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(54) **METHOD FOR PROVIDING A LOGO ON THE PULL TAB OF A CAN END**

VERFAHREN ZUR HERSTELLUNG EINES LOGOS AUF EINER AUFREISSLASCHE EINES DOSENENDES

PROCEDE PERMETTANT D'OBTENIR UN LOGO SUR LA LANGUETTE D'UNE EXTREMITE DE CANETTE

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Description

Field of Invention

[0001] The present invention relates to a method for can-making, particularly the top end of the can. Specifically, it relates to a method for providing the can end's pull tab with a logo pierced thereon for promotional and decoration purposes, proof of purchase, product genuineness and the like, on cans, including beverage can ends.

Background of the Invention

[0002] The conventional system for using can products, such as food and beverages cans, to provide a message, advertise or decorate on can end's pull tab is by printing, embossing or etching picture or logo on the can end's pull tab. The process to provide the logo on the can end's pull tab may be carried out by any conventional technology including, but not limit to, inks, paints, silk screens, adhesives or glues. Later, laser technology is used to produce the marking on the can end's pull tab.

[0003] In this specification, the term "marking" encompasses any form of mark provided on the pull tab, including a logo, alphanumeral, symbol, waving, topographic profile, and cut-outs through the tab. Among the earliest marking on either the pull ring tab or the end are *"Lift ring to open", "Dispose of properly", "Do not litter"* and other short messages. Since then, more creative markings in the form of colourful logo or decorative mark have been used for attractive, promotional and/or co-branding purposes, proof of purchase, genuine product identification, anti-tampering, etc.

[0004] In prior art US6082030, a moulded plastic cover is used as identification system. This identification system is costly as the prior art needs additional plastic material to be slipped into the pull tab.

[0005] In prior art US6105806, a laser device is used to burn or etch the anodised or coated aluminium tab. A plurality of coatings of aluminium material must be used to produce a colour logo or decorative item on the can end's pull tab. The material, the process and the device to produce the logo or decorative item are costly.

[0006] In prior art WO0228730, a sticker-adhering device is engaged to stick the logo- or decorative item-bearing sticker onto the pull tab. The quality of the logo does not last long due to the nature of stickers.

[0007] GB2320008 discloses a pull tab of a can end comprising a cut-out offset region also acting as a data carrier and can be shaped to correspond to the shape of a discrete portion of a logo.

[0008] The prior art, such as US5741105, merely discloses a method for fabricating a pull tab which is free from any exposed protrusion or cut edge thereon and not a method for providing a logo or a mark on the pull tab of a can, which is efficient and low in labour time and cost.

[0009] The present invention seeks to overcome the limitations of the previous systems. One of the objects of this invention is to reduce the cost of putting a logo or words on the pull tab. The cost of stamping a pre-formed logo on a pull tab is much cheaper compare to a laser equipment or the printing of stickers and affixing.

[0010] Another object of this invention is the duration of time required to put a logo on the pull tab. For example, if a piercing process may be employed, the time required to pierce the logo on pull tab is very fast. The process will directly reduce the labour time or cost and this will increase throughput.

[0011] Still another object of the invention is to give a more lasting logo compare to some prior arts.

Summary of the Invention

[0012] To achieve the aforesaid objects, it is provided in the general embodiment of the invention, a method for providing a logo on a pull tab of a can end according to claim 1.

[0013] According to the invention, a plurality of the pull tabs may be formed on a metallic strip prior to the piercing thereon to provide the marking on each said pull tab. A plurality of the marking may also be pierced in suitably spaced apart distances on a metallic strip prior to forming pull tabs around each marking. Alternatively, the plurality of pull tabs and the corresponding marking thereunto on a metallic strip may be formed in a single press.

[0014] Still another embodiment of the present invention is an apparatus for providing a logo on a pull tab of a can end comprising a forming section for fabricating the pull tab, a piercing section for piercing the logo and a riveting section for affixing the pull tab onto a can end; characterized in that the piercing section is capable of piercing a sign, alpha-numeral, symbol, waving or topographic profile onto a metallic strip before, after or during the fabrication of the pull tabs by means of apertures, pieced out portions, perforations, punch-outs, stamped out portions or cut-outs.

[0015] In a preferred embodiment, the step of affixing the marked pull tab includes removing the pull tab formed from a plurality of such pull tabs pre-formed on a metallic strip prior to affixing said marked pull tab onto said can end by riveting means. Preferably, the method further comprises a step of folding in the edges of the pull tab to form an all-round lip.

[0016] In yet another preferred embodiment, the method further comprises the step of providing a score line outlining an aperture on the can end and affixing said pull tab at a point on the end which facilitate tearing of said score line at that point upon the lifting of the pull tab which enables a user to continue tearing along said score line to complete the opening of the aperture. An alternative to the aperture is one that is defined by the score line covering substantially the entire circumference of the end of the can.

[0017] In another alternative embodiment, the fabrication of a can end with a pull tab may be implemented in

a single continuous process.

Brief Description of the Drawings

[0018]

Figure 1 shows a top plan view of a can with the end provided with a logo pierced on the end tab according to one embodiment of the present invention.

Figure 2 shows a top plan view of a can with another embodiment of the end provided with a logo pierced on the end tab.

Figure 3 shows a block diagram of the method for producing the pull tab according to the present invention.

Figure 4 shows a block diagram of method for producing a pull tab for belt understanding the invention.

Detailed Description of the Preferred Embodiments

[0019] The method of providing a Logo on pull tab of a can end according to the present invention may be best understood with reference to the drawings and the accompanying detailed description.

[0020] Figure 1 shows a can end (1) of a can with the result of a logo pierced on a pull tab (10). The can end (1) comprises of a pull tab (10) rigidly attached to the can end (1), by a rivet (14) or any conventional means, and a tear strip (13) outlined by a score line (18) which can be pushed to tear open by force. The pull tab (10) includes a grip portion (12) and a fixed portion (11). The pull tab (10) is rigidly attached to can end (1) by the rivet (14) and a slit (15) is provided adjacent the fixed portion (11) of the pull tab (10) to act as a lever with the rivet (14). The pull tab (10) pivots at rivet (14) when the grip portion (12) is lifted up and the resultant leverage with the fulcrum around the rivet applies downward force by the fixed portion (11) of the pull tab (10) to open the tear strip (13). The tear strip (13) is designed in such a way that a portion of the tear strip (13) will be torn opened and the remainder of the score line (18) intact with the can end (1). Only when the tear strip (13) is pushed open completely to expose the opening or aperture, can the consumer consume the content of the can. The pull tab (10) is preferably made of metallic material that is easily processed, e.g. aluminium, aluminium alloys, steel or zinc or any other suitable material. The formation of the pull tab (10) can be done in a conversion press. The material allows the machine to easily pierce the desired logo on pull tab (10). Various of logos such as characters, icons, trademarks, etc can be stamped on the pull tab (10) for promotional purposes. A logo (16) is pierced on the pull tab (10) instead of forming a gripping aperture in the tab (10).

[0021] Figure 2 shows a second embodiment of the invention. In this embodiment, the pull tab (10) is similar to the first embodiment in construction and affixed to the can end (21) by rivet (24) with the tear strip (23) includes substantially the entire inner circumference of the can end (21) of a can as defined by a score line (28) which can be torn to open the can end (21) of the can by pulling the pull tab (10).

[0022] The process of the invention may be implemented by an apparatus in order for producing the pull tab (10) with, for example, a conversion press having piercing system to form the desired logo on the pull tab (10) as shown in a block diagram of Figure 3. In a first method of producing the pull tab (10) with pierced logo, a metallic strip is fed into the forming section (S31) to form the predetermined shape of tabs along the metallic strip without the marking of logo on the grip portion (12) it. The formed tab strip is then fed into a piercing section (S32) to pierce the desired logo by a tooling means on the grab portion of each predetermined shape of tabs on the formed tab strip. The pierced tab strip after exiting the piercing section (S32) is then fed into the riveting section (S33) where pull tabs are removed from the pierced tab strip (S34) and riveted onto the can end (21) of the can. A person skilled in the art may add a folding section (S35) to fold in the sharp edges of the pull tab to provide an all-round lip to enhance the profile of the tab. The location of this folding section S35) is interchangeable between the sections as previously mentioned.

[0023] Figure 4 shows an alternative method for producing the pull tab (10) using a conversion press having a piercing system to form logos on the pull tab (10). In this second method, the piercing section (S41) is located before the forming section process (S42). The desired logos are pierced from the metallic strip in a predetermined distance between each pierced logo along said metallic strip (S41) prior to entering into the forming section (S42). The pierced logo will give a more lasting logo on the pull tab (10). After forming the predetermined shape of tabs, the pull tab is then rigidly mounted to the can end by riveting.

[0024] A painted metallic strip in desired colour may be used with the present invention if coloured pull tab with pierced logo are required. Similarly, the metallic strip with coated colours may also be used with the present invention.

Claims

1. A method for providing a logo (16) on a pull tab (10) of a can end, **characterized in that** the logo is formed by a piercing operation and provided for promotional or decoration purposes, proof of purchase or product genuineness, wherein the pull tab (10) with logo (16) is formed by fabricating a pull tab (10) with a predetermined shape on a metallic strip and piercing a logo (16) within the predetermined shape onto the pull tab (10) fabricated and wherein the forming of a plurality of pull tabs and the correspond-

ing logo thereunto on a metallic strip is provided in a single press.

2. A method according to claim 1, further comprising a step of folding in edges of the pull tab (10) to form an all-round lip.

3. A method according to claim 1, further comprising a step of providing a score line outlining an aperture on the can end and affixing said pull tab (10) at a point on the end which facilitate tearing of the score line at the point upon the lifting of the pull tab (10) which enables a user to continue tearing along the score line to expose the opening of the can end.

4. A method according to claim 3, wherein the opening of the can end as defined by the score line covers substantially the entire circumference of the can end.

Patentansprüche

1. Verfahren zum Bereitstellen eines Logos (16) an einer Ziehlasche (10) eines Dosenendes, **dadurch gekennzeichnet, dass** das Logo ausgebildet wird mittels eines Piercing-Vorgangs und bereitgestellt wird für Werbe- oder Dekorierzwecke, zum Nachweis des Kaufes oder der Produktechtheit, wobei die Ziehlasche (10) mit dem Logo (16) ausgebildet wird mittels Fabrizierens einer Ziehlasche (10) mit einer vorbestimmten Form auf einem Metallstreifen und Piercens eines Logos (16) in der vorbestimmten Form auf die fabrizierte Ziehlasche (10) und wobei das Ausbilden einer Vielzahl von Ziehlaschen und des entsprechenden Logos darauf an einem Metallstreifen bewerkstelligt wird in einer einzigen Presse.

2. Verfahren gemäß Anspruch 1, ferner aufweisend einen Schritt des Einbiegens von Rändern der Ziehlasche (10), um eine Ringsumlippe auszubilden.

3. Verfahren gemäß Anspruch 1, ferner aufweisend einen Schritt des Bereitstellens einer Kerblinie, umfassend eine Öffnung an dem Dosenende, und Festmachens der Ziehlasche (10) an einem Punkt an dem Ende, was ein Aufreißen der Kerblinie an dem Punkt auf Anheben der Ziehlasche (10) erleichtert, was einem Nutzer ermöglicht, das Aufreißen entlang der Kerblinie fortzuführen, um die Öffnung des Dosenendes freizulegen.

4. Verfahren gemäß Anspruch 3, wobei die Öffnung des Dosenendes wie definiert durch die Kerblinie den im Wesentlichen gesamten Umfang des Dosenendes umfasst.

Revendications

1. Procédé pour fournir un logo (16) sur une languette de traction (10) d'une extrémité de canette, **caractérisé en ce que** le logo est formé par une opération de perçage et prévu pour des buts promotionnels ou décoratifs, la preuve d'achat ou l'authenticité du produit, dans lequel la languette de traction (10) avec le logo (16) est formée en fabriquant une languette de traction (10) avec une forme prédéterminée sur une bande métallique et en perçant un logo (16) dans la forme prédéterminée sur la languette de traction (10) fabriquée, et dans lequel la formation d'une pluralité de languettes de traction et du logo correspondant sur ces dernières sur une bande métallique est proposée sur une seule presse.

2. Procédé selon la revendication 1, comprenant en outre une étape consistant à plier les bords de la languette de traction (10) afin de former une lèvre tout autour.

3. Procédé selon la revendication 1, comprenant en outre une étape consistant à prévoir une ligne de repère traçant une ouverture sur l'extrémité de canette et fixant ladite languette de traction (10) à un point sur l'extrémité, ce qui facilite le déchirement de la ligne de repère au niveau du point après avoir levé la languette de traction (10), ce qui permet à un utilisateur de continuer à déchirer le long de la ligne de repère pour exposer l'ouverture de l'extrémité de canette.

4. Procédé selon la revendication 3, dans lequel l'ouverture de l'extrémité de canette telle que définie par la ligne de repère couvre sensiblement toute la circonférence de l'extrémité de canette.

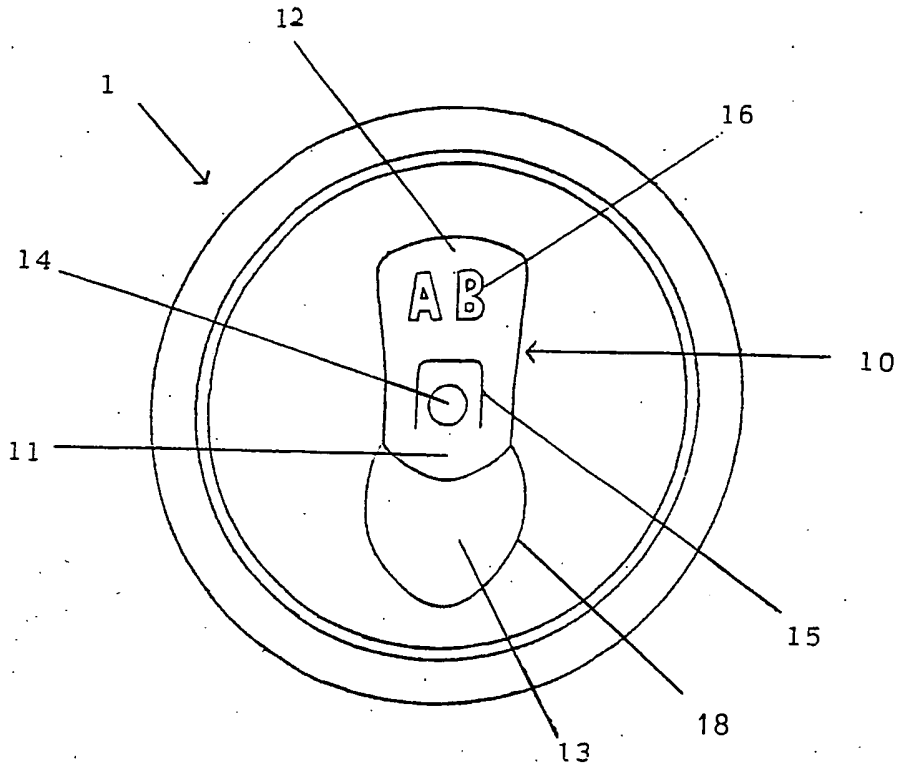


Figure 1

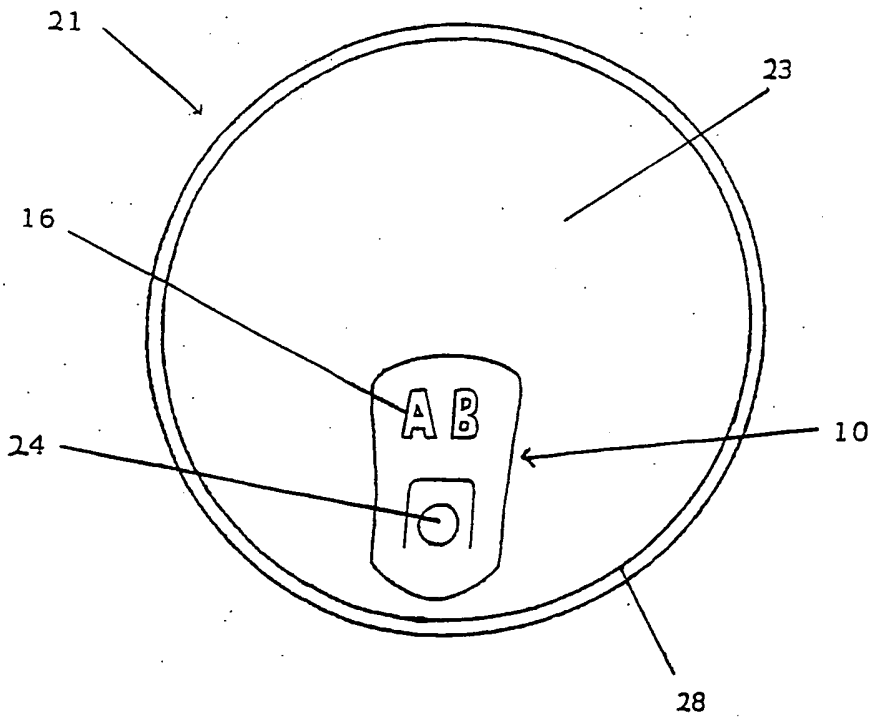


Figure 2

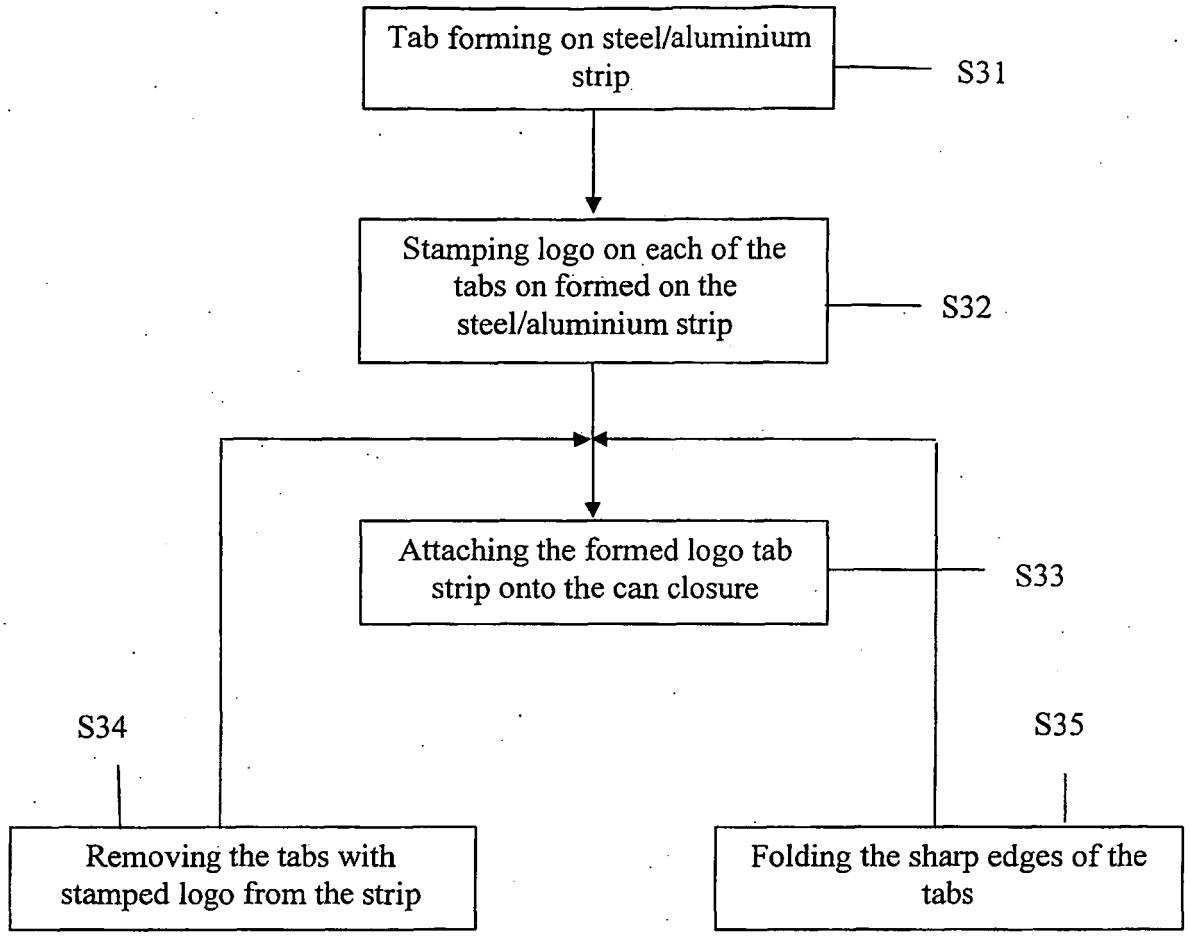

Tab forming on steel/aluminium strip
S31
Stamping logo on each of the tabs on formed on the steel/aluminium strip
S32
Attaching the formed logo tab strip onto the can closure
S33
S34
S35
Removing the tabs with stamped logo from the strip
Folding the sharp edges of the tabs

Figure 3

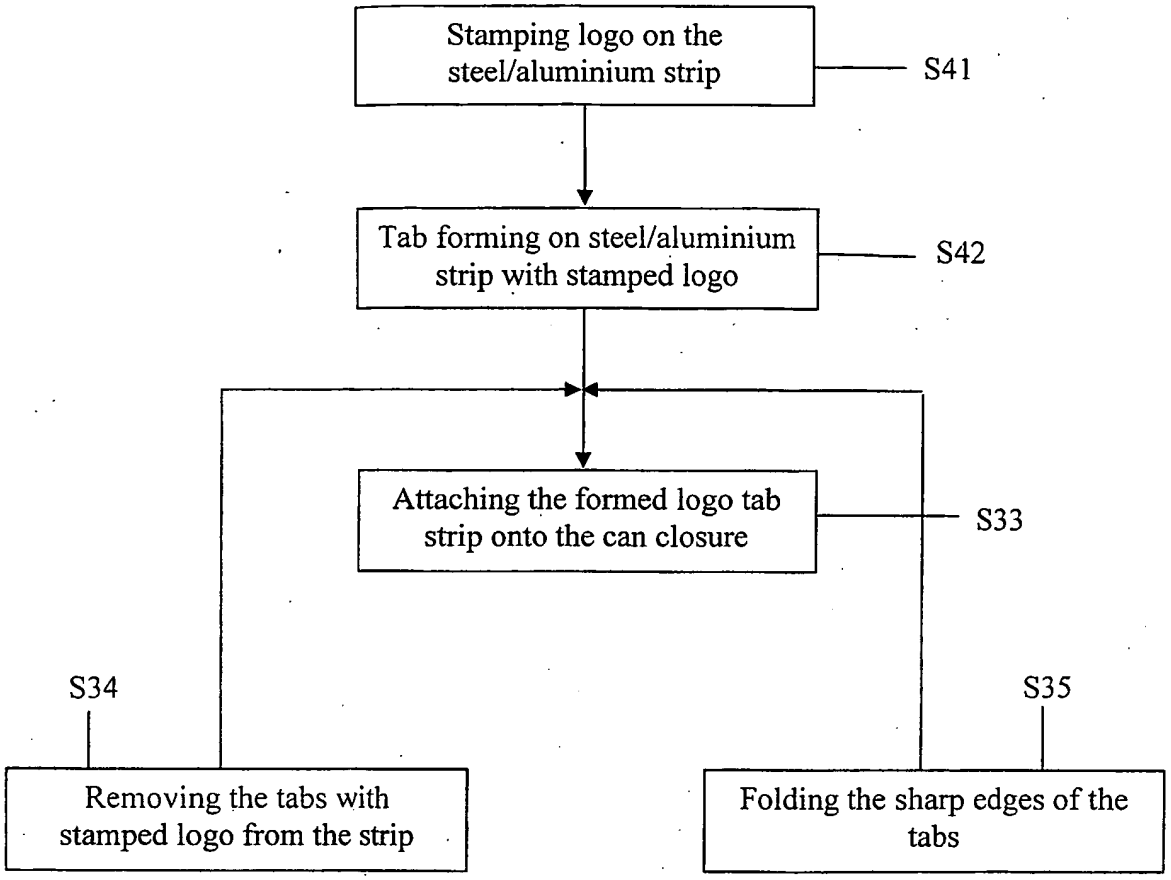

Stamping logo on the steel/aluminium strip
S41
Tab forming on steel/aluminium strip with stamped logo
S42
Attaching the formed logo tab strip onto the can closure
S33
S34
Removing the tabs with stamped logo from the strip
S35
Folding the sharp edges of the tabs

Figure 4

REFERENCES CITED IN THE DESCRIPTION

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