EASY OPEN ENDS

Plain food can ends and shells for food/drink easy-open ends The initial processes for making plain food can ends and easy-open ends for food and drink cans are the same. The body of an end that will be ultimately converted into an easy-open end is referred to as a shell. Plain ends/shells may be stamped directly from wide coils of metal or from sheets cut from coils. Whether from coil or sheet, the metal is fed through a press that produces multiple stampings for every stroke. After removal from the forming tool, the edges of the end shells are then curled over slightly to aid in the final operation of mechanical seaming the end onto the flange of the filled can. After curling, the end shells are passed through a lining machine that applies a bead of liquid-lining compound around the inside of the curl. The compound lining is a resilient material that, during mechanical forming, will flow into the crevices of the double seam and thereby provide a hermetic seal.

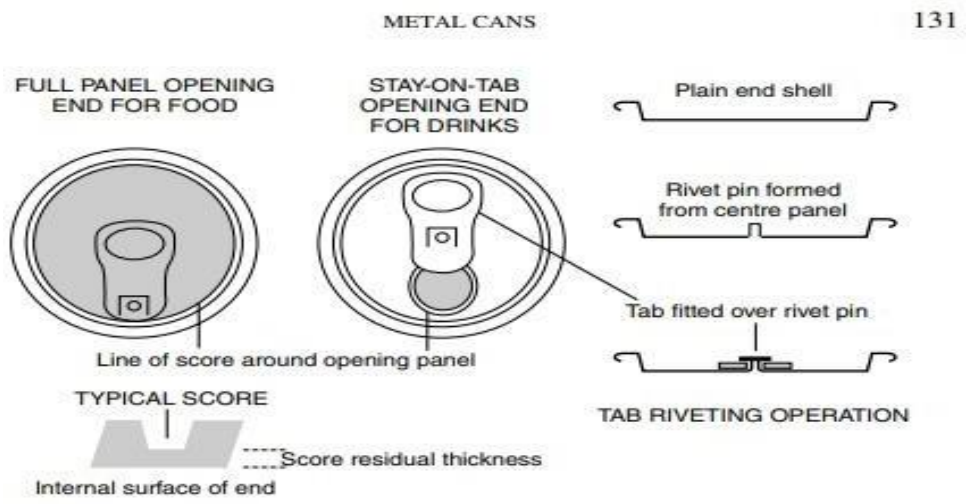

Figure 5.7 Easy-open end conversion.

Conversion of end shells into easy-open ends

The principles used in the conversion of end shells are the same for both full aperture food easy-open ends and small aperture drink easy-open ends. The BEVERAGE END SHELL Centre Seaming panel panel Countersink PLAIN FOOD END END FORMING PROCESS Curled end to compound lining End transferred to curling tool Blank formed into end in press tool Round blank cut out in press tool Prepared metal sheet or strip ‘Start’ curl straight ‘Finished’ curl rounded Figure 5.6 Plain end forming. conversion operations comprise scoring (partially cutting through) the perimeter of the opening panel and attaching a metal tab with which to tear-open the panel. These operations are described in Figure 5.7. Scoring is necessary to reduce the force required to open the end to an acceptable level. The pull-tab is made from a narrow strip of pre-coated aluminium or steel, which is in coil form. The strip is first pierced and cut, and then the tab is formed in two further stages before it is ready to be joined to the end shell. The shells pass through a series of dies that score them and form a

hollow upstanding rivet in the centre panel of the shell. The tab is then placed over the upstanding rivet on the shell, and the rivet is deformed to make a joint between the two components. The finished ends, ready for capping the filled cans, are packed into paper sleeves and palletised for shipment to the can filler.

Coatings, film laminates and inks

Organic materials are used to provide barrier or decorative coatings to metal containers and closures. These may be in the form of liquid-applied coatings and inks or film laminates. For three-piece cans, two-piece drawn containers and can ends, the metal is coated and printed while it is flat, in coil or sheet form, prior to the can or end forming operations. For two-piece drawn and wall-ironed containers all coating and decoration is carried out after the can body has been formed. The coating of metal coil or sheet is always done by roller-coating. For three-piece welded cans with an internal coating, it is usually necessary to FULL PANEL OPENING END FOR FOOD STAY-ON-TAB OPENING END FOR DRINKS Plain end shell Rivet pin formed from centre panel Tab fitted over rivet pin TAB RIVETING OPERATION TYPICAL SCORE Score residual thickness Internal surface of end Line of score around opening panel apply a coating to the inside of the weld area after the body has been made. This may be done by roller-coating or powder/liquid spray. The internal surfaces of two-piece DWI cans are coated by airless spray. Although lacquer coatings provide a barrier to metal pick-up, there may be defects present such as micro-channels, micro-cracks or fissures through which metallic ions can transfer to the product. The degree of metal exposure in a lacquered DWI can may be tested by conductivity measurements using an electrolyte solution. For DWI food cans, where paper labels are normally applied, the outside surface is flood coated with clear lacquer with the can in the upturned position. Drink cans have an optional external coating which is applied by roller. This is used to enhance the can decoration and for this reason is usually white. Metal printing of these products may be onto flat sheet or circular cans, as appropriate. The processes used are, respectively, offset lithography or dry offset. Inks and coatings are formulated for curing by either thermal oven or UV lamp, depending on the particular chemistry of the material.

Glass Containers:

Due to its qualities such as recycling, reuse, and neutral reaction, people often use glass as a packing material. It keeps food and beverages fresh for a long time while preventing infection. Because glass has a neutral nature and does not react, it is utilized in chemical packing. Consumers love glass packaging because of its engaging design. Drinks and food packed in glass containers have numerous advantages for your business. Glass bottles are attractive, clean, long-lasting, and durable.

Glass bottle packaging has been around for a long time. Ajanta Bottle has been supplying high-quality glass bottles to the packaging industry at low prices for many years. Consumers seek environmentally friendly and best packaging for their products, so switching from plastic to glass containers has gained favor in recent years. Below are some of the essential advantages of glass packaging, so you can see why it is the ideal packaging option**.**

Design

The clarity of glass packaging ensures that your product is visible, allowing it to stand out on any shelf or table. The transparency movement is most prevalent in the beverage industry. Glass containers designed by experienced designers with years of experience in the glass packaging industry are sold by Ajanta Bottle. You may get sophisticated designs that are ideal for keeping liquids at Ajanta Bottle.

Healthy

Glass packaging is a hygienic material that, since it is nonporous and impermeable, preserves the flavor, purity, and quality of whatever you store in it. Glass containers allow drinks and food to be heated and cooled without risk of contamination. Because glass is a more heat-resistant material, it does not melt and release particles that could mix with the substance it contains when heated in the microwave, oven, or stove.

The nature of glass bottles and jars prevents harmful chemicals from contaminating foods and liquids. Chemical interactions are almost non-existent in the glass. As a result, consumers who prefer glass-packaged goods or beverages avoid potential risks while also benefiting from various advantages.

Sustainability

Glass is a completely recyclable material with an unlimited cycle of renewal. As a result, it may be recycled and reused indefinitely, lessening the environmental effect. Sustainability is one of Ajanta Bottle’s fundamental interests, and this concern reflects in the design of our goods. As a result, we have chosen glass as the primary raw material for our packaging.

Preserves Freshness

Glass is the most excellent material for food and beverage containers for a reason. It has a non-porous, non-toxic surface with a high impermeability rate that prevents contaminants from leaching into your food or beverages. As a result, glass bottles are an excellent material for liquids that need to be kept for a long time, such as wine or liquor, because the flavor of the pleasant goods is conserved. It also holds smells and carbonation well, making it an excellent choice for water and soda storage.

Aesthetics

Glass packaging is luxurious and visually appealing. Because glass has been such a popular packing method for so long, it exudes a vintage or retro vibe. When a customer hands a glass bottle, their emotions are incredibly different than when they hold a plastic bottle because of the smooth, excellent texture. Ajanta Bottle glass bottles and jars provide a more enjoyable, premium, and classic experience.

Recyclable

Glass has a few significant advantages in terms of environmental friendliness. It is easy to recycle all glass materials up to 100 percent. It will not compromise the product's integrity and quality. Glass bottles can also be washed, sterilized, and reused several times.

Contamination-Free

Water from glass bottles does not have a sour or unusual smell or fragrance, and it does not leave any residue on the container when consumed.

Natural

Glass packaging comes from readily available natural materials. Combining these natural components gives a single clear component which is glass. The manufacturing process does not require the addition of any extra materials or chemical layers.

Reusable

Most plastic packaging degrades immediately after the product is used or consumed. As a result, consumers nowadays opt for reusable glass packaging. Glass bottles and containers are good because you can reuse them with straightforward cleaning techniques. Businesses are beginning to develop bottle return systems, and some are even rewarding customers who participate. Ajanta Bottle can provide your company with glass bottles that may be purchased and delivered to your location.

The Best Packaging Option

Package decisions are never easy to make, but when the decision is made to offer products in plastic packaging, line items like cost and logistics are often top of mind. While these factors are crucial, there are numerous other reasons to use glass packaging.

Companies are increasingly adopting more environmentally friendly packaging for their products. Manufacturers of alcoholic beverages, sauces, juices, oils, and other products significantly gain from glass packaging adoption. These industries can credit some of their success to product packaging, and they have a good understanding of who their products

appeal to. Once you've identified your ideal customer, make sure your packaging reflects them at every point of the buying process.

TYPES OF GLASS CONTAINER

White flint (clear glass)

Colourless glass, known as white flint, is derived from soda, lime and silica. This composition also forms the basis for all other glass colours. A typical composition would be: carbonate); soda (Na_2O) 12%, from soda ash; alumina (Al_2O_3), present in some of the other raw materials or in feldspar-type aluminous material; magnesia (MgO) and potash (K_2O), ingredients not normally added but present in the other materials. Cullet, recycled broken glass, when added to the batch reduces the use of these materials.

Pale green (half white)

Where slightly less pure materials are used, the iron content (Fe_2O_3) rises and a pale green glass is produced. Chromium oxide (Cr_2O_3) can be added to produce a slightly denser blue green colour.

Dark green

This colour is also obtained by the addition of chromium oxide and iron oxide.

Amber(brown in various colour densities)

Amber is usually obtained by melting a composition containing iron oxide under strongly reduced conditions. Carbon is also added. Amber glass has UV protection properties and could well be suited for use with light-sensitive products.

Blue

Blue glass is usually obtained by the addition of cobalt to a low-iron glass. Almost any coloured glass can be produced either by furnace operation or by glass colouring in the conditioning forehearth. The latter operation is an expensive way of producing glass and commands a premium product price. Forehearth colours would generally be outside the target price of most carbonated soft drinks.