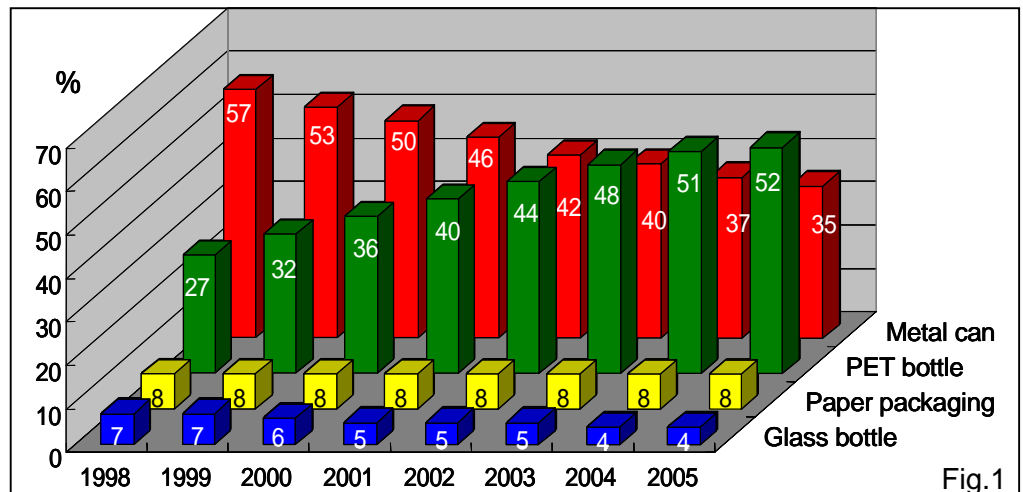


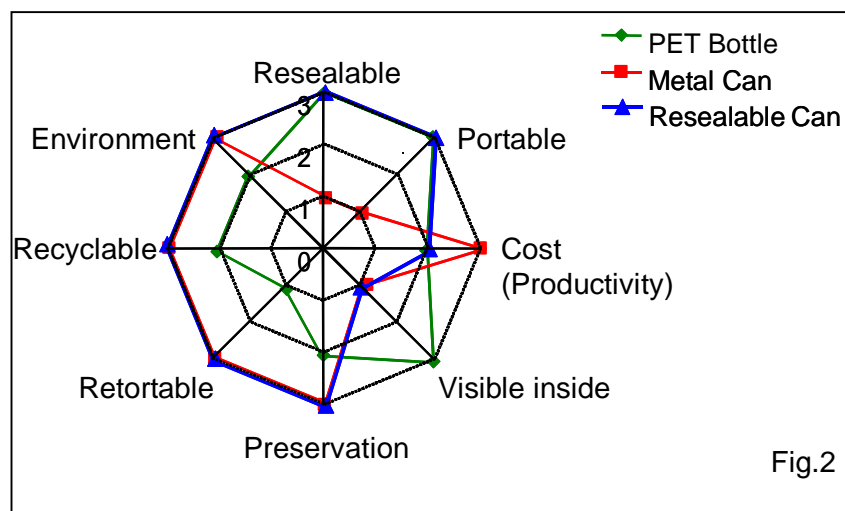
The Resealable Can - An Evolution in the Metal Packaging

1. The background of the birth of a resealable can

Over the past 11 years, there has been no substantial growth in the soft drink market in Japan. (See Fig.1) Both paper containers and glass bottles have been flat. PET bottles started growing substantially at the sacrifice of metal cans immediately following the removal in 1996 of the self-restraint of small sized PET bottles by the packaging industry, and shared 44% of the total market in 2002.



Under the circumstances, we pursued revitalization of metal packaging. Through an extensive analysis of the market we came up with an idea of adding resealability, an advantage of PET bottles, to the inherent advantages of metal cans, such as superior product preservation performance, retortability, easiness of recycling and so forth.



However there were a number of high hurdles that had to be crossed for successful development of a resealable metal can that is suitable for beverage products. Film lamination of aluminum sheet, forming of the smooth shoulder contour, the neck and the spout, threading of the neck to receive a cap, and can handling system, all these were quite new experiences to us, and through our sustained efforts for the development step by step, the New Bottle Can was born in 2000.

2. What is New Bottle Can

Fig.3 illustrates the components of the New Bottle Can.

The New Bottle Can is resealable, its spout is smooth and clean all times, and the screw cap is tamper evident.

The New Bottle Can inherits all advantages of conventional metal cans and has superior gas barrier performance.

The New Bottle Can performs by far superior to the PET bottle in terms of gas retention. Fig.4 shows changes of the gas volume over time in carbonated water being held at a room temperature.

The New Bottle Can is an eco- friendly package. Almost 90% of all metal cans, both aluminum and steel, are being recycled in Japan.

The New Bottle Can is available in five different capacity, i.e, 500 ml, 450 ml, 400 ml, 350 ml and 300 ml with two different spout diameter sizes of 28mm and 38mm.

Its bottom end profile varies depending upon an application; a conventional plain end, a retortable end profile which is compatible with an automatic tapping inspection, safety pressure release profile, etc.

In 2000, the New Bottle Can won “Grand Prix” of “The Can of the Year Award” and since the initial launch, we have shipped about 6.7 billion pieces of the New Bottle Can so far. Typical applications include Beer, carbonated beverages, tea, fruit juices, coffee and water. From here on, the New Bottle Can will evolve around diversified customers’ needs for expanded selections of fill-volumes, spout diameters, contours, etc. as well as extended

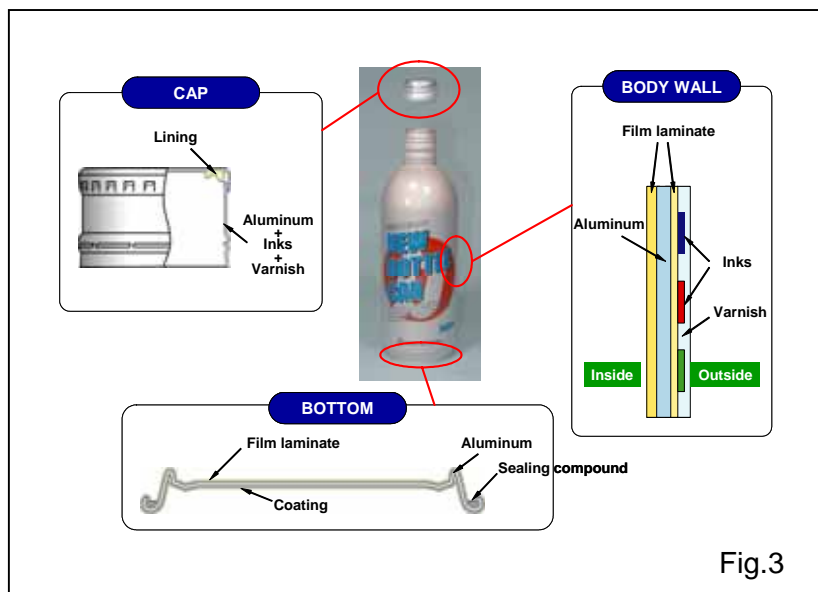


Fig.3

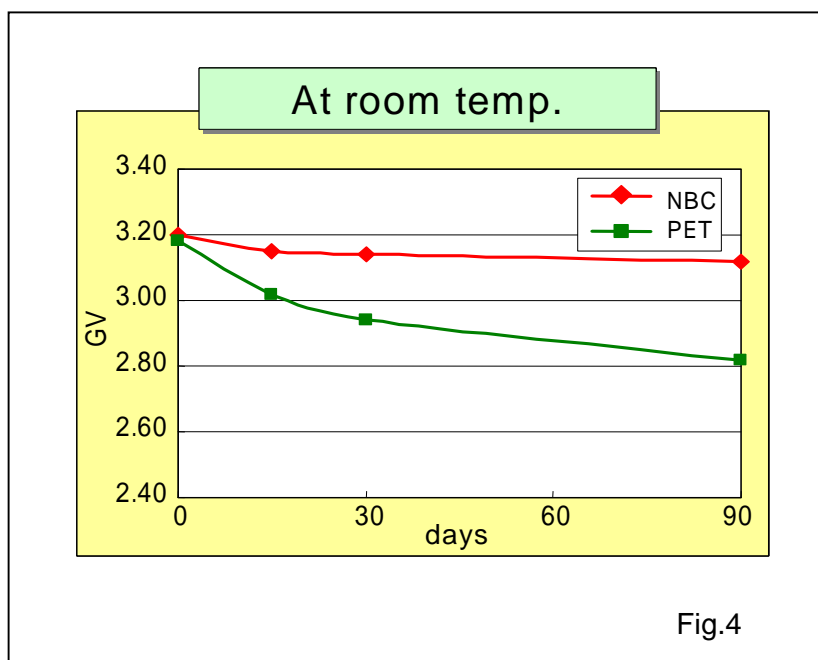


Fig.4

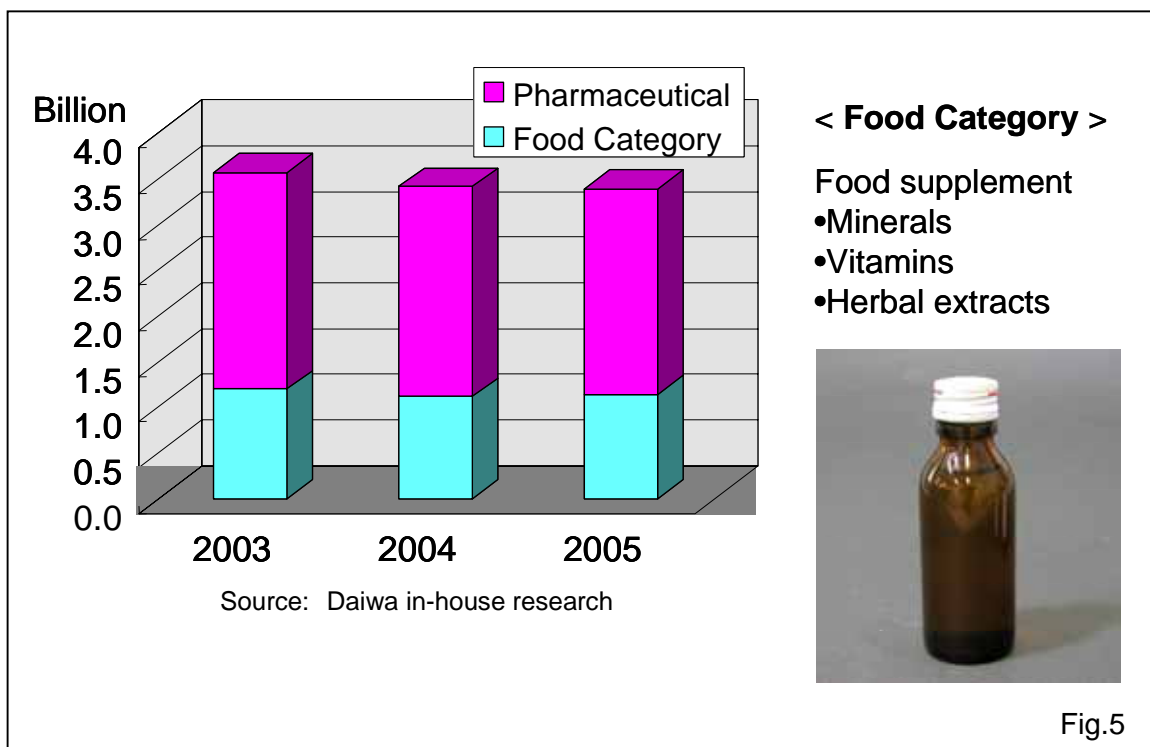
applications, for example, to wine, whisky, fruits drinks with flesh and jerry mix.

A total of some 200 million pieces of the New Bottle Can have been shipped to several countries so far, and we are now looking for further opportunities in the overseas marketplaces.

3. Mini Bottle Can, the latest version of the resealable cans

Mini Bottle Can is one of the latest versions of our resealable cans. It is a tiny can of only 100 ml fill-volume. What is it for?

In Japan, we have a unique package market for health and functional drinks. (Fig. 5)



Varieties of tiny packages ranging from 50 to 120ml sizes are being used for pharmaceutical products and food supplements and these used to be an exclusive market for glass containers until we launched the Mini Bottle Can.

Now, let's review the features of the Mini Bottle Can.

The Mini Bottle Can is tiny, light in weight and non-breakable.

To consumers, it is very handy to carry, and to distributors, it offers saving of logistic costs.

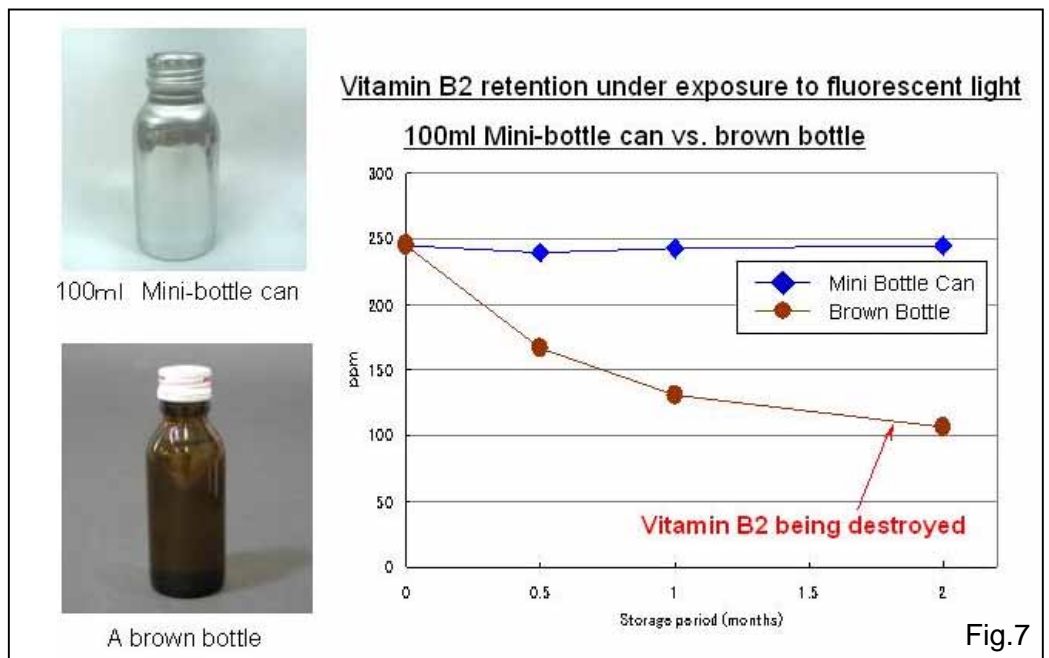
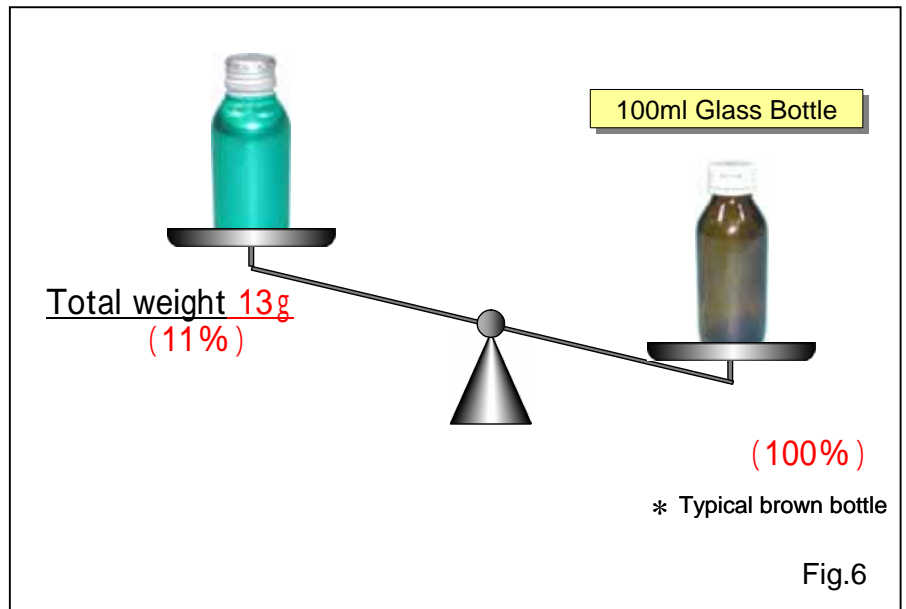
The Mini Bottle Can weighs only about one-tenth of weight of a glass bottle. (Fig. 6)

The Mini Bottle Can has a good product holding performance. It has a good light-barrier and gas-barrier performance.

Fig.7 shows a good example of superior light-barrier performance of the Mini Bottle Can.

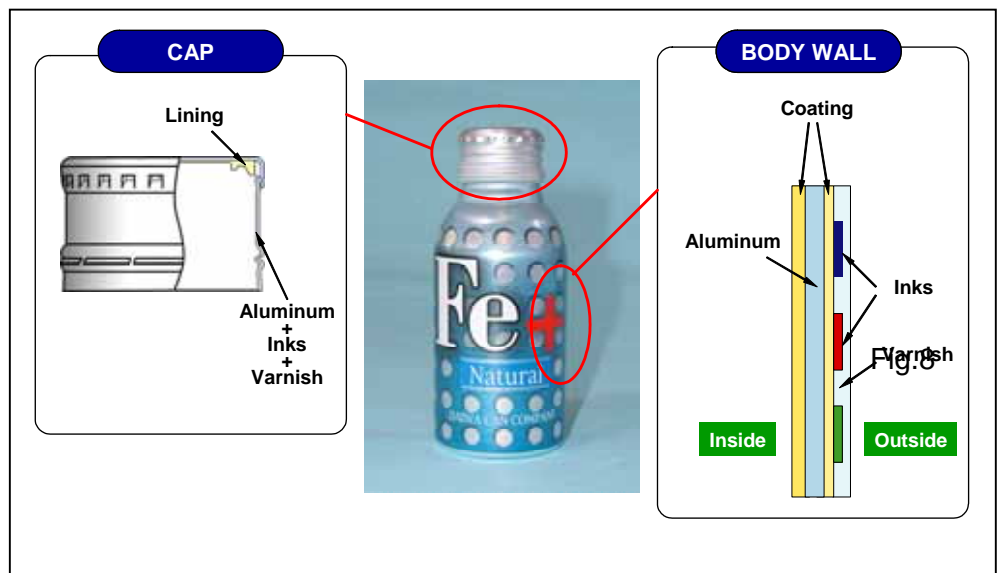
It completely shuts the light off and has a very high level of vitamin B2 retention over time, which is one of its greatest advantages the glass bottle.

The Mini Bottle Can is mono-metal, so it's easy to recycle.



As shown in Fig.8, the Mini Bottle Can is made up of two parts, a can body and a screw cap which are both aluminum. Unlike the New Bottle Can, the bottom of the Mini Bottle Can is integral with the body wall.

Since 2004, we have shipped more than 200 million pieces of the Mini Bottle Can to the market. And this market is growing rapidly.



4. WORC Bottle Can, a 3piece version of resealable cans

WORC Bottle Can is another version of the resealable cans and it is a resealable 3P welded can.

In Japan, coffee drinks in cans have captured a huge market (See Fig.9). The coffee drinks are very popular among consumers of all generation and they sell for their fresh flavors. The WORC Bottle Can has been developed with a clear target at this market.

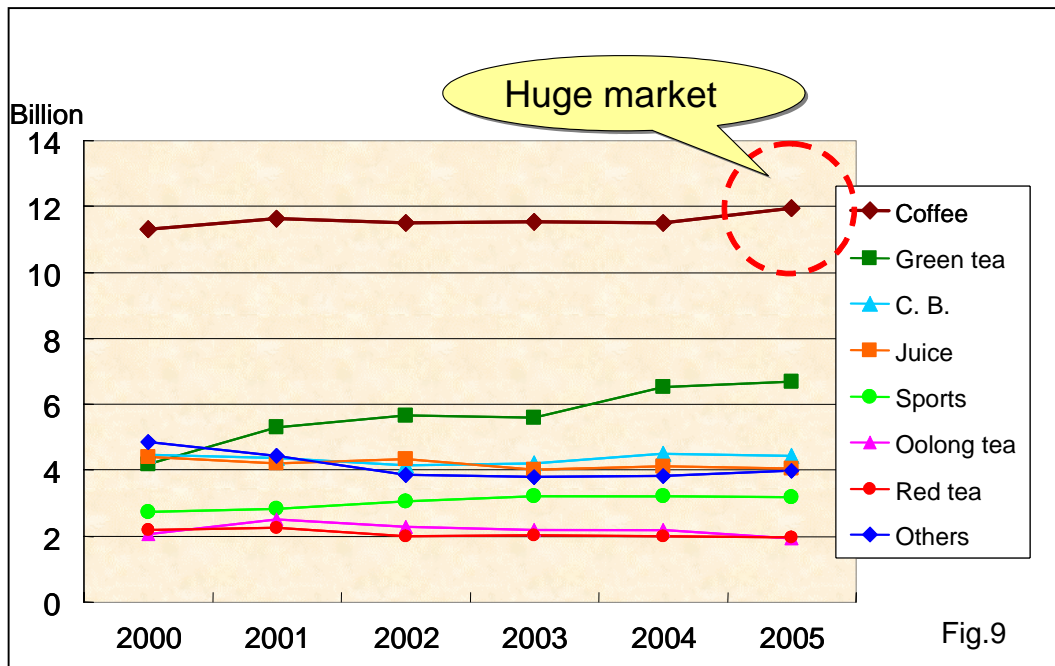


Fig.9

The WORC Bottle Can is made up as shown in Fig.10. Basically, it is a 3piece welded can with a screw cap, which is compatible with beverage products.

The WORC Bottle Can is easier to unseal than the conventional SOT ends.

As the WORC Bottle Can has a large spout, it releases fresh product flavors effectively when first unsealed.

The WORC Bottle Can has been designed primarily for liquid products, but it can also hold solid mix, such as a corn soup with kernels.

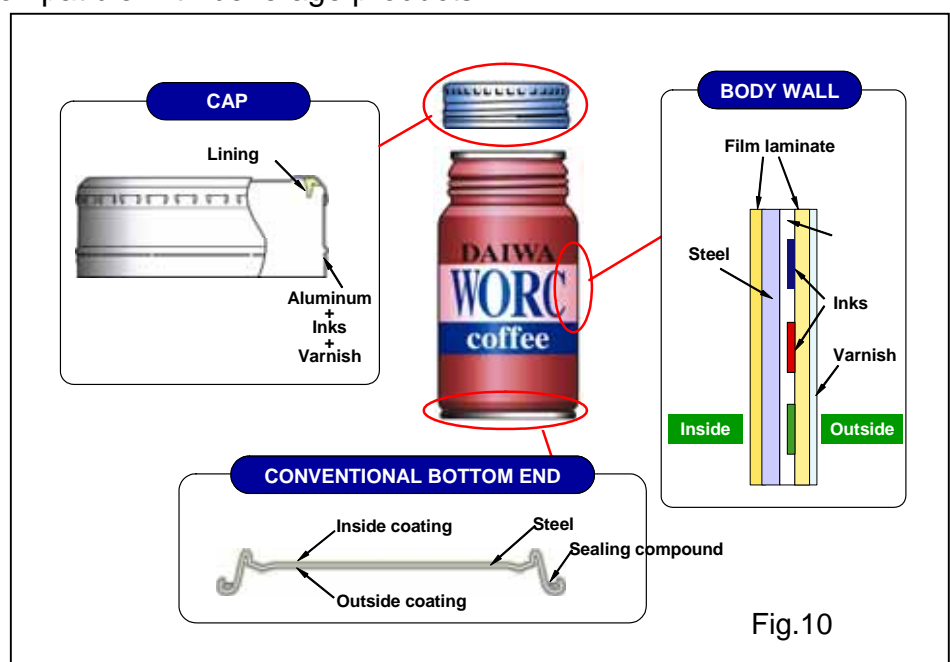


Fig.10

As the WORC Bottle Can is compatible with conventional 3piece can filling lines, customers can switch from conventional 3piece cans with no substantial capital investment. Fig.11 compares customer's typical filling processes between a conventional 3piece cans vs. the WORC Bottle Can. In substance, nothing is different between these two. The depalletizer, the rinsers, the filler and the seamer, they are all the same.

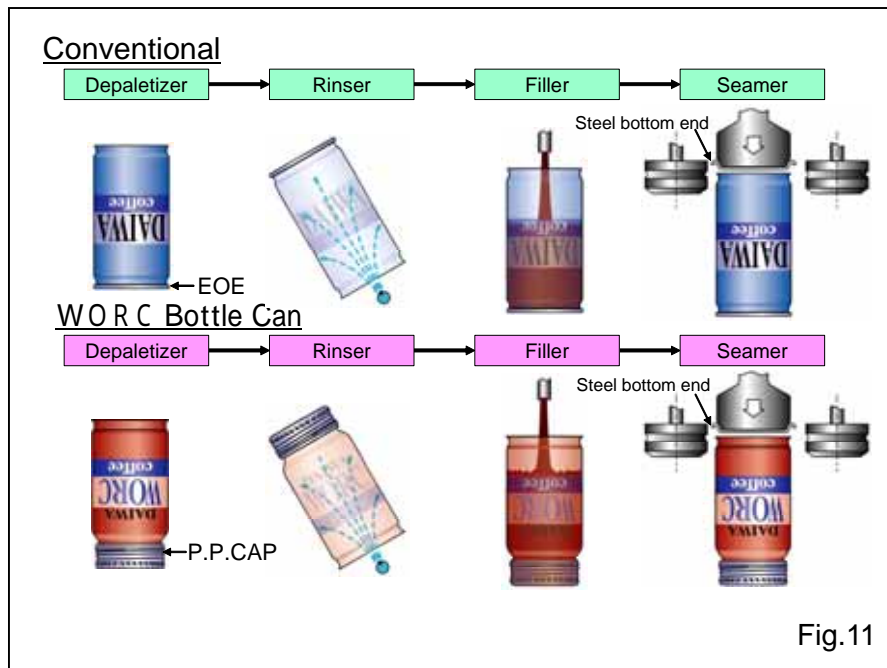
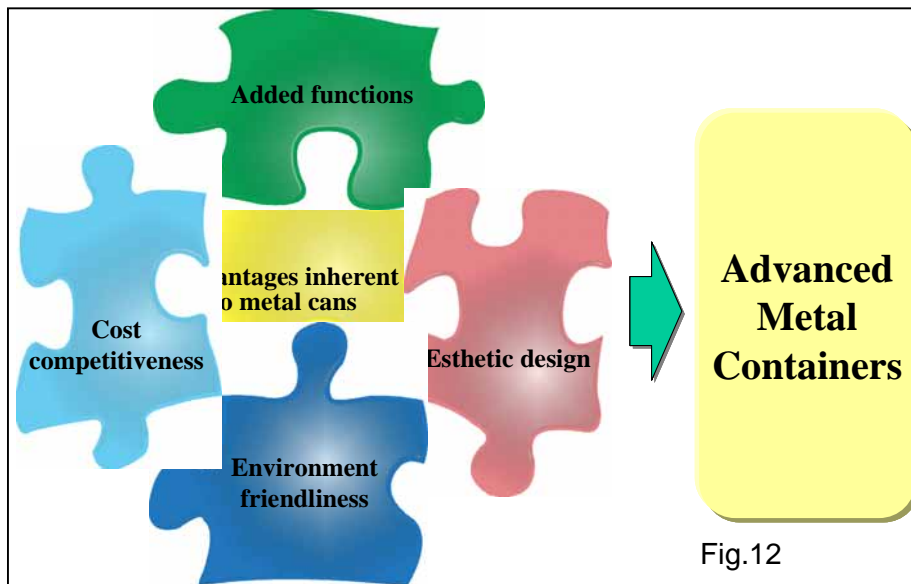


Fig.11

Through a customer's filling line, the WORC Bottle Can runs upside down with the screw cap to the bottom, so, conveyors of an existing 3piece can filling line can handle it with no substantial changes.

Since 2005, we have shipped 190 million pieces of the WORC Bottle Can to the market.

5. Future Direction of Metal Containers



As discussed so far, we have undergone repeated technical challenges and successfully added a number of new functions and features to the metal cans. With a focus on the advantages of the metal cans, we believe that our sustained efforts have enhanced added-value of the metal packaging with a resealing function, a fashionable design and environmental protection and have created a category of the New Bottle Can in the beverage packaging industry. And, the New Bottle Can has given a great impact to the beverage packaging market and has gained strong support from consumers.

Will the metal cans remain the main stream of packaging in the future? We believe that the answer is “YES”. Because they have incomparable advantages as packaging of products: good retention of product flavors, colors and freshness.

On the basis of strength of metal cans as a core, Daiwa Can is committed to continue pursuing competitive edges of metal cans with sustained efforts for adding values through addition of new functions, creation of novel designs, and enhancement of environment friendliness and cost competitiveness.