A flexible web product is disclosed which comprises a laminate having a face web and a backing web for adhesively joining portions of a substrate. The face web has a pressure-sensitive coating on one side. A portion of the total area of the pressure-sensitive coating on the face web contacts a releasecoated portion of the backing web. The backing web has an adhesive coating on its other side so that it may be permanently affixed to the substrate. The portion of the face web contacting the release-coated portion of the backing web is divaricated relative to the remainder of the backing web and, while integral with the remainder of the face web, is applied to the same or a different surface for joining purposes. Also disclosed is a flexible web product which may be used for identification purposes for inventory control and the like.

2 Claims, 7 Drawing Figures
AREA DIVARICATION ADHESIVE MEANS

This is a continuation of application Ser. No. 50,743, filed June 29, 1970, and now abandoned.

BACKGROUND OF THE INVENTION

This invention relates to laminates which may be employed as fasteners for securing portions of a web or webs to each other.

Prior art laminates employed as fasteners include a pair of webs having a pressure-sensitive coating on one side. The pressure-sensitive coating on one of the webs is adhered to a portion of the other web, while leaving and maintaining an area of separation between the coating on the first-mentioned web and the second-mentioned web. The second-mentioned web is adhered to one of the web surfaces to be joined and the separated portion of the first web is adhered to the surface of the other web to be joined. Such an arrangement is set forth in U.S. Pat. No. 2,931,747.

The arrangement in U.S. Pat. No. 2,931,747 requires that the user maintain the separation between the webs forming the laminate prior to and during the joining operation. This prohibits the application of the laminate by a processor for a later joining operation by the user.

SUMMARY OF THE INVENTION

When used for joining purposes, the laminates according to this invention may be adhered to one portion of a substrate web. The laminate may then be di-viaricated along a portion of its length to expose a pressure-sensitive adhesive portion of the face web. The exposed adhesive portion of the face web may then be applied to another portion of the same web or to a portion of a different web. The remaining non-divaricated portion of the laminate is securely adhered to the first-mentioned web portion.

According to one aspect of this invention, a laminate includes a face web having a pressure-sensitive adhesive coating on one side. A backing web has one face in contact with the adhesive coating, and the other face of the backing web is provided with its own adhesive coating. The adhesive coating on the backing web may be a heat-sensitive coating, or may be pressure-sensitive with a suitable liner covering the coating. The face of the backing web in contact with the adhesive-coated face of the face web has a release coating along a portion of its length so that a portion of the face web may be separated from the backing web. The separated portion of the face web is adhered to an article for joining purposes.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, the thicknesses of the webs and coatings are greatly exaggerated.

FIG. 1 is an elevational view, schematically showing a flexible laminate in accordance with one aspect of this invention.

FIG. 2 is an elevational view, schematically showing a flexible laminate in accordance with another aspect of this invention.

FIG. 3 is an elevational view, showing a laminate applied to the end of a web for use in joining that web to another web.

FIG. 4 schematically shows the laminate of FIG. 3 in use as a joining laminate.

FIG. 5 shows a flexible laminate employed to join the end of one web to an intermediate portion of another web.

FIG. 6 is an elevational view, schematically showing a laminate for identification purposes.

FIG. 7 is an elevational view, schematically showing another laminate for identification purposes.

DETAILED DESCRIPTION OF THE DRAWINGS

FIGS. 1 through 5 illustrate the use of laminates for fastening purposes and FIGS. 6 and 7 illustrate laminates which may be employed for indicating purposes.

Referring now to FIGS. 1 through 5, FIG. 1 illustrates a laminate having a face web 10 which is provided with a pressure-sensitive adhesive coating 11 on one face thereof. The laminate also includes a backing web 12 having a portion thereof coated with a release agent or coating 13. A number of appropriate release coatings or low adhesion coatings are known in the art. Examples of such coatings are set forth in U.S. Pat. No. 2,985,554. The release agent extends from one end of the backing web 12 and terminates at an intermediate location 14 so that the face web 10 may be stripped from the backing web 12 to the intermediate location 14. The remainder of the face web 10 is firmly adhered to the backing web 12, since that remaining portion of the backing web 12 in not provided with a release agent. The obverse side of the backing web 12 is provided with an adhesive coating which in the embodiment illustrated in FIG. 1 comprises a heat-sensitive coating 15. The heat-sensitive coating 15 may comprise an adhesive which is operatively activated by exposure to heat, such as heat sealing devices. Heat-sensitive adhesives become tacky upon temperature elevation and, prior to temperature elevation, are substantially non-tacky or far less tacky than, for example, pressure-sensitive adhesives. Examples of such heat-sensitive adhesives are set forth in U.S. Pat. No. 3,257,228. Thus, the laminate illustrated in FIG. 1 may be applied to a surface by a processor or converter having conventional heat-sealing equipment.

Referring now to FIG. 2, a flexible web product according to a further aspect of this invention is illustrated. The flexible web product includes a face web 20 having a coating of pressure-sensitive adhesive 21 on one face. A backing web 22 covers the adhesive coating 21 and a portion of the backing web 22 is coated with a release coating 23. The release coating 23 extends to a location 27 so that only a portion of the face web 20 may be separated from the backing web 22 while the remaining portions of the face web are firmly adhered to the backing web by the pressure-sensitive adhesive coating 21. The obverse face of the backing web 22 is coated with an adhesive which, according to this aspect of the invention, comprises a pressure-sensitive adhesive coating 24. The coating 24 is covered by a liner web means 25 having a release coating 26 thereon.

The laminate illustrated in FIG. 2 may be applied to a surface by stripping the liner web means 25 from the pressure-sensitive adhesive coating 24. The flexible laminate illustrated in FIG. 2 may be employed to join two webs in a variety of ways. One such joining technique is illustrated in FIG. 3, wherein, after the liner web 25 is stripped from the pressure-sensitive adhesive coating 24, the laminate is applied over the
edge of a first substrate web 30. This may be termed the storage position for the face web 20. When it is desired to join the first substrate web 30 to a second substrate web 31, the portion of the adhesive-coated face web 20, which is in contact with the release coating 23, is stripped away and that portion of the face web 20 is applied to the web 31 as shown in FIG. 4. This may be termed the fastening position of the face web 20. Although the connection illustrated in FIG. 4 is a butt-type connection, it should be appreciated that an overlap joint may be formed by placing the web 30 over the web 31 and then adhering the stripped portion of the face web 20 to the web 31. This fastening arrangement has particular utility as a means for fastening the ends of disposable diapers without the use of safety pins. Thus, a processor may attach a number of laminates to the upper side edges of a disposable diaper. When the diaper is applied to the child, the mother may then peel the releasable portion of the face web 20 away from the release coating 23 and apply that peeled portion to an overlapped portion of the diaper. The diaper may be readily removed by simply tearing the face web at the location 27.

A further fastening arrangement is shown in FIG. 5, wherein the laminate is applied to an intermediate portion of a substrate web 35, and the separable portion of the face web 20 is peeled from its storage position on the release coating 23 and is moved to a fastening position in which it is applied to the end of a second substrate web 36.

It should be appreciated that the laminate shown in FIG. 1 may be applied to webs by conventional heat-sealing apparatus and may then be employed as a joining means.

Referring now to FIG. 6, a flexible laminate for identification purposes includes the face web 40 having a weakened area such as a perforation line 41 across its lateral extent to divide the face web 40 into first and second portions 42 and 43, respectively. Each portion 42 and 43 is provided with a pressure-sensitive adhesive coating 44 and 45, respectively. The coatings 44 and 45 are separated by an unglued portion 46 so that the coatings 44 and 45 will not bleed through the perforations 41.

The coatings 44 and 45 are backed by liner web means 47. The liner web means 47 has a portion 48 which is split from the remainder of the liner web means along a line 49 and which has a release coating 50 in contact with the adhesive coating 44. The liner web means 47 has a pressure-sensitive adhesive coating 51 which is backed by a liner means 52 having a release coating 53 in contact with the pressure-sensitive adhesive coating 51. To use the laminate shown in FIG. 6 as an identifying means, the liner web means 52 is stripped from the adhesive coating 51 and the remainder of the laminate is applied to a surface. After an inventory check, the portion 42 of the face web 40 may be removed from the portion 43 by separating the portion 42 from the portion 48 of the liner means 47 and then tearing the portion 42 along the perforation line 41. The portion 42 of the face web may then be reapplied to the same surface or to a different surface. If desired, the portion 48 of the liner means 47 may be removed from the surface and reapplied to a different portion of the same surface or to a different surface, since the portion 48 of the liner means 47 is split along the line 49.

Referring now to FIG. 7, another flexible laminate for identification purposes is illustrated. The laminate illustrated in FIG. 7 includes a face web 60 having first and second portions 61 and 62 which are divided by a weakened area such as a perforation line 63 which runs across the lateral extent of the face web 60. The portions 61 and 62 of the face web 60 are respectively coated with pressure-sensitive adhesive coatings 64 and 65, which are separated by an unglued portion 66. The coatings 64 and 65 are covered by a liner web means 67 which is provided with a release coating 68. The release coating 68 and the liner web means 67 are split along a line 69. The liner web means 67 has a pressure-sensitive adhesive coating 70 which is covered by a liner web means 71. The liner web means 71 has a release coating 72 which extends from one end of the liner web means 71 to the split line 69.

To employ the laminate shown in FIG. 7 as an identifying means, the liner web means 71 is removed from the pressure-sensitive adhesive coating 70 up to the line 69. The remainder of the liner means 71, together with the portion of the liner means 67 adhered thereto, is removed from the portion 62 of the face web 60 to expose the adhesive coating 65 on the portion 62. The adhesive coating 65 and the adhesive coating 70 are then applied to a surface. The portion 61 of the face web 60 may then be removed from the liner web means 68 and applied to the same surface or to a different surface for identification purposes.

The invention is not restricted to the slavish imitation of each and every detail set forth above. Obviously, devices may be provided which change, eliminate, or add certain specific details without departing from the scope of the invention.

What is claimed is:

1. A multilayer adhesively fastened web arrangement comprising, in combination: a substrate web; an adhesive coating thereon having a weakened area such as a perforation line along its lateral extent, said weakened area dividing the substrate web into two parts; and a facing web, said facing web being adhesively fastened to one of said parts of the substrate web by means of said weakened area and said adhesive coating.

2. A multilayer adhesively fastened web arrangement comprising, in combination: a substrate web; and a facing web, said facing web being adhesively fastened to the substrate web by means of a weakened area along the lateral extent of the substrate web, said weakened area being divided into two parts by a perforation line.
sive fastening element for joining one edge of said substrate web to another substrate web wherein said another substrate web may be another portion of said first-mentioned substrate web; said fastening element comprising a backing web having one face fixedly adhesively secured over said edge of said substrate web so that first and second legs defining said backing web are adhesively secured to opposite surfaces of said substrate web adjacent said edge; a release coating on the other face of said backing web extending only along said second leg and terminating at a location substantially spaced from the end of said first leg; a face web having a first portion and a second portion and having a pressure-sensitive adhesive coating on said first and second portions, said first portion of said face web being fixedly adhered by said pressure-sensitive adhesive coating to said other face of said backing web from said location toward said end of said first leg, said second portion of said face web being movable from a storage position to a fastening position, said second portion of said face web being releasably secured to said release coating when said second portion of said face web is in said storage position, said other substrate web being disposed adjacent said edge when said second portion of said face web is in said fastening position, and said second portion of said face web being fixedly adhered by said pressure-sensitive adhesive coating to said other substrate web when said second portion of said face web is in said fastening position.