said hose can pass.

As Figures 6, 7 and 8a show, the self-sealing inflating valve 210 comprises two thin sheets 211 of plastic which are juxtaposed and welded together along two parallel lines so as to form a passage conduit for the inflating hose 400 which is open at

both ends. As Figure 7 shows more clearly, the inflating valve 210 is located between the two sheets 220 forming said cushion 200 in the corner region of said cushion. Furthermore, as Figure 6 shows, said valve extends from one corner of the cushion over only one portion of the length of a diagonal of the cushion, thus enabling the cushion to be deflated by insertion of the hose 400 into the valve beyond the free end of the passage conduit.

According to a variant of the self-sealing inflating valve 210 as shown in Figure 9, the parallel welding lines of the two thin sheets 211 are locally spaced apart from one another so that the passage conduit for the inflating hose created by said lines includes a widening located some distance from the free end of said conduit, placed inside the cushion 200.

Advantageously, therefore, when inflation of said cushion 200 is stopped and the hose 400 is still partially engaged in the passage conduit, the two thin sheets 211 are applied against each other as a result of a distortion caused near the free end of said conduit by said widening so as to directly obstruct the conduit and thus prevent partial deflation of the cushion.

Furthermore, as Figures 6, 8a, 8b and 9 show, at one of their ends the sheets 211 are welded to each other and to the two sheets 220 forming the cushion along a welding line 212a extending along a bevelled panel 212 of the corner of the cushion, leaving an unwelded area at right angles to an opening 215 adjacent to the conduit so as to leave the conduit open to the outside for the insertion of the inflating hose 400.

To facilitate the insertion of the hose into the conduit, as shown in Figures 6, 8a, 8b and 9 the inflatable cushion includes two flexible guide tabs 213, each of which is constituted by the prolongation of one sheet 220 of the cushion and one sheet 211 of the valve, superimposed. According to the embodiment shown more particularly in Figures 8a and 8b, a peripheral weld seam 212b, separate from the welding line 212a along the bevelled panel 212, joins them together and has edges located in the prolongation of the adjacent edges of the cushion 200. More precisely,

Figures 8a, 8b and 9 show that the end of the inflating valve is welded to the cushion 200 along a welding line 212a, this weld seam connecting, on the one hand, the two thin sheets 211 and the two sheets 220 comprising said cushion. According to the variant embodiment shown in Figure 9, a single welding line 212a' can be seen to extend along the bevelled panel 212, making it possible, on the one hand, to weld the sheets forming the self-sealing valve to each other and to the sheets forming the cushion and, on the other hand, to join the sheets comprising the guide tabs to said cushion. It will be noted that this welding line 212a' is considerably wider than the ordinary welding line 212a. This makes it possible for a mark or specification relating to the cushion to be inscribed on said welding line 212a'.

In this context it should be noted that the inflatable cushions 100 according to the invention as shown in Figures 1, 2, 3, 4 and 5 can also include, if necessary, a corner self-sealing inflating valve according to the embodiments shown more particularly in Figures 7, 8a, 8b and 9.

Figures 11 and 12 show two other embodiments of the inflatable cushion 100 fitted with a corner valve. As can be seen in Figure 11, the inflatable cushion 200 includes a central hole 216 produced by cutting the two sheets 220 forming the cushion and by welding the cut edges of said sheets along the welding line LS. This central hole, in this case rectangular in shape, makes it possible for the cushion advantageously to participate in the wedging of the objects to be packaged.

According to the embodiment shown in Figure 12, the inflatable cushion 200 has four circular holes 217 produced by cutting said sheets 220 and welding along the welding lines LS. These circular holes 217 advantageously help to reduce the thickness of the cushion in the inflated state and act as shock absorbers when said cushion is placed between the face of a packaging box and an object to be packaged.

Furthermore, the packaging item of the type shown in Figure 10 comprises a conventional box 10 made of rigid cardboard or the like and having articulated closure flaps and, for example:

- a first inflatable cushion 200 of the type shown in Figures 6 and 11 or 12, at the bottom of the box 10,
- above this cushion 200, the object 500 to be packaged resting in an inflatable cushion 100 of the type shown in Figures 1, 2 and 3, in the inflated state,
- a second inflatable cushion 200 of the type shown in Figures 6 and 11 or 12, placed above the object 500 to be packaged, in the deflated or semi-inflated state. This latter cushion is inflated, after the closure of the articulated flaps of the box 10, by a hose 400 inserted in the corresponding inflating valve 210 and passing through the box in the region of one of its corners between the flaps 303, 304 and the lateral faces 301, 302.

According to a second example, the packaging item of the type shown in Figure 10 comprises only two inflatable cushions 100 of the type shown in Figure 4 in the inflated state, each inflatable cushion 100 being positioned such that each fixed central wedging part 110 is placed against a lateral face of the object 500 to be packaged, each associated opening 102, 102' being positioned obliquely with respect to said corresponding fixed central wedging part 110 such that each corner of said object 500 is engaged in an opening 102, 102', the four wedging parts 104, 105, 106, 107, 104', 105', 106', 107' associated with each opening 102, 102' pivoting so that one of the wedging parts is positioned against the upper face of the object 500, another wedging part is positioned against the lower face of said object 500 and the other two wedging parts are positioned against two adjacent lateral faces of said object.

According to a third example, the packaging item of the type shown in Figure 10 comprises only two inflatable cushions 100 of the type shown in Figure 5, a first inflatable cushion 100 being positioned, in the inflated state, under the object 500 to be packaged, in such a manner that said fixed central wedging part 105 is placed against the lower face of said object 500, said wedging parts 104, 104' associated with the two openings 102, 102' pivoting so as to be placed against each of the two opposing lateral faces of said object 500 so that the parallel lower transverse intersecting edges of said object engage in said openings 102, 102', the second inflatable cushion 100 being positioned, in the inflated or semi-inflated state, above

the object to be packaged, in such a manner that the fixed central wedging part 105 is positioned against the upper face of said object 500, said wedging parts associated with the two openings pivoting so as to be placed against each of the other two opposing lateral faces of the object so that the parallel upper longitudinal intersecting edges of the latter engage in each of said openings of said cushion.

Figure 13 shows another inflatable cushion 400 according to the invention. This inflatable cushion 400, which is made from flexible plastic sheets welded together in the region of their edges, includes:

- an external peripheral edge 401 which has four bevelled panels in the four corners,
- a plurality of recesses 402, 403, 404, 405, extending towards the interior of the cushion 400 from the peripheral edge 401,
- a plurality of welding lines 410 extending from each recess in the direction of the adjacent recess, an articulated wedging part 406 being jointly defined by a welding line 410, parts of each associated recess 402, 403, 404, 405 and the peripheral edge 401. The articulated wedging parts 406 have an essentially trapezoidal shape. Furthermore, each articulated wedging part 406 communicates with the rest of the cushion via a discontinuous part 410a of each welding line 410. These discontinuous parts 410a of the welding lines 410 are located at the centre of the latter. Furthermore, the articulated wedging parts 406 pivot substantially about said welding lines 410. It will be noted that said recesses 402, 403, 404, 405 of the inflatable cushion 400 have a semicircular shape. Figure 13 also shows that the cushion 400 has a central hole 417 of circular shape which acts as a shock absorber and helps to reduce the thickness of the cushion in the inflated state. The cushion 400 also has a self-sealing valve 411 located in a corner region of said cushion 400. This valve 411 is of the type shown in Figures 8a or 9.

The invention can be advantageously used in the transportation and handling of any fragile goods, particularly electronic or computer equipment or the like, with the option of using a single type of packaging for a whole range of products and of being able to re-use it repeatedly.



CLAIMS

1. Inflatable packaging cushion (100), characterised in that it includes:
 - an external peripheral edge (101) adapted to the shape and to the dimension of a packing receptacle,
 - at least one internal opening (102, 102') capable of receiving at least one object to be packaged,
 - a plurality of recesses (103, 103') extending from each internal opening (102, 102') towards the peripheral edge (101), said recesses (103, 103') delimiting in pairs wedging parts (104, 105, 106, 107, 104', 105', 106', 107') capable of coming into contact with the object, zones for preferential pivoting (108) of the wedging parts (104, 105, 106, 107, 104', 105', 106', 107') being defined between said recesses and the peripheral edge, said wedging parts (104, 105, 106, 107, 104', 105', 106', 107') being able to pivot during the inflating about the preferential pivoting zones (108) in order to vary the size and/or the shape of each internal opening (102, 102') and to adapt it to objects of different sizes, whilst exerting a holding pressure on the object or objects.
2. Inflatable cushion (100) according to Claim 1, characterised in that each internal opening (102, 102') has a rectangular shape, said recesses (103, 103') extending from each of the corners of each rectangle towards the peripheral edge (101) of said cushion (100) and thus delimiting in pairs four wedging parts per opening, which are capable of coming into contact with the object to be packaged.
3. Inflatable cushion (100) according to Claim 1, characterised in that each internal opening (102, 102') has an essentially straight shape, said recesses (103, 103') extending from each of the ends of each straight opening towards the peripheral edge (101) of said cushion (100) and thus delimiting in pairs one wedging part per opening, which is capable of coming into contact with the object to be packaged.
4. Inflatable cushion (100) according either of Claims 2 and 3, characterised in that the shape of each recess (103, 103') and/or of the peripheral edge (101)



is such that, in this region, two preferential pivoting zones (108) are defined which are located respectively at two locations where the space between said recess (103, 103') and the external peripheral edge (101) of said cushion (100) is the least.

5. Inflatable cushion (100) according to any one of Claims 2 to 4, characterised in that the shape and the dimension of the recesses (103, 103') and/or of the peripheral edge (101) is such that, during the inflating, two facing wedging parts (104, 105, 106, 107, 104', 105', 106', 107') pivot in opposite directions.
6. Inflatable cushion (100) according to any one of the preceding claims, characterised in that each of said recesses (103, 103') has a width which increases, at least locally, from each internal opening (102, 102') towards the peripheral edge (101).
7. Inflatable cushion (100) according to any one of Claims 2 to 6, characterised in that, in the deflated state, the external peripheral edge (101) essentially describes a rectangle, each internal opening (102, 102') being placed in such a manner that at least some of the recesses (103, 103') extend in the direction of the corners of said peripheral edge.
8. Packaging item, characterised in that it includes a box (10) made from rigid cardboard or the like, at least one inflatable cushion (100) according to any one of Claims 1 to 7 and at least one other inflatable cushion placed above or below at least one object to be packaged.
9. Packaging item, characterised in that it includes a box (10) made from rigid cardboard or the like, two inflatable cushions (100) according to Claim 2, each including two openings (102, 102') of rectangular shape which are separated by a fixed central wedging part (110), each inflatable cushion (100), in the inflated state, being positioned such that each fixed central wedging part (110) is placed against a lateral face of an object to be packaged, each associated opening (102, 102') being positioned obliquely with respect to said corresponding fixed central wedging part (110) such that each corner of said object to be packaged is engaged in an opening (102, 102'), the four wedging



parts (104, 105, 106, 107, 104', 105', 106', 107') associated with each opening (102, 102') pivoting so that one of the four wedging parts is positioned against the upper face of the object to be packaged, another wedging part is positioned against the lower face of the object to be packaged and the two other wedging parts are positioned against two adjacent lateral faces of said object.

10. Packaging item, characterised in that it includes a box (10) made from rigid cardboard or the like, two inflatable cushions (100) according to Claim 3, each including two openings (102, 102') of essentially straight shape which are separated by a fixed central wedging part (105), a first inflatable cushion (100) being positioned, in the inflated state, under the object to be packaged in such a manner that said fixed central wedging part (105) is placed against the lower face of said object, said wedging parts (104, 104') associated with the two openings (102, 102') pivoting so as to be placed against each of the two opposing lateral faces of said object to be packaged so that the two parallel lower transverse intersecting edges of said object engage in said openings (102, 102'), the second inflatable cushion (100) being positioned, in the inflated or semi-inflated state, above the object to be packaged in such a manner that the fixed central wedging part (105) is positioned against the upper face of said object, said wedging parts associated with the two openings pivoting so as to be placed against each of the other two opposing lateral faces of said object, so that the parallel upper longitudinal intersecting edges of the latter engage in each of said openings of said cushion.
11. Inflatable cushion (100, 200), especially for a packaging item according to Claim 8, including a box provided with at least one articulated closure flap, one edge of which is adjacent to a corner of the box, characterised in that it includes a self-sealing inflating valve (210) located in a corner region of said cushion (200), said inflating valve (210) being placed, when said cushion (200) is installed in the box (10), in the region of the corner (300), which enables said cushion (200) to be inflated from outside, after closing said flap (303), by means of an inflating hose (400) inserted into said inflating valve (210) and passing via a space located between the articulated closure flap (303) and at least one face (301, 302) of the box adjacent to the corner (300).



12. Inflatable cushion (200) according to Claim 11, characterised in that it includes two sheets (220) of flexible plastic welded together in the region of their edges.
13. Inflatable cushion (200) according to Claim 12, characterised in that said self-sealing inflating valve (210) comprises two thin sheets (211) of flexible plastic which are juxtaposed and welded together along a length so as to form a passage conduit for the inflating hose (400), open at both ends, said inflating valve (210) being located between the two sheets (220) forming said cushion (200) in the corner region of said cushion, is welded at one of its ends with the two sheets (220) forming said cushion along a bevelled panel (212) of said corner region, leaving an adjacent opening (215) of the conduit open to the outside for the insertion of the hose (400).
14. Inflatable cushion (200) according to Claim 13, characterised in that the passage conduit for the inflating hose (400) includes a widening located some distance from the free end of said conduit, placed inside said cushion (200).
15. Inflatable cushion (200) according to either of Claims 13 and 14, characterised in that it includes two flexible guide tabs (213, 214) for inserting said inflating hose into the passage conduit, which are welded to the cushion (200) along the bevelled panel (212) and having edges located in the prolongation of the adjacent edges of the cushion (200).
16. Inflatable cushion according to any one of Claims 11 to 15, characterised in that it includes at least one central hole (216, 217) produced by cutting the two sheets (220) forming the cushion and the peripheral welding of the cut edges of said sheets.
17. Method for packaging at least one article with the aid of a packaging item according to Claim 8, including a box (10), one opening of which can be closed by articulated flaps, characterised in that it comprises the steps consisting in:
 - a) placing at least one inflatable cushion (100) according to one of Claims 1 to 7, in the deflated or semi-inflated state, as well as the article or articles, inside the box (10) via its opening, the article or articles being located in each internal opening (102, 102') of each cushion (100),



- b) completing the inflation of each cushion (100) and then arranging, in the box, at least one inflatable cushion (200) according to any one of Claims 11 to 16 in the deflated or semi-inflated state, an inflating hose (400) being inserted into the self-sealing valve (210) of said inflatable cushion (200),
 - c) closing the flaps of the box in such a way that said inflating hose (400) emerges outside said box (10) through the space located between a flap (303) and at least one face (301, 302) of the box (10),
 - d) inflating said cushion (200) from outside the box (10).
18. Packaging method according to Claim 17, characterised in that it comprises a preliminary step consisting in arranging, in said box (10), another inflatable cushion according to any one of Claims 11 to 16, in the inflated state.
19. Inflatable packaging cushion (400), constituted by sheets made from flexible plastic which are welded together in the region of their edges, characterised in that it includes:
- an external peripheral edge (401),
 - a plurality of recesses (402, 403, 404, 405) extending towards the interior of the cushion (400) from the peripheral edge (401),
 - a plurality of welding lines (410) extending from each recess in the direction of the adjacent recess, an articulated wedging part (406) being jointly defined by a welding line (410), parts of each associated recess (402, 403, 404, 405) and the peripheral edge, each articulated wedging part (406) communicating with the rest of the cushion via a discontinuous part (410a) of said welding line (410) and pivoting substantially about said welding line (410).
20. Inflatable cushion (400) according to Claim 19, characterised in that the discontinuous parts (410a) of the welding lines (410) are located at the centre of the latter.
21. Inflatable cushion (400) according to either of Claims 19 and 20, characterised in that the articulated wedging parts (406) have an essentially trapezoidal shape.



22. Inflatable cushion (400) according to one of Claims 19 to 21, characterised in that the recesses (402, 403, 404, 405) have a semicircular shape.
23. Packaging item including a box provided with at least one articulated closure flap, one edge of which is adjacent to a corner of the box, and an inflatable cushion (100, 200), characterised in that said inflatable cushion (100, 200) includes a self-sealing inflating valve (210) located in a corner region of said cushion (200), said inflating valve (210) being placed, when said cushion (200) is installed in the box (10), in the region of the corner (300), which enables said cushion (200) to be inflated from outside, after closing said flap (303), by means of an inflating hose (400) inserted into said inflating valve (210) and passing via a space located between the articulated closure flap (303) and at least one face (301, 302) of the box adjacent to the corner (300).