A plastic edge protector for protecting corner regions of objects during shipping or transport includes a pair of generally perpendicularly oriented legs or walls, and a reinforced corner region which prevents damage to the object and the protector. The edge protector is formed so as to include a solid interior wall or bead of plastic which extends along the entire longitudinal extent of the edge protector.
HEAT PLASTIC SHEET ALONG PREDETERMINED LONGITUDINAL SECTIONS

FOLD SHEETS ALONG HEATED LONGITUDINAL SECTIONS TO WELD CORNERS

SEPARATE SHEET INTO INDIVIDUAL EDGE PROTECTORS

FIG. 5
FIG. 12
EDGE PROTECTOR AND METHOD OF MAKING AN EDGE PROTECTOR

FIELD OF THE INVENTION

[0001] This invention generally relates to an edge protector for protecting the corner or edge regions of an object from damage during transport or storage, and a method of making such an edge protector.

BACKGROUND OF THE INVENTION

[0002] Protecting devices such as edge protectors are often utilized to protect objects having corner-shaped edges, such as boxes, cartons or the like. Such materials typically have a limited mechanical strength, particularly adjacent the corner-shaped edges where bands or ties are secured around the object for shipping or transport when the object is stacked on a pallet. These edge areas of objects are thus subject to deformation or damage caused by the concentrated load exerted by the band on the corners of the object. Further, it is often necessary during transport to protect the edges of such objects outside of the banded areas.

[0003] The present invention relates to an improved edge protector defined by a pair of walls or legs oriented generally perpendicularly relative to one another. The edge protector is formed from a plastic sheet of a fluted construction, and the edge protector is formed from this sheet so that the flutes extend transversely relative to the elongated direction of the edge protector. In this regard, the plastic sheet is heated along a longitudinal strip or section, and then folded or bent to form the edge protector. The folding of the sheet along this longitudinal section welds the two walls or legs of the edge protector in perpendicular relation with one another, and the orientation of the flutes transversely to the longitudinal section creates a longitudinally extending, solid interior wall of plastic at the corner of the edge protector. This solid interior wall of plastic runs along the entire longitudinal extent of the edge protector and provides significant reinforcement of the corner region thereof which is able to withstand highly concentrated loads imposed by ties or bands. This structure of the edge protector thus provides increased protection for the object, and also prevents or at least minimizes damage to the protector.

[0004] The above edge protector may be utilized along with a further embodiment of the edge protector having flutes which extend parallel to the elongated direction of the edge protector if significant vertical loading is desirable, for example when objects are vertically stacked one upon the other during shipping.

[0005] Other objects and purposes of the invention will be apparent to persons familiar with structures of this type upon reading the following specification and inspecting the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a fragmentary perspective view illustrating the edge protector according to the invention.

[0007] FIG. 2 is an enlarged, cross-sectional view taken generally along line 2-2 in FIG. 1.

[0008] FIG. 3 is an enlarged, cross-sectional view taken generally along line 3-3 in FIG. 1.

[0009] FIG. 4 is a fragmentary plan view of a sheet of plastic which can be formed into a plurality of edge protectors.

[0010] FIG. 5 is a diagrammatical view illustrating a method of making an edge protector according to the invention.

[0011] FIG. 6 is a perspective view of a plurality of edge protectors in use on an object.

[0012] FIG. 7 is a side view of a plurality of edge protectors in use on additional corners of the object as compared to FIG. 6.

[0013] FIG. 8 is a fragmentary plan view of a sheet of plastic in a longitudinal strip form which can be formed into a plurality of edge protectors.

[0014] FIG. 9 is a diagrammatical illustration of a forming process and apparatus which may be utilized to form the edge protector according to the invention, which shows the process and apparatus from one side of the initially supplied plastic sheet or blank.

[0015] FIG. 10 is a front elevational view of a pair of roll-forming rollers.

[0016] FIG. 11 is a fragmentary perspective view illustrating a second embodiment of the edge protector.

[0017] FIG. 12 is a plan view of pairs of edge protectors according to the first and second embodiments in place on an object.

[0018] Certain terminology will be used in the following description for convenience and reference only, and will not be limiting. For example, the words “upwardly”, “downwardly”, “rightwardly” and “leftwardly” will refer to directions in the drawings to which reference is made. The words “inwardly” and “outwardly” will refer to directions toward and away from, respectively, the geometric center of the structure and designated parts thereof. Said terminology will include the words specifically mentioned, derivatives thereof, and words of similar import.

DETAILED DESCRIPTION

[0019] Referring to FIG. 1, there is illustrated an edge protector 10 according to the invention. The edge protector 10 is generally corner-shaped, which corner shape is defined by a pair of generally planar legs or walls 11 which are oriented at a right angle relative to one another. These walls 11 adjoin one another at a junction or corner 12. In the illustrated embodiment, the walls 11 are of similar length and width, although these dimensions may be varied depending upon the particular object with which the protector 10 is utilized. Each wall 11 has a pair of longitudinal edges 13 and a pair of transverse edges 14 which are generally perpendicular with respect to the longitudinal edges, with the inner longitudinal edges 13 of the respective walls 11 coinciding with the junction 12.

[0020] The walls 11 of the protector 10 are preferably constructed from a generally rigid extruded plastic sheet or panel 15 (see FIGS. 2 and 4), which includes a pair of generally parallel and laterally spaced outer plastic sheets (i.e. side sheets) 16 joined by a plurality of generally parallel ribs 17 extending transversely therebetween. The ribs 17 in cooperation with the side sheets 16 define a plurality of
elagonted flutes or channels 18. This overall construction of the edge protector 10 and walls 11 is often referred to as a “fluted” construction.

[0021] When the edge protector 10 is cut from the sheet 15, the protector 10 is oriented so that the ribs or flutes 17 extend transversely relative to the elongated direction of the edge protector 10. More specifically, and with reference to FIG. 4, the protector 10 is formed from plastic sheet 15. The sheet 15 is laid flat or horizontally and is heated along longitudinal strips or sections 20 illustrated in solid lines in FIG. 4. These longitudinal sections 20 are disposed in laterally spaced relation with one another across the width of the sheet 15. The distance between each adjacent pair of sections 20 corresponds to the combined widths of the respective walls 11 of protector 10. As shown in dash-dot lines in FIG. 4, the flutes 17 extend transversely relative to sections 20 or horizontally across the sheet 15.

[0022] Soon after heating along sections 20, the sheet 15 is then folded along the respective sections 20 so that each adjacent pair of walls 11 are oriented at a right angle relative to one another. When folding the sheet 15 along sections 20, pressure is applied to two adjacent sections 20 from opposite directions such that the folded or bent sheet 15 defines a zig-zag configuration when viewed from an edge thereof transverse to the elongated direction of the respective sections 20. In one embodiment, folding of the sheet 15 may be achieved with a series of molds, by folding the sheet at the center first and then working outwardly from the center. After folding of the sheet 15 at sections 20, the sheet 15 is maintained in the zig-zag configuration for a period of time to permit hardening of the plastic along the sections 20. Because the flutes 17 run transversely relative to the elongated direction of the sections 20, the heating and folding of the plastic sheet 15 creates a solid interior wall or bead 21 of plastic along the entire length of each section 20, as shown in FIG. 2. That is, the small portions or sections of the individual flutes 17 which lie along the respective sections 20 and run perpendicularly thereto are melted during the heating process and thus flow into one another. Thus, when these melted portions of flutes 17 are allowed to cool, same form the continuous elongated interior wall or bead 21 along corner 12.

[0023] As shown in FIG. 4, the sheet 15 in one embodiment may be perforated between each pair of adjacent sections 20. In this regard, a longitudinal perforation 25 is provided midway between each adjacent pair of sections 20, and extends parallel to the respective sections 20. The sheet 15 is then separated at these perforations 25 to form a plurality of individual edge protectors 10. It will be appreciated that the sheet 15 in the folded, zig-zag configuration can be shipped in this condition, and can later be separated by the customer.

[0024] If desirable, the sheet 15 can also be provided with perforations 26 which extend perpendicularly to perforations 25 at predetermined locations to permit the individual edge protectors 10 to be adjusted lengthwise by the customer to accommodate objects of different sizes, without the need for a cutting tool.

[0025] It will be appreciated that as an alternative to heating the sheet 15 locally along sections 20, the entire surface of the sheet 15 can be heated and then folded at locations corresponding to strips 20.

[0026] As shown in FIG. 2, the interior wall 21 of plastic which results from the heating and bending of the sheet 15 produces an extremely rigid corner 12 which, when the edge protector 10 is placed over the exterior corner of the object, easily withstands the pressure applied by load-bearing securing bands or ties. Such bands often cut through conventional edge protectors, and the solid wall 21 thus provides the edge protector with improved strength and prevents cutting and damage to the protector 10 which effectively extends the life thereof.

[0027] With reference to FIG. 6, the edge protector 10 may be utilized to protect corners of objects from damage during shipping, simply by placing edge protectors 10 over the respective corners of the object in parallel relation with one another, and then securing the edge protectors 10 with one or more ties or bands 27 which are wrapped around the object and over the exterior surfaces of the respective edge protectors 10. The band 27 is then tightened around the object. The band 27 extends across the corner 12 of the edge protector 10 in a direction which is perpendicular to the longitudinal direction of the corner 12, and since the corner 12 is reinforced by the solid wall 21 of plastic which extends along the entire length thereof, the corner 12 is able to withstand the force of the band 27.

[0028] FIG. 7 illustrates the object of FIG. 6 in use with additional edge protectors 10 provided thereon over the upper and lower corner-edge regions, which additional edge protectors can be provided on all sides of the object for providing increased protection.

[0029] It will be appreciated that instead of utilizing four separate edge protectors 10 with ends thereof in overlapping relation with one another on one side of the object as shown in FIG. 7, a single edge protector 10 of a suitable length can instead be used and wrapped around the entire end of the object. This can be done simply by making three spaced parallel cuts in one leg 11 of the edge protector 10 from the bead 21 (but not through the bead 21) to the free longitudinal edge 13 of the respective leg 11. These cuts, which are spaced from one another by a distance which corresponds to the length of an edge of the object to be covered, allow the edge protector 10 to be folded transversely into a rectangular configuration so as to cover one entire end of the object. Of course, it is also possible to make a single cut as described above to the edge protector 10 to allow folding of same transversely into a right-angle configuration to cover adjacent corner-edge regions of the object with one edge protector 10.

[0030] FIG. 9 diagrammatically illustrates the preferred method of forming the edge protector 10 according to the invention. More specifically, the edge protector 10 is preferably formed from a flat blank in sheet form utilizing a roll-forming process.

[0031] FIG. 8 illustrates an elongate sheet similar to sheet 15 which can be used as the blank mentioned above. Sheet 15A is identical to sheet 15, except that sheet 15A is in a more elongated and strip-like form with no longitudinally extending perforations 25 formed therein. Sheet 15A, after processing as discussed below, is used to form an elongate, corner-shaped edge protector which can then be cut transversely to form a plurality of edge protectors of a desired length. Accordingly, features of sheet 15A which are similar or identical to components of sheet 15 are identified with the
same reference numbers, plus an “A”. Sheet 15A can, if desirable or necessary, include transverse perforations 26A to allow separation of the subsequently formed edge protector 10 into predetermined lengths. When the edge protector 10 is formed from sheet 15A, the protector 10 is oriented, as with sheet 15, so that the ribs or flutes 17 extend transversely relative to the elongated direction of the edge protector 10.

[0032] Referring again to FIG. 9, there is provided a supply and feed station 50. This station 50, in one embodiment, stores a plurality of sheets or blanks 15A in a magazine which loads a sheet 15A onto a moving conveyor 51, such as a belt-type conveyor. The sheets 15A are fed by the conveyor 51 one-at-a-time to a heating station 52. The heating station 52 effects localized heating of the blank 15A along longitudinal section 20A thereof which is disposed about midway between the longitudinal edges 13 of the subsequently formed edge protector 10. In the illustrated embodiment, one or more quartz infrared heaters are utilized to heat the sheet 15A along section 20A thereof. However, other heating devices may be used, such as Calrod heater. Further, the heating station 52 may alternatively heat the entire outer surface of one side of the sheet 15A, instead of providing localized heating along sections 20A as discussed above.

[0033] The heated sheet 15A is withdrawn from heating station 52 by one or more drive devices 53, which may be in the form of opposed rollers as illustrated. The drive device 53 drives the heated sheet 15A into and through a roll-forming mill 54 which includes a plurality of sequential roll-forming stations. In the illustrated embodiment, four of such roll-forming stations are provided, and are referenced herein as first roll-forming station 55A, second roll-forming station 55B, third roll-forming station 55C and fourth roll-forming station 55D. It will be appreciated that a greater or lesser number of stations may be utilized in accordance with the invention.

[0034] Each roll-forming station 55A-55D includes a pair of counter-rotating and opposed upper and lower forming rollers 57 and 58 which respectively rotate about horizontally-oriented and parallel axes of rotation 59 and 60 and engage opposite sides of the sheet 15A. FIG. 10 shows one such pair of opposed rollers 57 and 58, which correspond to the most downstream roll-forming station 55D. The three-dimensional configurations of the respective rollers 57 and 58 are complementary to one another so as to together define a corner-shaped space 61 which defines an approximately ninety-degree angle when viewed from the front as in FIG. 10. The roll-forming stations 55A-55D in the preferred embodiment respectively include pairs of opposed rollers which at their respective nips define progressively smaller and smaller angles in a downstream direction so that the sheet 15A is deformed into stages at stations 55A-55D as discussed below. (i.e., rollers of station 55A define the largest angle, rollers of station 55D define a lesser angle than station 55A, rollers of station 55C define a lesser angle than station 55B, and rollers of station 55D define the smallest angle).

[0035] The rollers 57 and 58 of each station 55A-55D progressively deform the sheet 15A along heated section 20A from its flat condition into the desired corner-shaped configuration. The formed non-flat configuration of the sheet 15A as it departs from the roll-forming mill 54 is designated C since the blank or sheet 15A is no longer flat.

[0036] In accordance with another embodiment, roll-forming stations 55A-55D may instead be provided with respective pairs of rollers which define identical nip angles. That is, all of stations 55A-55D may include rollers which define a nip angle of about ninety-degrees as shown in FIG. 10, which means that sheet 15A would be deformed in one stage instead of four as described above. In this embodiment, however, it may be necessary to manually bend the sheet 15A about section 20A in order to initially feed the sheet 15A into roll-forming mill 54.

[0037] The plastic material from which sheet 15A is constructed, after heating, can retract and in some instances cause bowing of the formed and elongate edge protector 10, particularly adjacent the terminal ends thereof. In order to counteract this bowing, the rollers 57 and 58 of rolling stations 55A-55D can be vertically offset from one another. For example, the respective pairs of rollers 57 and 58 of the first rolling station 55A (i.e. the most upstream station located closest to the entrance to the rolling mill 54) and the fourth rolling station 55D (i.e. the most downstream station located closest to the exit of the rolling mill 54) can be slightly vertically offset relative to the rollers 57 and 58 of the intermediate second and third rolling stations 55B and 55C. More specifically, rollers 57 and 58 of first and fourth stations 55A and 55D can be coplanar with one another, and the rollers 57 and 58 of the second and third stations 55B and 55C can be coplanar with one another, but vertically offset relative to the roller plane of the first and fourth stations 55A and 55D. Offsetting the rollers in this manner tends to stretch out the sheet 15A at the ends to counteract any bowing of the sheet 15A.

[0038] Upon departing the rolling mill 54, the corner-shaped profile 15 is then fed to a cooling station 57. At cooling station 57, one or more air sources 58 direct compressed air towards the profile 15 to cool same. In the illustrated embodiment, air sources 58 are positioned above profile 15. It will be appreciated, however, that air may also be directed at the lower side of profile 15, and also that other cooling techniques may be employed.

[0039] The formed and cooled profile 15, now in the form of an elongate, generally right-angled formation, after leaving cooling station 57 is then transported to an accumulation area or storage area wherein the profiles 15 are stacked and readied for transport to the customer. In this regard, the sheet 15A from which the edge protector 10 is formed can be provided with a length which corresponds to the desired length of the finished edge protector. However, the strip-like sheet 15A allows the use of a sheet 15A of a large length, which means that the elongate profile 15 after cooling can advantageously be cut to create an edge protector of the desired length. Further, the sheet 15A can initially be provided with transverse perforations 26A located at predetermined intervals from one another to allow the profile 15 to be separated lengthwise into two or more edge protectors without the need for cutting tools. Alternatively, the sheet 15A can be provided with perforations 26A prior to heating at station 52.

[0040] Further, it will be appreciated that sheet 15 described above and shown in FIG. 4 may be roll-formed to form a plurality of edge protectors 10. In this instance, the centermost section 20 of sheet 15 would be deformed first, by subjecting same to deformation in a first stage including
a plurality of rolling stations which progressively deform the centermost area of the sheet 15. Because the sheet 15 will be reduced in overall width from its initial dimension in this first stage of deformation, the sheet would then be subjected to a second stage including, for example, multiple laterally spaced rolling stations which effectively progressively and simultaneously deform the two longitudinal sections of the sheet 15 located immediately adjacent the deformed centermost area on opposite sides thereof. The remainder of the sheet 15 would be deformed in a similar manner to deform the sheet into a zig-zag configuration. The sheet 15 would then eventually be separated into a plurality of edge protectors 10 at the perforations 25. These elongate edge protectors 10 can then be separated lengthwise at perforations 26, if desirable, to create additional edge protectors 10.

[0041] FIG. 11 illustrates a further embodiment of the invention. The edge protector 30 is similar to edge protector 10, except with respect to the direction of the ribs or flutes. Edge protector 30 is corner-shaped, and is defined by a pair of generally planar legs or walls 31 which are oriented at a right angle relative to one another. These walls 31 adjoin another at a junction 32. The walls 31 in the illustrated embodiment are of similar length and width, although these dimensions may be varied depending upon the dimensions of the object. Each wall 31 has a pair of longitudinal edges 33 and a pair of transverse edges 34 which are generally perpendicular with respect to the longitudinal edges, with the inner longitudinal edges 33 of the respective walls 31 coinciding with the junction 32.

[0042] Similar to edge protector 10, the walls 31 of the protector 30 are preferably constructed from a generally rigid extruded plastic sheet or panel of a fluted construction, except that when the edge protector 30 is cut from the sheet, the protector 30 is oriented so that the direction of ribs 35 extend parallel to the longitudinal direction of the edge protector 30. Thus, a sheet similar to sheet 15 can be utilized to form the edge protector 30, wherein the ribs 35 are oriented as shown in dash-dot lines in FIG. 4.

[0043] It will be appreciated that edge protector 30 is formed from the sheet in a similar manner as discussed above with respect to edge protector 10, except that due to the direction of the flutes 35, a solid wall of plastic will not result at the corner of protector 30. Instead, the inner sheet 36 (i.e. the side which faces the object) after heating essentially wrinkles over upon itself at the corner 32 when the sheet is folded as discussed above, and these wrinkles of inner sheet 36 weld together to hold the walls 31 of the edge protector 30 at a right angle relative to one another.

[0044] While the first embodiment of the edge protector 10 is suitable for either horizontal or vertical orientation on an object, it will be appreciated if vertical loading of the edge protector 10 is desirable or necessary, the edge protector 10 when vertically oriented on the object will not be able to withstand significant vertical loading due to the horizontal direction of the flutes 17. In this regard, the edge protector 30 is particularly suited for vertical load-bearing applications, since when in an upright orientation on an object, the flutes 35 extend vertically and thus are able to withstand significant compression loading. However, the vertical orientation of the flutes 35 renders the corner of the protector 30 somewhat vulnerable to damage from ties or bands. To solve this problem, the edge protectors 10 and 30 can be used together.

[0045] More specifically, and as shown in FIG. 11, when vertical loading of the edge protector is desirable or necessary, for example when multiple objects are to be vertically stacked for purposes of transport or storage, a pair of edge protectors 10 and 30 can be placed vertically along each corner of the object 50. The edge protectors 10 and 30 are disposed in superimposed relation with one another, with the edge protector 30 positioned closest to the object and the edge protector 10 disposed exteriorly of protector 30. A tie or band 27 is then wrapped around the object to secure the edge protectors 10, 30 in place. The inner edge protector 30, due to the upward direction of the flutes 35, is capable of withstanding vertical loads, and the outer edge protector 10, due to the horizontal direction of the flutes 17 and band 21, withstands the force of the band 27 and protects the inner protector 30 from damage. For convenience in handling, the edge protectors 10 and 30 can be secured to one another, for example with adhesive, through lamination, or other fastening techniques.

[0046] Although a particular preferred embodiment of the invention has been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

What is claimed is:

1. An edge protector for protecting corner-shaped edge regions of an object, the edge protector being constructed entirely from a corrugated plastic sheet having a pair laterally-spaced outer panels which are joined to one another by a plurality of generally parallel ribs which extend transversely between said panels, said edge protector comprising a pair of generally planar legs which are generally transversely oriented relative to one another and are joined together at an elongate junction which extends along the entire longitudinal extent of said edge protector, said ribs of said edge protector extending transversely relative to said junction and therealong forming a solid wall of plastic which extends along the entire longitudinal extent of said edge protector.

2. The edge protector of claim 1, further including at least one perforation which extends transversely along said legs to allow said edge protector to be separated lengthwise into a plurality of said edge protectors.

3. A combination edge protector and object to be protected from damage, said combination comprising an object defining at least one corner-shaped region thereon, and an edge protector, said edge protector having a pair of generally planar legs which are generally perpendicular to one another and joined to one another along a junction, said edge protector being constructed entirely from a plastic sheet including a pair of outer and generally planar panels and a plurality of ribs which extend transversely theretwixt, said ribs of said edge protector extending transversely relative to said junction and therealong defining a solid wall of plastic along said junction to reinforce same and allow said edge protector to withstand transverse loading.

4. An arrangement for protecting a corner-shaped edge of an object, said arrangement comprising at least one edge protector for positioning over the corner-shaped object edge and being constructed of corrugated plastic so as to have a pair of outer sheets interconnected by a plurality of spaced apart and parallel ribs, said edge protector having a pair of transversely oriented and generally planar legs which are
joined to one another at a junction defined by a solid bead of plastic which extends along said junction in a direction transverse to said ribs, said arrangement further including at least one elongate band configured for disposal in surrounding relation with said edge protector such that said band extends transversely across said bead and secures said edge protector exteriorly on the corner-shaped object edge.

5. A method of forming an edge protector, said method comprising the steps of:

providing a planar sheet-shaped material constructed of corrugated plastic defined by a pair of planar outer sheets joined together by a plurality of spaced-apart and generally parallel ribs which extend transversely between the outer sheets;

heating the sheet-shaped material; and

thereafter folding the sheet-shaped material along a fold line defined transversely relative to the direction in which the ribs extend to form a solid reinforcing wall of plastic material along the fold line, wherein said step of folding forms an edge protector defined by a pair of transversely oriented panels which are joined to one another by said reinforcing wall.

6. The method of claim 5, wherein said step of heating comprises applying localized heat to the sheet-shaped material along a predefined longitudinal section thereof which coincides with the fold line.

7. The method of claim 5, wherein said step of folding comprises folding the sheet-shaped material into a zig-zag configuration along a plurality of laterally-spaced and generally parallel fold lines.

8. The method of claim 7, further including forming a plurality of laterally-spaced and generally parallel longitudinal perforations in the sheet-shaped material which extend generally parallel to the respective fold lines to allow separation of the folded sheet-shaped material into a plurality of edge protectors.

9. The method of claim 5, wherein said step of folding comprises folding the sheet-shaped material along a single fold line to form an elongate and generally corner-shaped profile, and said method further comprises separating the elongate corner-shaped profile lengthwise into a plurality of edge protectors each of a desired length.

10. The method of claim 9, further including forming at least one perforation in the sheet-shaped material which extends transversely to the fold line to allow ready separation of the corner-shaped profile into the plurality of edge protectors.

11. The method of claim 5, wherein said step of folding is carried out by roll-forming the sheet-shaped material.

12. The method of claim 5, further including cooling the edge protector after said step of folding.

13. An edge protector formed by the process of claim 5.

14. A method of making an edge protector, said method comprising the steps of:

supplying a plastic sheet to a heating station, the plastic sheet being defined by a pair of outer panels interconnected by a plurality of ribs extending transversely therebetween;

heating the sheet at the heating station;

transporting the heated sheet to a working station;

deforming the sheet along a fold line which extends transversely relative to the ribs by roll-forming; and

forming a solid bead of plastic along the fold line.

15. The method of claim 14, further including cutting the deformed sheet transversely relative to the fold line to form one or more edge protectors of selected lengths.

16. The method of claim 14, further including cooling the deformed sheet after said step of deforming.

17. The method of claim 14, wherein said step of deforming causes portions of the ribs located at the fold line to flow into one another and form said solid bead of plastic.

18. The method of claim 14, wherein said step of deforming forms an edge protector defined by a pair of perpendicularly oriented and generally flat panels joined to one another by the solid bead of plastic.

19. An edge protector formed by the method according to claim 14.

20. The method of claim 14, further including perforating the plastic sheet transversely relative to the fold line to allow ready separation of the deformed sheet into a plurality of edge protectors.

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