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(54) **SIDE AIRBAG APPARATUS AND WRAPPING MATERIAL**

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(57) **ABSTRACT**

A side airbag apparatus includes: an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance; and a wrapping material that houses the airbag module and configured to be broken when the side airbag is deployed and inflated. The wrapping material includes a winding band wound around the wrapping material in a state in which the airbag module is housed.

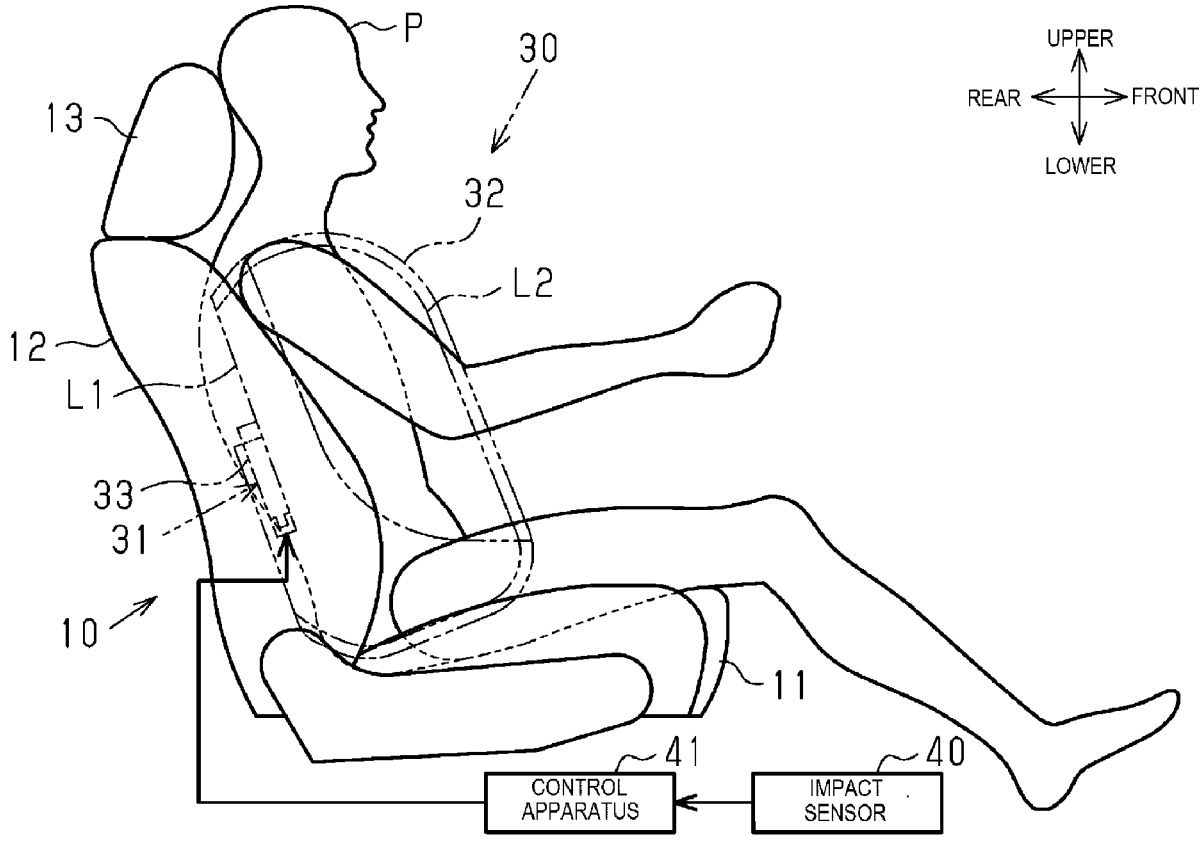


FIG.1

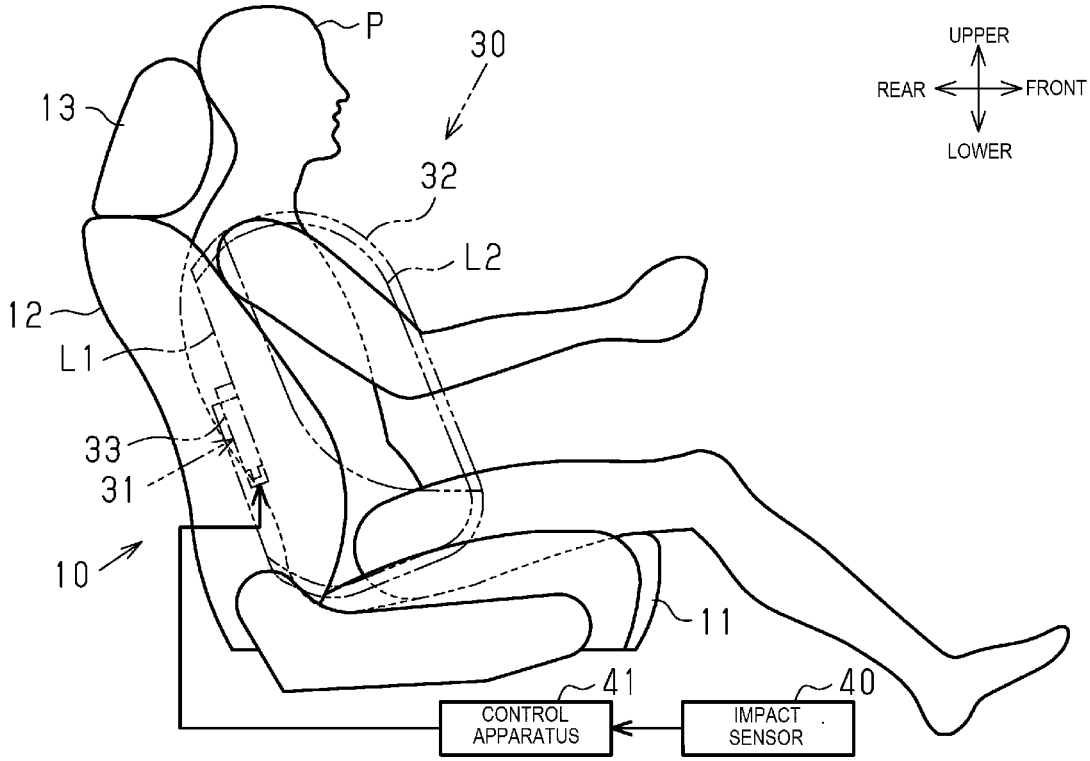

P
30
13
32
L2
12
L1
33
31
10
11
41
40
CONTROL APPARATUS
IMPACT SENSOR
UPPER
REAR
FRONT
LOWER

FIG.2

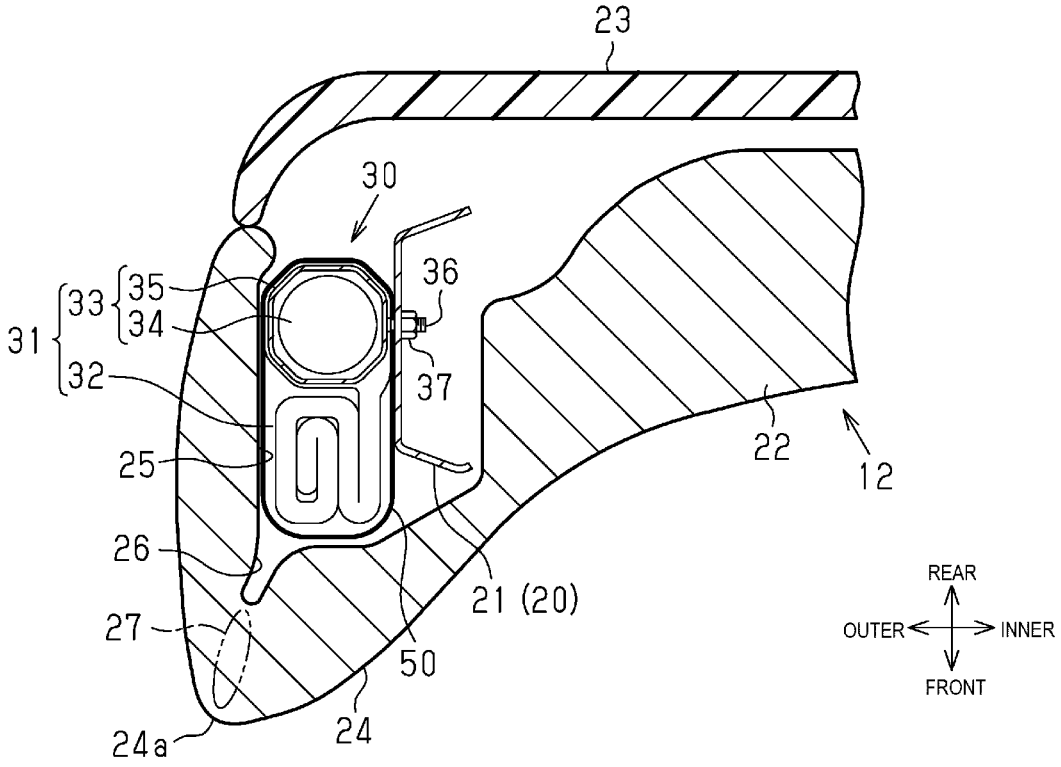

23
30
36
31
33
35
34
32
37
25
22
12
26
21 (20)
27
50
24
24a
REAR
OUTER
INNER
FRONT

FIG.3

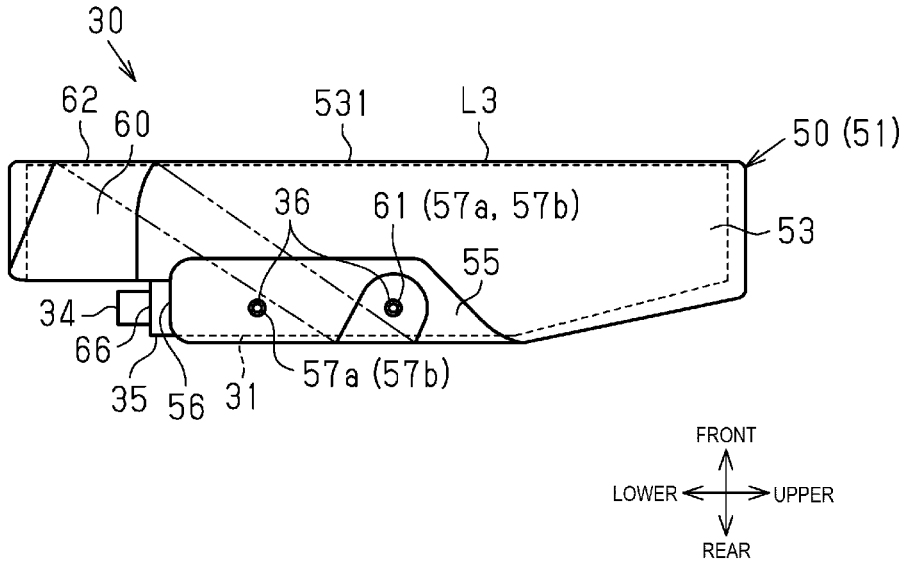
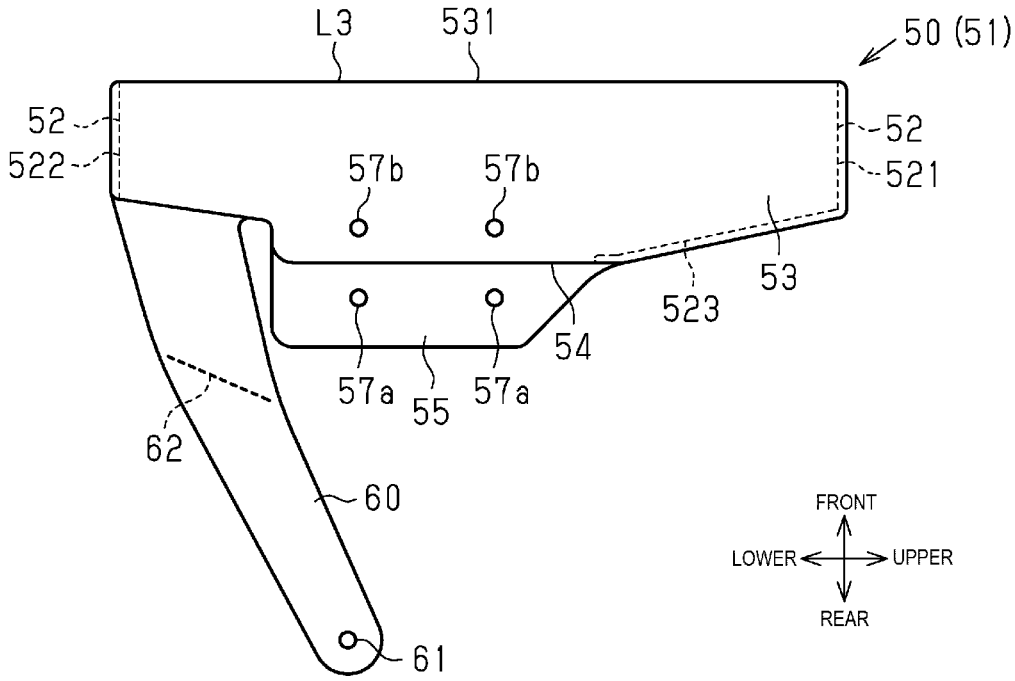

30
62
60
531
L3
50 (51)
36
61 (57a, 57b)
53
55
34
66
35
56
31
57a (57b)
FRONT
LOWER
UPPER
REAR

FIG.4


L3
531
50 (51)
52
522
52
521
57b
57b
53
523
54
57a
55
57a
62
60
61
FRONT
LOWER
UPPER
REAR

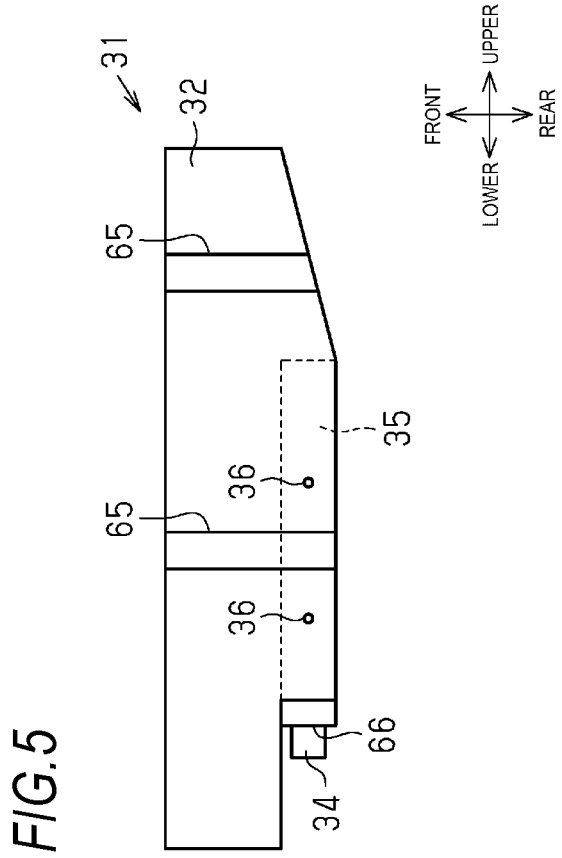


FIG.5

SIDE AIRBAG APPARATUS AND WRAPPING MATERIAL

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is based upon and claims the benefit of priority from prior Japanese patent application No. 2018-183249, filed on Sep. 28, 2018, the entire contents of which are incorporated herein by reference.

TECHNICAL FIELD

[0002] The present invention relates to a side airbag apparatus that, when impact is applied to a conveyance, deploys and inflates a side airbag to protect an occupant from the impact, and a wrapping material used in the apparatus.

BACKGROUND ART

[0003] In related art, for example, a side airbag apparatus of an automobile includes an airbag module including a folded side airbag and a gas generator for supplying inflation gas to the side airbag. JP-A-2017-30511 discloses a side airbag apparatus including a wrapping material disposed in a manner folded around an airbag module. In this side airbag apparatus, folding collapse of the side airbag is prevented by the wrapping material.

[0004] Incidentally, the side airbag apparatus is carried in a state in which the airbag module is housed in the wrapping material. At this time, if there is a gap between the airbag module and the wrapping material, foreign matters may enter an inside of the wrapping material.

[0005] An object of the present invention is to provide a side airbag apparatus and a wrapping material that are capable of preventing intrusion of foreign matters.

SUMMARY OF INVENTION

[0006] According to an aspect of the invention, there is provided a side airbag apparatus including: an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance; and a wrapping material that houses the airbag module and configured to be broken when the side airbag is deployed and inflated, the wrapping material including a winding band wound around the wrapping material in a state in which the airbag module is housed.

BRIEF DESCRIPTION OF DRAWINGS

[0007] FIG. **1** is a side view showing a side airbag apparatus incorporated in a conveyance seat from a vehicle outer side together with an occupant.

[0008] FIG. **2** is a cross-sectional view showing a state in which the side airbag apparatus is incorporated in a seat back.

[0009] FIG. **3** is a side view showing the side airbag apparatus in a state in which an airbag module is housed in a wrapping material.

[0010] FIG. **4** is a side view showing the wrapping material before the airbag module is housed.

[0011] FIG. **5** is a side view showing the airbag module in a state in which the airbag is folded.

DESCRIPTION OF EMBODIMENTS

[0012] Hereinafter, an embodiment of a side airbag apparatus for vehicle and a wrapping material used in the apparatus will be described with reference to FIGS. **1** to **5**.

[0013] Hereinafter, a forward direction and a rearward direction of a vehicle will be described as front and rear, respectively. With respect to a central portion in a vehicle width direction, a side closer to the central portion in the vehicle width direction is defined as a vehicle inner side, and a side away from the central portion will be described as a vehicle outer side.

[0014] As shown in FIG. **1**, a vehicle seat **10** as an attachment target to a conveyance is provided in a vehicle. A front-rear direction and a width direction of the vehicle seat **10** coincide with a vehicle front-rear direction and the vehicle width direction, respectively. The vehicle seat **10** includes a seat cushion **11**, a seat back **12** that is erected from a rear end portion of the seat cushion **11** and allows adjustment of an angle of inclination, and a headrest **13** attached to an upper end portion of the seat back **12**.

[0015] As shown in FIG. **2**, a seat frame **20** is disposed inside the seat back **12**. The seat frame **20** is made of a metal plate, and has a pair of side frame portions **21** extending in an upper-lower direction. In the same drawing, a side frame portion **21** on the vehicle outer side is shown.

[0016] A seat pad **22** made of an elastic material such as urethane foam is disposed on a front side of the seat frame **20** including the side frame portions **21**. A hard back board **23** made of a synthetic resin or the like is disposed on a rear side of the seat frame **20**.

[0017] A pair of side support portions **24** projecting toward a front side of the other portions of the seat pad **22** are provided on both side portions of the seat pad **22** in the vehicle width direction. In the same drawing, the side support portion **24** on the vehicle outer side is shown.

[0018] A housing portion **25** is provided between the seat pad **22** and the backboard **23**. A side airbag apparatus **30** is incorporated in the housing portion **25**. In the present embodiment, the housing portion **25** is located on a rear side of the side support portion **24** on the vehicle outer side of the seat pad **22**, and on the vehicle outer side of the side frame portion **21**. A slit **26**, which extends obliquely so as to be located on the vehicle outer side toward the front side, is formed at a corner portion on the vehicle outer side of the housing portion **25**. A portion between a corner portion **24***a* on the vehicle outer side of a front portion of the side support portion **24** and the slit **26** constitutes a breakage-planned portion **27** that is broken when the side airbag apparatus **30** is deployed and inflated.

[0019] As shown in FIGS. **1** and **2**, the side airbag apparatus **30** includes an airbag module **31**. The airbag module **31** includes an airbag **32**, which is a side airbag, and a gas generator **33**. A shape of the airbag module **31** is an elongated shape extending substantially in the upper-lower direction of the vehicle along inclination of the seat back **12** in a state in which the airbag module **31** is stored in the housing portion **25**. The airbag **32** is formed by folding one fabric piece into two at a folding line L**1** set at a central portion thereof, overlapping the fabric piece with itself in the vehicle width direction, and coupling overlapping portions thereof at a coupling line L**2** so as to form a bag shape. The airbag **32** is housed in a state folded in the housing portion **25**, and is deployed and inflated when a gas is filled inside

the airbag **32**. The folded airbag **32** has an elongated shape, and constitutes most of an outer shape of the airbag module **31**.

[0020] The gas generator **33** includes an inflator **34** that supplies inflation gas of the airbag **32**, and a retainer **35** that holds the inflator **34**. The gas generator **33** has an elongated shape along a longitudinal direction of the folded airbag **32**. The gas generator **33** is disposed on the rear side of the vehicle with respect to the airbag **32** in the state in which the gas generator **33** is stored in the housing portion **25**. In the present embodiment, the inflator **34** may be a pyro-type inflator that generates an inflation gas by combustion of an explosive. That is, the inflator **34** houses a gas generating agent that generates an inflation gas inside a substantially cylindrical housing. An upper end portion of the inflator **34** is inserted into the airbag **32**, and a gas is ejected therefrom. A harness (not shown) serving as an input wiring for an operation signal to the inflator **34** is connected to a lower end portion of the inflator **34**.

[0021] The inflator **34**, instead of the pyrotechnic type, can be modified to a hybrid type that ejects an inflation gas by breaking a partition wall of a high-pressure gas cylinder filled with a high-pressure gas by an explosive or the like.

[0022] The retainer **35** attaches the inflator **34** to the side frame portion **21** together with the airbag **32**. The retainer **35** is made of a metal plate and has a substantially cylindrical shape. The inflator **34** is inserted into the retainer **35**.

[0023] As shown in FIG. **2**, two attachment bolts **36**, which serve as attachment projections for attaching the retainer **35** to the side frame portion **21**, are provided on a side surface of the retainer **35** on the vehicle inner side. The attachment bolts **36** protrude toward the vehicle inner side at an interval in a longitudinal direction of the retainer **35**. In a state in which the attachment bolts **36** are respectively inserted into bolt holes (not shown) of the side frame portion **21**, nuts **37** are respectively fastened to the attachment bolts **36** from the vehicle inner side, so that the airbag module **31** is attached to the side frame portion **21**.

[0024] The present embodiment is exemplified as including the gas generator **33** in which the inflator **34** and the retainer **35** are separate, but may also include a gas generator **33** in which the inflator **34** and the retainer **35** are integrated with each other.

[0025] As shown in FIG. **1**, the side airbag apparatus **30** includes an impact sensor **40** configured with an acceleration sensor or the like, and a control apparatus **41**. The impact sensor **40** is provided on a side wall portion of the vehicle, and detects impact applied from a lateral side to the side wall portion. The control apparatus **41** is connected to the inflator **34** via the harness, and controls operation of the inflator **34** based on a detection signal from the impact sensor **40**. The side airbag apparatus **30** supplies the inflation gas to the airbag **32** by operation of the inflator **34**, and expands and inflates the airbag **32** between the side wall portion of the vehicle and the vehicle seat **10**, so as to protect the occupant P seated on the vehicle seat **10** from the impact. The airbag **32** is deployed and inflated toward a front side of the vehicle along the slit **26** and the breakage-planned portion **27** of the seat back **12** in accordance with breakage of the seat back **12**.

[0026] As shown in FIGS. **3** and **4**, the side airbag apparatus **30** includes a wrapping material **50** that houses the airbag module **31**. The wrapping material **50** is made of a sheet material **51**, which is a fabric piece. The sheet material **51** is preferably a nonwoven fabric made of synthetic resin fibers, for example. The wrapping material **50** wraps the airbag **32** in a folded state, and prevents a folded shape from collapse (unfolding) when the airbag module **31** is transported or before the airbag module **31** is assembled to the housing portion **25**. The wrapping material **50** is broken when the airbag **32** is deployed and inflated.

[0027] In FIGS. **3** and **4**, when the side airbag apparatus **30** is attached to the side frame portion **21**, an upper side of the paper is the front of the vehicle, a left side of the paper is a vehicle lower side, and a vertically upward direction with respect to the paper is the vehicle inner side. Here, inclination of the side airbag apparatus **30** in the vehicle upper-lower direction (the inclination of the seat back **12**) is that a longitudinal direction of the side airbag apparatus **30** is along the vehicle upper-lower direction.

[0028] As shown in FIG. **4**, the wrapping material **50** includes a main body portion **53** having an elongated bag shape obtained by folding the sheet material **51** at a folding line L**3** and joining a part of peripheral portions **52** that overlap each other. In this embodiment, the folding line L**3** is located on the front side of the main body portion **53** in a state in which the main body portion **53** is attached to the side frame portion **21**. An upper edge portion **521**, a lower edge portion **522**, and an upper portion **523** of a rear edge portion of the peripheral portions **52** are joined by welding. A shape of the main body portion **53** is along an outer shape of the airbag module **31**.

[0029] The main body portion **53** has an opening **54** obtained by opening a part of the bag shape. The opening **54** is formed by an unjoined portion of a periphery of the main body portion **53** (see FIG. **4**). The opening **54** of the present embodiment faces toward the rear side in a state in which the main body portion **53** is attached to the side frame portion **21**. The airbag module **31** is housed in a manner inserted into the main body portion **53** through the opening **54**.

[0030] A flap portion **55** is provided at a central portion of a rear-side edge portion of the peripheral portions **52**, which is a part of the peripheral portions **52** located on the vehicle outer side.

[0031] As shown in FIG. **3**, in a state in which the airbag module **31** is housed, the flap portion **55** overlaps a surface of the main body portion **53** on the vehicle inner side so as to block the opening **54**. A window portion **56**, which is a hole communicating an inside and an outside of the wrapping material **50**, is provided in a lower portion of the flap portion **55** in a state in which the flap portion **55** overlaps the surface of the main body portion **53** on the vehicle inner side. Therefore, the flap portion **55** exposes the airbag module **31** from the window portion **56** while covering the airbag module **31** with a part blocking the opening **54**.

[0032] As shown in FIGS. **3** and **4**, a plurality of (two in the present embodiment) through holes **57***a* and a plurality of (two in the present embodiment) through holes **57***b*, through which attachment bolts **36** penetrate when the airbag module **31** is housed, are formed at intervals in the longitudinal direction on the flap portion **55** and a part of the main body portion **53** overlapped with the flap portion **55**. The flap portion **55** is held in a state in which the flap portion **55** overlaps the surface of the main body portion **53** on the vehicle inner side, in a state in which the attachment bolts **36** penetrate the through holes **57***a*.

[0033] A winding band **60** extends from a lower end portion of a rear side edge portion of a part of the peripheral

portions **52** located on the vehicle outer side. The winding band **60** is provided integrally with the main body portion **53**, and extends obliquely with respect to a longitudinal direction of the main body portion **53** so as to be located on an upper side in the extending direction. The winding band **60** is wound around the main body portion **53** while blocking the opening **54**, in a state in which the airbag module **31** is housed in the main body portion **53** and the flap portion **55** is overlapped with the main body portion **53**. Since the opening **54** of the main body portion **53** is blocked by the winding band **60** and the flap portion **55**, the airbag module **31** is covered by the wrapping material **50** except for a part exposed from the window portion **56**.

[0034] The winding band **60** has a through hole **61** through which the attachment bolt **36** located on the upper side penetrates in a state in which the winding band **60** is wound around the wrapping material **50**. Since the attachment bolt **36** penetrates the through hole **61**, the winding band **60** is held in a state in which the winding band **60** is wound around the wrapping material **50** while being in close contact with both the surface on the inner side and the surface on the outer side of the main body portion **53**.

[0035] A breaking portion **62**, which is more fragile than other portions of the winding band, is provided at an intermediate portion in an extending direction of the winding band **60**. The breaking portion **62** is configured with perforations extending in a direction intersecting the extending direction of the winding band **60**. In a state in which the winding band **60** is wound around the main body portion **53**, the breaking portion **62** overlaps the front edge portion **531** (the folding line L**3**) of the main body portion **53**. That is, the breaking portion **62** is provided at a position corresponding to a deployment direction of the airbag **32**. Perforations extending along the folding line L**3** are formed on the front edge portion **531** of the main body portion **53**.

[0036] As shown in FIG. **5**, tapes **65** for holding the airbag **32** in the folded state are wound on the airbag **32**.

[0037] As shown in FIGS. **2** and **3**, the retainer **35** is located on the rear side of the airbag module **31**.

[0038] As shown in FIGS. **3** and **5**, the inflator **34** is inserted through an insertion opening **66** of the retainer **35**. By caulking a peripheral portion of the insertion opening **66**, the inflator **34** is locked inside the retainer **35**.

[0039] As shown in FIG. **3**, the insertion opening **66** is exposed to the outside of the wrapping material **50** from the window portion **56** in a state in which the retainer **35** is housed in the wrapping material **50**.

[0040] Next, effects of the side airbag apparatus and the wrapping material used in the apparatus of the present embodiment will be described.

[0041] (1) The side airbag apparatus **30** includes the wrapping material **50** that houses the airbag module **31**, and the wrapping material **50** includes the winding band **60** wound around the main body portion **53** in the state in which the airbag module **31** is housed. According to the above configuration, since the winding band **60** is wound around the wrapping material **50**, the gap between the airbag module **31** and the wrapping material **50** can be reduced, and entry of foreign matters into the wrapping material **50** can be prevented.

[0042] (2) The winding band **60** is provided integrally with the main body portion **53** of the wrapping material **50**. According to this configuration, the number of components can be reduced as compared with the case where the wrapping material **50** and the winding band **60** are provided separately.

[0043] (3) The retainer **35** has the attachment bolts **36** configured to be attached to the vehicle seat **10**, and the winding band **60** has the through hole **61** penetrated by one of the attachment bolts **36** in the state in which the winding band **60** is wound around the main body portion **53**. According to this configuration, the winding band **60** can be held in a state in which the winding band **60** is wound around the main body portion **53** by using the attachment bolt **36** configured to be attached to the vehicle seat **10**. Accordingly, a member for holding the winding band **60** in the wrapped state is not separately provided, which contributes to prevention of increase in the number of components.

[0044] (4) The winding band **60** has the breaking portion **62**, which is more fragile than the other portions of the winding band **60**, at the position corresponding to the direction in which the airbag **32** is deployed and inflated. According to this configuration, the breaking portion **62** is rapidly broken when the airbag **32** is deployed and inflated. Accordingly, since the airbag **32** can be inflated and inflated rapidly, the function of protecting the occupant is ensured.

[0045] (5) The retainer **35** has the insertion opening **66** into which the inflator **34** is inserted, and the insertion opening **66** is exposed to the outside of the wrapping material **50**. According to this configuration, in the case where the inflator **34** is to be inserted into the retainer **35** housed in the wrapping material **50**, since the insertion opening **66** of the retainer **35** is exposed, the inflator **34** can be easily inserted. This contributes to improvement of the assembling property of the side airbag apparatus **30**.

[0046] (6) The wrapping material **50** has the opening **54** on the main body portion **53** formed into the elongated bag shape. In addition, the winding band **60** blocks the opening **54** in the state in which the winding band **60** is wound around the main body portion **53**. According to this configuration, the airbag module is inserted into the wrapping material **50** through the opening **54** provided on the wrapping material **50**. Further, since the winding band **60** is wound around the main body portion **53** so as to block the opening, intrusion of foreign matters from the opening **54** is prevented. Therefore, it contributes to prevention of intrusion of foreign matters while ensuring the assembling property.

[0047] The present embodiment may be modified and implemented as follows. The present embodiment and the following modifications can be implemented in combination with each other as long as they do not have technical contradiction.

[0048] Joining of the peripheral portions **52** of the wrapping material **50** is not limited to welding, and may be adhesion or stitching.

[0049] The breaking portion **62** provided on the winding band **60** is not limited to a portion configured with perforations, and may be a portion more fragile than the other portions of the winding band **60**, such as being partially thinned.

[0050] The breaking portion **62** may be omitted.

[0051] The configuration for maintaining the winding state of the winding band **60** is not limited to the through hole **61** through which the attachment bolt **36** penetrates. For example, a tip end portion of the winding band **60** may be fixed to an outer surface of the

main body portion **53**. In addition, a holding member may be separately provided for maintaining the winding state of the winding band **60**.

[0052] The winding band **60** may extend from the lower end portion of the rear side edge portion forming the opening **54** of a part of the peripheral portions **52** located on the vehicle inner side.

[0053] The winding band **60** may extend from the flap portion **55**.

[0054] The winding band **60** may be provided separately from the wrapping material **50**.

[0055] The attachment projection may be any member that can be attached to the side frame portion **21**, and may be changed to a member different from the attachment bolt **36**, for example, a pin, a clip, a hook, or the like.

[0056] Instead of the seat back **12** of the vehicle seat **10**, the housing portion **25** may be provided in the side wall portion of the vehicle, and the side airbag apparatus **30** may be incorporated therein.

[0057] The side airbag apparatus **30** may also be applied to a side airbag apparatus **30** that, in a vehicle provided with the vehicle seat **10** whose seat back **12** is disposed toward a direction different from the front of the vehicle, for example, toward a lateral side, when impact is applied from the rear side (the lateral side of the vehicle) to the vehicle seat **10**, protects an upper body of an occupant P from the impact. In addition, the deployment and expansion direction of the airbag **32** may be the upper-lower direction of the vehicle or the vehicle width direction, depending on the specification.

[0058] The vehicle to which the side airbag apparatus **30** is applied is not limited to a private car, and may be various industrial vehicles.

[0059] The side airbag apparatus **30** is may also be applied to a conveyance other than the vehicle, for example, a conveyance such as an aircraft or a ship.

[0060] According to an aspect of the invention, there is provided a side airbag apparatus including: an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance; and a wrapping material that houses the airbag module and configured to be broken when the side airbag is deployed and inflated, the wrapping material including a winding band wound around the wrapping material in a state in which the airbag module is housed.

[0061] According to the above configuration, since the winding band is wound around the wrapping material, a gap between the airbag module and the wrapping material can be reduced, and entry of foreign matters into the wrapping material can be prevented.

[0062] In the side airbag apparatus, it is preferable that the winding band is provided integrally with the wrapping material. According to this configuration, a number of components can be reduced as compared with a case where the wrapping material and the winding band are provided separately.

[0063] In the side airbag apparatus, it is preferable that the retainer includes an attachment protrusion configured to be attached to the attachment target of the conveyance, and the winding band includes a through hole penetrated by the attachment projection in a state in which the winding band is wound around the wrapping material. According to this configuration, the winding band can be held in a state in which the winding band is wound around the wrapping material by using the attachment projection configured to be attached to the attachment object of the vehicle. Accordingly, a member for holding the winding band in the wrapped state is not separately provided, which contributes to prevention of increase in the number of components.

[0064] In the side airbag apparatus, it is preferable that the winding band includes a breaking portion, which is more fragile than the other portions of the winding band, at a position corresponding to a direction in which the side airbag is deployed and inflated. According to this configuration, the breaking portion is rapidly broken when the side airbag is deployed and inflated. Accordingly, since the side airbag can be inflated and inflated rapidly, a function of protecting an occupant is ensured.

[0065] In the side airbag apparatus, it is preferable that the side airbag apparatus includes an inflator configured to generate a gas configured to inflate the side airbag, the retainer includes an insertion opening into which the inflator is inserted, and the insertion opening is exposed to an outside of the wrapping material. According to this configuration, in a case where the inflator is to be inserted into the retainer housed in the wrapping material, since the insertion opening of the retainer is exposed, the inflator can be easily inserted. This contributes to improvement of assembling property of the side airbag apparatus.

[0066] In the side airbag apparatus, it is preferable that peripheral portions of a fabric piece that overlap each other are joined so that the wrapping material is formed into a bag shape, and the wrapping material includes an opening at an unjoined portion of the peripheral portions, and the winding band blocks the opening in the state in which the winding band is wound around the wrapping material. According to this configuration, the airbag module is inserted into the wrapping material through the opening provided on the wrapping material. Further, since the winding band is wound around the wrapping material so as to block the opening, intrusion of foreign matters from the opening is prevented. Therefore, it contributes to prevention of intrusion of foreign matters while ensuring the assembling property.

[0067] According to another aspect of the invention, there is provided a wrapping material configured to house an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance, and including a winding band wound around the wrapping material in a state in which the airbag module is housed.

[0068] According to the side airbag apparatus and the wrapping material, intrusion of foreign matters can be prevented.

What is claimed is:

1. A side airbag apparatus comprising:

an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance; and

a wrapping material that houses the airbag module and configured to be broken when the side airbag is deployed and inflated,

wherein the wrapping material includes a winding band wound around the wrapping material in a state in which the airbag module is housed.

2. The side airbag apparatus according to claim **1**,

wherein the winding band is provided integrally with the wrapping material.

3. The side airbag apparatus according to claim **1**,

wherein the retainer includes an attachment protrusion configured to be attached to the attachment target of the conveyance, and

wherein the winding band includes a through hole penetrated by the attachment projection in a state in which the winding band is wound around the wrapping material.

4. The side airbag apparatus according to claim **1**,

wherein the winding band includes a breaking portion, which is more fragile than the other portions of the winding band, at a position corresponding to a direction in which the side airbag is deployed and inflated.

5. The side airbag apparatus according to claim **1**, comprising:

an inflator configured to generate a gas configured to inflate the side airbag,

wherein the retainer includes an insertion opening into which the inflator is inserted, and

wherein the insertion opening is exposed to an outside of the wrapping material.

6. The side airbag apparatus according to claim **1**,

wherein peripheral portions of a fabric piece that overlap each other are joined so that the wrapping material is formed into a bag shape, and the wrapping material includes an opening at an unjoined portion of the peripheral portions, and

wherein the winding band blocks the opening in the state in which the winding band is wound around the wrapping material.

7. A wrapping material configured to house an airbag module including: a side airbag configured to be deployed and inflated when a gas is filled inside the side airbag, and a retainer configured to attach the side airbag in a folded state to an attachment target of a conveyance,

wherein the wrapping material comprises a winding band wound around the wrapping material in a state in which the airbag module is housed.

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