APEAL news 30

EUROPEAN PACKAGING STEEL NEWSLETTER

GREEN LIGHT FOR THE USE OF METAL CONTAINERS IN MICROWAVES

Food

RESEARCHERS GIVE GREEN LIGHT FOR THE USE OF METAL CONTAINERS IN MICROWAVES

Under normal conditions of use, shallow and wide open steel and aluminium containers are safe to be used in microwave ovens. This is the outcome of an independent study by the renowned Fraunhofer Institute. Researchers also found that food in metal containers is more uniformly heated than in plastic containers. The findings open up a wealth of opportunities for consumers and brand owners alike.

Aimed at looking into the safety and performance of microwave heating food in rigid steel and aluminium containers, the survey was conducted by the renowned Fraunhofer Institute for Process Engineering and Packaging on behalf of the Metal In Microwave Industry Group (MIMIG) composed of Alcan Rhenalu, the Association of European Producers of Steel for Packaging (APEAL), Crown Food Europe, Fördergesellschaft Metallverpackungen (FGM), Impress and Novelis.

The heating experiments were performed with food packed in five metal containers of different dimensions and shape and with four different popular household microwave oven models.

The following metal containers were tested:

- **a round steel bowl** (99 mm diameter x 35 mm height), used with 200 g filling,
- **a round steel bowl** (127 mm diameter x 30 mm height), used with 250 g filling,
- **a square steel container** (125 mm x 125 mm x 25 mm), used with 300 g filling,
- **a rectangular aluminium container** (160 mm x 99 mm x 35 mm), used with 400 g filling,
- **a round steel container** (153 mm diameter, 36 mm height), used with 425 g filling.

These containers were chosen because of their large open surface and shallow profile. This is considered as preferable for use in microwave ovens. Comparison experiments were performed with plastic containers of similar shape and size, filled with the same quantity of test food. The plastic containers were made of C-PET and were specified for microwave heating. Test fillings in heating experiments were tap water, egg batter, chili con carne and an infant meal (pasta with vegetables and small meat balls in sauce). All the test materials were liquid or semi-liquid and filled the containers completely from side to side.

The microwave nominal power ratings for the four ovens were 700 W, 800 W, 900 W and 1000 W. The oven constructions were of the standard household type with glass turntable and with the opening of the microwave wave-guide in the right side wall of the oven cavity.

Safe for use

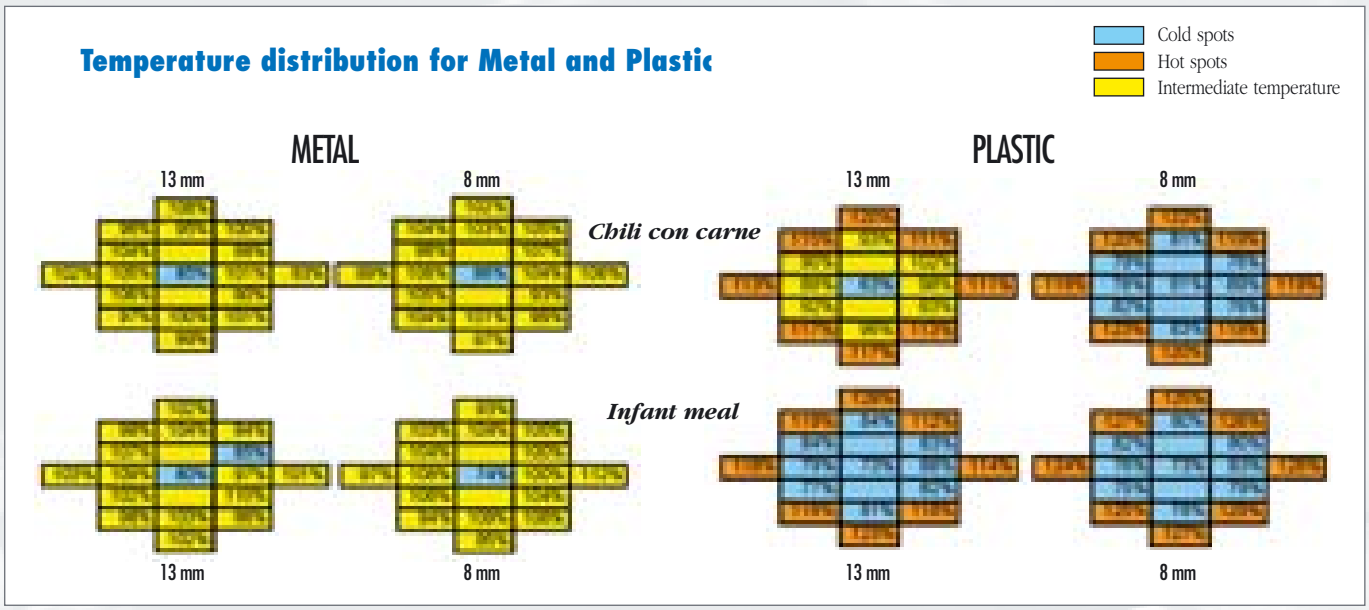
During about 1000 microwave heating experiments with normal handling of metal containers, not a single incidence of a spark or a potentially risky situation was observed. In addition, no functional oven damage or unusual degradation of oven power was found after this large number of heating experiments with metal containers.

"We therefore conclude that the use of shallow and wide open metal containers for heating of food in microwave ovens is perfectly viable from a safety point of view, as long as some basic rules of microwave oven operation are respected" says Thomas Pfeiffer, a Fraunhofer

Under normal conditions of use, shallow and wide open steel and aluminium containers are safe for use in microwave ovens.

BASIC GUIDELINES FOR SAFE USE OF STEEL CONTAINERS IN MICROWAVE OVENS

- The **metal lid of the container must be removed** completely prior to microwave heating.
- As with containers of other materials, **only full containers** must be put into the microwave oven.
- Only **one metal container** must be heated at a time.
- Place **the metal container in the centre of the glass turntable**. An insulating air gap of at least 2.5 centimetres between metal container and oven walls or oven floor should be maintained. For ovens without glass turntable, the container must be placed on a ceramic dish.



Temperatures are shown as percentage of average end temperature. Each measurement consists of two planes (13 mm measurement is near to filling surface, the 8 mm measurement is near to the bottom of the container).

researcher. A few basic guidelines, such as fully removing the lid of the container, placing only one filled container at a time in the centre of the glass turntable and leaving a gap between metal container and oven wall, are specified in the Fraunhofer report.

More uniform heat

Although microwave heating times for food in steel and aluminium containers were longer than in similar plastic containers, there was generally less temperature variation and therefore better heating uniformity in the tested metal containers. The study recommends the use of shallow metal containers with a wide open surface area to reduce the heating time.

Conclusions of the study

- Microwave heating of food in steel and aluminium containers with a large open surface and shallow profile is safe, provided that some basic rules of microwave operation are respected.
- No functional oven damage or unusual degradation of microwave power has been observed.
- Microwave heating times for food in metal containers are longer than for food in similar plastic containers. The difference decreases for larger containers. Therefore, it is recommended to use shallow metal containers with a large opening surface.
- Temperature distribution was generally more uniform in the tested metal containers than in the plastic containers.

Food

RESEARCHERS GIVE GREEN LIGHT FOR THE USE OF METAL CONTAINERS IN MICROWAVES

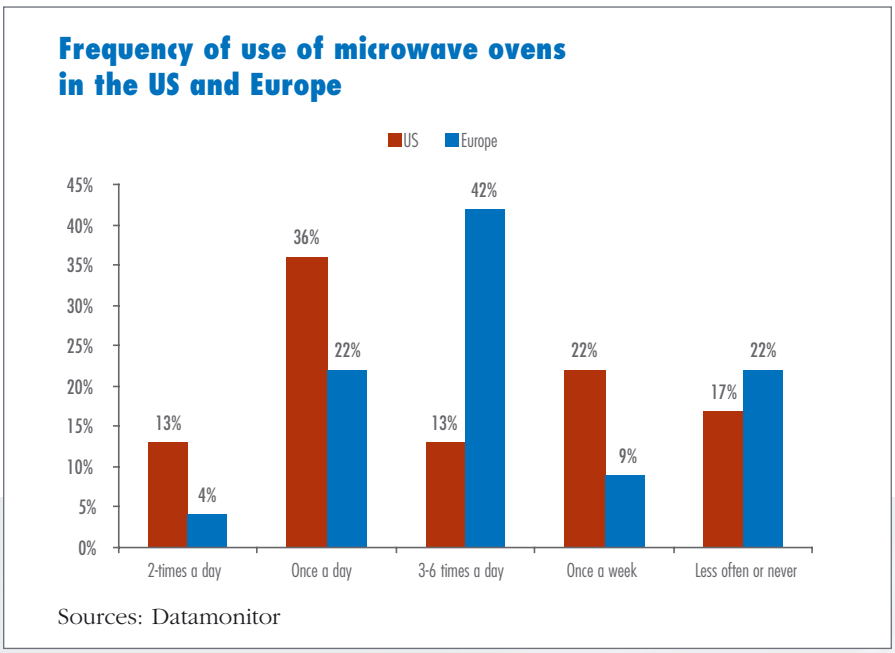
New market potential

The microwaveability of shallow metal containers opens up a wealth of new opportunities for brand owners and consumers alike. For the consumer, it offers the added convenience of dual ovenability with both microwave and traditional ovens. For brand owners it provides new opportunities to segment their product range further by developing suitable food products such as ready meals and soups for microwaveable metal packaging.

Microwave ready meals fit the convenience mega-trend

Indeed, latest Datamonitor consumer trend studies show that consumers of all ages increasingly opt for convenience in their day-to-day food preparation choices. According to this same study, the convenience mega-trend reflects time pressures, stresses and work-life balance issues which consumers are increasingly experiencing. Consumers constantly seek out more efficient and effective products that can help facilitate crammed lifestyles and respond to the need to maximise leisure time. Traditional mealtimes are evolving, being replaced with lighter and quicker meals.

As a consequence, the ready meals market is growing in every global region, but particularly in Europe, reflecting the consumer's desire for convenience and quick easy meals.



This growing importance of pre-prepared meals is also reflected by the high frequency of microwaving. According to Datamonitor figures, the average consumer now microwaves around 19.3 meals a month in the US and in Europe, nearly 4,5 times a week.

The microwaving popularity demonstrates the ascendancy of ready meals and a focus on time and labour-saving.

Heating experiments were performed on 5 different metal containers, among which a round steel bowl (153 mm x 36 mm) (left, top & bottom); a round steel bowl (127 mm x 30 mm) (right, top & bottom).

KEY ADVANTAGES OF STEEL CONTAINERS IN THE MICROWAVE

1. **Dual ovenability**: the same steel containers can be used either in the microwave or in conventional ovens
2. **Rigidity**, especially after heating, allowing easier handling
3. **Less risk of over-heating**; no risk of melting unlike plastics
4. **Better heating uniformity** than with plastics
5. **Best recycling** performance amongst food containers

For the Executive Summary of the full study, please go to www.apeal.org or contact:

Charles Reuland
Communications Manager
APEAL, on behalf of MIMIG
(Metal In Microwave Industry Group)
Avenue Louise 89 - 1050 Brussels
BELGIUM
Tel: +32 2 537 91 51
c.reuland@apeal.be
www.apeal.org

Beverage

PUMP UP THE KEGS

There is a clear trend towards home consumption of beer at private parties and social events which is favouring the growth of the steel beer keg. These new developments in the beer market were demonstrated during the 2006 World Football Championship in Germany, when there was a major expansion of party keg sales for the home consumption of beer, causing a serious supply shortage.

Dr. Opferkuch, CEO, Huber Packaging Group

Dr. Schäuble, CEO, Rothaus Brewery

The steel keg provides an excellent, freshly tapped glass of draft beer.

The "Stand Alone-Event" package

APEAL recently interviewed Dr Opferkuch, CEO of Huber Packaging Group who confirmed : "The party keg is becoming more and more popular as a 'Stand-Alone-Event' package which has established the steel keg as an important proportion of the total packaging mix of German breweries. Moreover the party keg has become an integral part of the so-called Home-Draft systems that breweries are introducing now throughout Europe. The development by fillers of integrated CO_2 pressure systems is accelerating the growth of this market even more, with systems which maintain the draft beer fresh for up to 4 weeks after tapping from the keg. This is really a major marketing breakthrough and consumer reaction has been extremely positive."

Steel kegs : major growth expected by Huber in the future.

Pioneer and Trendsetter

Without doubt, Huber is the undisputed leader in the world for steel party kegs, alongside other key players such as Impress and Kleemann Verpackungen. Huber's prime market for party kegs is in countries with a high population density, such as the USA, Canada, Europe, Asia (e.g. China and India), and in Africa and even as far as Australia.

"Our main customers for steel party kegs", Dr Opferkuch continued, "are global players in the beer brewing industry such as Inbev, SAB, Heineken, major players like Coors, Warsteiner, Kulmbacher, Radeberger. We also supply a considerable number of small and middle-size breweries. We expect major growth in steel kegs in the future, and this is the reason for Huber's major investment to expand production facilities here in Öhringen to supply this new demand."

A traditional brew in steel kegs

Baden-Württemberg Brewer Rothaus is one of the party keg success stories. Established in 1791 by Benedictine monks, Rothaus has one of the most ultra modern breweries producing this legendary beer, reputed for its high quality.

"We have been using steel party kegs for more than 10 years now", said Dr Schäuble, CEO of Rothaus during our meeting in Baden-Württemberg. "In 2006 the growth of our party keg business continued with a 15% increase over the prior year reaching a total sales volume of 1 million litres of our draft beer".

"The steel party keg has been a natural extension to our product mix and meets the requirements of the modern consumer. Offering our product in a packaging solution that corresponds to consumption at a particular moment in time or a particular social event was a critical issue for our success. The steel keg provides an excellent, freshly tapped, glass of draft beer and creates an informal atmosphere at a party gathering anywhere and at anytime. The quality of the natural draft beer is maintained and the presence of the 5-litre keg provides an excellent facing for brand recognition during the regular visits of the guests to the tap. Quality draft beer at local events has been an extremely efficient and cost effective marketing tool for the promotion of our brand and the image of our company."

For more information please contact:

Dr Rainer Opferkuch
CEO
Huber Packaging GmbH + Co. KG
Otto-Meister-Straße 2
DE-74613 Öhringen
GERMANY
Tel : +49/7941 66 0
rainer.opferkuch@huber-packaging.com
http://www.huber-packaging.com

Innovation

Ball Packaging Europe

CONVENIENCE & ADDED VALUE FOR BEVERAGE CANS

AN INSIGHT INTO PRODUCT INNOVATION AT BALL PACKAGING EUROPE'S TECHNICAL CENTRE, BONN

APEAL went to visit the Technical Centre of Ball Packaging Europe in Bonn, which houses state-of-the-art equipment tailor-made for the centre. Sabine Köppe, Manager Laboratory Services, and Dr Bernd Ullmann, Manager New Product Development, gave an insight into the activities of the Technical Centre.

Sabine Köppe, Manager Laboratory Services, and Dr Bernd Ullmann, Manager New Product Development, at the Ball Packaging Europe's Technical Centre in Bonn.

The Technical Centre, a future-oriented competence centre

Sabine Köppe: 'We have 70 highly skilled people of various nationalities working at the centre, among which chemists, physicists, food and beverage technologists, metal specialists and engineers. Most of them are German, but some are English, Dutch, Polish or American. Our Centre dates back to 1996 and has state-of-the-art equipment. We have a can filling line on which we can apply pasteurisation or sterilisation, we have facilities to do fundamental tests but we also have a pilot line for large applications in our Weissenthurm plant which is close to our centre. We have the capability to use 2D and 3D design and to do all kinds of simulations of processes that occur in practice. We work very closely together with our marketing & sales team, our purchasing department, our customer service department and of course our plants. Our Technical Centre also plays a role in the support of licensees and in the technical exchange with Ball USA. The exchange with the Ball R & D Centre in the USA is very fruitful, although the focus of activities is somewhat different in practice. But that is only logical due to the market differences on the two continents'.

Sabine Köppe: 'Ball in the USA is quite advanced in increasing the efficiency of the DWI production process. No wonder, because they have an enormous and rather homogeneous market. We in the Technical Centre in Bonn put more emphasis on product innovation which is also a result of a more fragmented market. Moreover, we use both aluminium and steel as raw material for our cans and that has an impact on our research efforts'.

Thermochromic inks indicate the correct consumption temperature for the beer.

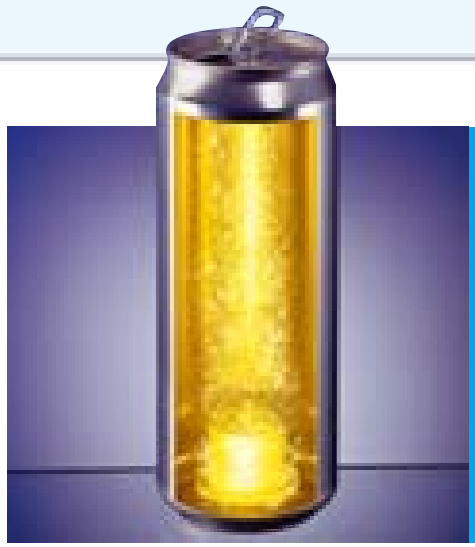
The expert services of the Technical Centre

The Technical Centre has a variety of customers. Often a research programme is driven by a customer demand, but the BPE manufacturing plants are also internal customers for the Technical Centre.

Sabine Köppe: 'If you look at the packaging technology support we are giving here, we do undertake quite a number of quick tests to study the compatibility of a certain drink with a steel or aluminium can. Such a compatibility test is essential before a customer of ours puts a new drink on the market. From experience we know that beer, for example, is rather harmless in terms of corrosion, whereas you have to be careful with mineral waters or energy drinks. Every year around 200 drinks go through our quick test programme.

The development of a security system for the German deposit system

Another good illustration of the high tech solutions in which the Technical Centre has an important contribution is the development of the security logo on beverage cans in Germany.



ABOUT BALL PACKAGING EUROPE

Ball Corporation in Broomfield (USA) had a turnover of US $ 6.6 billion in 2006 and today employs more than 15,500 people in 90 locations around the globe.

The packaging division generates 90 % of the Ball Corporation turnover; the other 10 % come from the Ball Aerospace division in which aerospace equipment is produced.

Ball Packaging Europe (BPE) is a wholly owned subsidiary of Ball Corporation. BPE operations include 12 manufacturing plants for beverage cans (10 body and 2 end plants) and the R & D Centre in Bonn. BPE employs approx. 2700 people and had a turnover of more than 1 billion Euro in 2006. BPE has a market share of approx. 30 % in the European market for beverage cans. This market had a size of 45 billion cans in 2006.

Sabine Köppe: 'Since 1st May 2006, beverage cans have been taken back via reverse-vending machines in the supermarkets. However, it is necessary to have a good system to prevent fraud. For this reason, the beverage can producers represented by the BCME, the Beverage Can Makers Europe, developed such a system together with the DPG, the Deutsche Pfand Gesellschaft. The key element in this system is the DPG security logo that is printed on the cans which registers the moves of the cans. Much of the development work and the fine-tuning for this was carried out in the Technical Centre in Bonn. We worked very closely together with DPG and the producers of the reverse-vending machines such as Tomra and Nixdorf Wincor, but also with can fillers and the retailers. And the system seems to work quite satisfactorily!'

Convenience & Added Value: the key development direction for Beverage cans at BPE

As a leader in the manufacture of beverage cans, Ball undertakes a lot of development work in the USA as well as in Europe in order to further enhance the attributes of beverage cans. New Product Development Manager, Dr Bernd Ullmann, is well positioned to give a brief overview of the developments.

Dr Bernd Ullmann: 'Of course the key word for us and our customers is 'added value'. We have been working hard for many years to enhance the beverage can's emotional added value by improving the printing quality, making the cans suitable for promotions and games, by laser-etching the tabs for example. To this end, we have also developed promising new technologies such as waterless printing and digital printing. And I think the embossed beverage cans that we have been supplying for a number of years really have an added value for the brand owner. The beverage can lends itself very well to give really functional added value, to being a 'smart can'. This ability is often made possible thanks to an intelligent use of the overpressure in the cans by the CO_2 and liquid nitrogen gas in the drinks packed. Widgets in cans have been used for some years to produce a smooth and creamy foam layer, firstly for beer but also for coffee drinks, for example the 'Kenco Ice Cappio'.

Promising new technology : waterless printing.

Widgets in cans produce a smooth and creamy foam layer.

'Another promising development in which we have invested considerable effort in the last few years is the aseptically filled beverage can. The application of thermochromic inks that indicates the correct consumption temperature for the beer is of course also an example of a real functional added value feature. We are also working hard on both sides of the Atlantic Ocean on the development of reclosable cans, as we are well aware that consumers would appreciate a convenient but at the same time affordable feature to make their beverage can reclosable. You can be sure that there are more very interesting ideas in our R & D planning aimed at increasing even more the convenience features offered by today's beverage can'.

For more information please contact:

Sabine Köppe
Manager Laboratory Services
sabine_koeppe@ball-europe.com

Dr. Bernd Ullmann
Manager New Product Development
bernd_ullmann@ball-europe.com

Ball Packaging Europe GmbH
Technical Centre Bonn
Friedrich-Wöhler-Strasse 51
DE-53117 Bonn
GERMANY
Tel: +49/228 557-0
www.ball-europe.com

Interview

SHAPING: KEY TO REPOSITIONING THE IMAGE OF THE CAN

Packaging is an important issue for Nestlé and packaging costs make up a considerable part of the product's final price. APEAL went to Nestlé packaging technology department at its headquarters in Vevey, Switzerland, to interview Juerg Luck, Assistant Vice President Packaging Technology of Nestlé.

Nescau cocoa powder celebrating its 75th anniversary with a new shape.

Juerg Luck: "We have 420 packaging specialists working in the 17 research and product development centres worldwide. There is a functional, unhierarchical relationship with my department in Vevey. Of course the local marketing departments choose the type of package for a new product. They often use consumer research to determine the optimal presentation on the supermarket shelf. Our packaging specialists have an important say in the packaging design and the specifications. Over the years we have of course built up a wide packaging experience and all units can use that pool of experience."

Metal packaging, an important part of Nestlé's packaging mix

Juerg Luck: "We spend approximately 9 billion Swiss francs yearly on packaging alone, which is almost 10% of our turnover. In our packaging mix the metal packaging part has slightly decreased in the last few years, mainly because Nestlé acquired companies not using any metal packaging. However, steel packaging still

Nestlé's headquarters in Vevey, Switzerland.

ABOUT NESTLÉ

In 1866 Henri Nestlé founded the company. Today Nestlé is the biggest food and beverage company in the world with sales in 2006 of CHF 98.5 billion with a net profit of CHF 9.2 billion. These results were achieved by 265.000 employees, spread over 481 factories in 187 countries in the world. In 2006, Nestlé spent 1.7 billion Swiss francs on the R & D expenses, equivalent to 1,8% of its yearly turnover. Nestlé's mission statement : "The Company's priority is to bring the best and most relevant products to people, wherever they are, whatever their needs, throughout their lives."

represents 17% of our packaging mix and we still consume 230.000 tonnes of steel packaging every year. There is a clear evolution in the origin of the cans; ten years ago we still produced 40% of the cans ourselves in-house but today we produce still only 20% of the cans we use ourselves. Our philosophy in this respect is quite simple: if we are able to buy quality cans from a commercial canmaker located at an acceptable distance, we will do so. Several big canmakers all over the world are supplying cans to us. We will only continue our own in-house can production and keep investing in it if there is no viable alternative or if the canmaker is too far away, as is the case in various South-American countries. Voluminous milk powder containers can simply not be transported over long distances. Even though we abandoned own canmaking in the last few years, in the Netherlands and Denmark for example, we still have 38 can production centres in the world of which 6 production centres are located in Europe (3 in France, 2 in Spain and 1 in Switzerland)."

The role of packaging has changed tremendously

Juerg Luck: "In the past 10 years the role of packaging has changed tremendously. Packaging used to be primarily a means of protecting the contents. But we all realise that it is the packaging that the consumer sees first on the supermarket shelf. We know that consumers make 70% of their purchasing decisions in the shop. Logically packaging has become an important driver for sales and its importance has grown accordingly. Consumer research shows that shape and graphics of a package have a big influence on product sales. Brand owners have to take these factors into account when they decide on the packaging for a new product".

Shapely steel cans for Moça.

Promote shaped cans to modify the traditional image of the can

Juerg Luck points out that Nestlé evaluates the shelf impact of packaging of its products. "As a global supplier of consumer products we have to keep all packaging options open. Because of its robustness, efficiency and safety, metal packaging is often our preferred packaging choice, particularly in countries where the infrastructure of the supply chain is still relatively weak. However, we have some concerns. From our regular consumer surveys we have noticed that consumers perceive food cans as traditional and not environmentally-friendly. Whilst insiders are aware of the good performance of steel packaging as a result of its high recycling rates over large parts of Europe, the average consumer does not necessarily know this". Therefore, according to Juerg Luck, the environmental image of metal packaging needs constant and serious attention.

To consolidate the position of the food can on the longer term, Juerg Luck recommends that canmakers and machine suppliers promote the use of shaped cans more extensively. "More shaping technology should be made available for cans. We ourselves have introduced some new can shapes recently, some in Brazil and one in Russia. I find it logical to use well-designed cans for the high added-value products that we and other brand owners put onto the market. As I said earlier, shape is important for shelf impact. And, of course, features that make cans consumer-friendly like easy opening ends or peel-off ends simply belong to a modern can. The more shaped cans we see on the shelves, the more positive consumer perception will be, even more so, when convenience is increased".

Creating shelf impact, the Ninho steel milk churn.

Steel Packaging Gallery

INSPIRING STEEL PACKAGING SOLUTIONS

www.steelforpackaging.org

WAVE SHAPED CHAMPAGNE 'CELLAR BOX'

The Cellar Box for Veuve Clicquot Ponsardin champagnes (Rare Vintage Rosé 1985 and Rare Vintage 1988) is a stunning high-tech steel case designed by Pablo Reinoso and produced by Virojanglor, France. The sleek urban chic look of the Cellar Box, with a metallic sheen elegantly set off by foam sides in trademark Clicquot yellow, make it a coveted accessory for city dwellers eager to save space. The ingenious wave shape makes it easy to stack the boxes—three boxes form a pyramid. The use of tinplate and inner foam protects the bottle of champagne from shocks and light.

HEART SHAPED PACKAGING FOR FACIAL CREAM

This heart shaped packaging for facial cream was developed by Huber Decorative Packaging for the international cosmetic line Laurent Cristanel as a special St. Valentine's Day promotion. The solid drawn tin has a body depth of 37,5 mm on a relatively small footprint, requiring precise control of the shaping process. The smooth contours of the tin are further enhanced by the use of an inside curl on the lid and a recessed body top curl. The effect is a streamlined uninterrupted shape without ripples in the tinplate. The packaging is attractively printed in striking shiny ruby red on the inside and outside of the can.

STEEL BOWL-SHAPED CAN FOR PÂTÉ

Calvo group, a leading producer of canned fish in Spain has launched a new single-serve tuna pâté range in the Spanish market in an 85 g steel bowl-shaped can by CROWN Food. The bowl has a diameter of 65mm and uses PeelSeam™ technology. The package maintains product integrity, has excellent shelf presence and allows consumers to enjoy the pâté directly from the bowl. Safe and easy to use, the peelable lids leave no sharp edges. High-quality graphics may also be applied to the PeelSeam™ foil panel or the bowl exterior itself to enhance brand recognition and maximize shelf impact.

THE STRIKINGLY SLENDER 'SLEEK CAN'

STEEL FOR PACKAGING GALLERY

The "sleek can" is a beverage can format with a strikingly slender silhouette developed by Ball Packaging Europe. It has the normal 330 ml filling volume, but is some 30 mm taller and therefore significantly slimmer in shape than the standard beverage can. The 'sleek can' signalizes the trend towards beverages with less calories and is especially suited for light and wellness drinks such as flavoured mineral water. Recent launches using steel sleek cans include Unilever's Lipton ice tea light & Danone's Taillefine Fiz.

FLEXIDEC™ OFFERS SHORT RUN DECORATION SYSTEM FOR AEROSOLS

STEEL FOR PACKAGING GALLERY

Three-piece steel aerosol cans are decorated prior to delivery using a labelling system specifically designed for the aerosol industry. The Flexidec™ system, developed by Impress, delivers high quality graphics and is based on the application of a clear or white polypropylene substrate which is printed and then fixed with a high performance adhesive to the container. Printed with UV curable inks and varnishes in either Letterpress or, more usually Flexography, the system offers a decorated aerosol can that is sufficiently robust to cope with all the rigours of the supply chain. It enables shorter economical production runs and shorter lead times to deliver supply chain flexibility now demanded by sectors of the market. Developed by the aerosol group in Merthyr Tydfell, UK, customers have been supplied in the UK, Spain and France supporting specialized products and new product developments.

WERA SCREW DRIVER AEROSOL CAN

STEEL FOR PACKAGING GALLERY

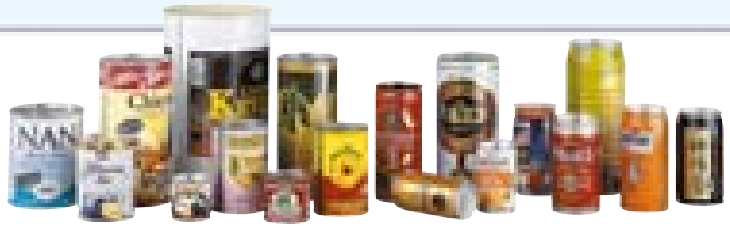
Wera Tools, the global hand tool specialist, has launched its Kraftform Fluid range of lubricants and protectants in an innovative, easy-to-grip shaped packaging, which mimics the appearance of Wera's Kraftform® screwdriver handle. This high-impact package is manufactured using Crown's proprietary blowforming process, which maximizes container integrity and product protection. The process begins by placing preforms into precision-engineered moulds. High pressure air causes the steel to expand and take the shape of the mold. No tooling or liquid is used inside the container, preventing damage to internal coatings.

INSPIRING STEEL PACKAGING SOLUTIONS

Would you like to know more about all these steel packaging solutions?

Please visit:

www.steelforpackaging.org



Trends

THREE-PIECE STEEL CAN MAKES ITS MARK IN THE EMERGING MARKETS

INTERVIEW WITH GLOBAL EQUIPMENT SUPPLIER SOUDRONIC

The three-piece welded steel can is making a strong impact on food and beverage packaging in the emerging world markets. With state of the art technology, it is cost effective, offers maximum security with an extended shelf life, and is one of the most ecological packaging solutions available today. Distributors in Africa, South America and Asia have chosen the welded steel can due to its competitive cost, resistance to harsh transport conditions, and guarantee of optimal preservation of the food in the difficult climate conditions which are frequently experienced in these countries.

3 piece welded steel can – making a strong impact on packaging in the emerging markets.

Jakob Guyer, CEO of Soudronic, said recently, "What strikes us is the strong demand for high-speed ultra modern production lines in developing countries. It is clear that local can makers and fillers want to catch up with the rest of the world and have a highly competitive product which will meet the most stringent of world-wide specifications in markets such as China, Russia, Thailand, Brazil, Mexico and various countries in Africa. Our contribution to the industry, without doubt, has been to make competitive, high quality steel cans for food and technical products available to all markets, having been responsible for the world-wide roll-out of more than 5000 seam welding lines."

Swiss Quality in Steel Can

The Soudronic Company has developed the most technically advanced process for three-piece steel can production at speeds in excess of 800 cans per minute.

The Soudronic Metal Packaging Group was established in the 1950's as a small Swiss supplier of can-making equipment. The objective was to improve the quality standards of the three-piece can with the introduction of their first welded steel can body maker. Gradually this process became the dominant technology for steel food and general line cans. As world leaders in seam welding machines, Soudronic quickly expanded their activities to include related technologies, such as, slitting and transfer machines and more recently can forming and end making. Today Soudronic are technology leaders in their field with a world-wide organization of more than 600 people in 120 countries to service the current 5000 steel can production lines.

To serve a diversity of market requirements, it has been necessary to offer a packaging solution which is flexible enough to offer high production rates with a maximum of can formats and the ability to process harder and thinner steel.

With Compeel®, Soudronic launches a new generation of peel-off ends for 2 and 3-piece cans.

Shaping up to the future

The popularity of the three-piece can and the convenience of a peelable end will no doubt have a positive impact and foster sustainable growth for the future. However, image is a powerful tool, especially with young consumers. Shaped three-piece steel cans are, as a consequence, becoming more and more frequent when launching new designs. This trend will no doubt continue to offer added value to the thee-piece steel can with some very unique designs for aerosols and even for paint cans.

Competing with world class players

Peter Schreiber, Technical Director of Soudronic and responsible for innovation, stressed that although the consumption per capita of steel cans in these emerging countries is quite often still modest, the economics of Soudronic welded steel production permit these countries to offer quality cans with maximum security at world class production speeds. This enables medium size can-making companies to also compete with multinational alternative packaging companies.

"Currently", he said, "we are supplying two new, ultra modern high-speed can lines to the Chinese company Chalkis Tomato Products, one of the largest producers and exporters of tomato paste in China. The line is capable of speeds in excess of 1300 cans per minute, using steel which is only 0.13 mm thick together with end production at rates of 3300 ends per minute at a thickness of only 0.14mm. In Thailand a similar line is being installed for a shaped can for health drinks, in Mexico to export filled food cans to the USA and in Korea we are installing a high-speed aerosol can-making line."

"The good news for brand owners and consumers is that steel cans are offering even greater cost effectiveness with lower thicknesses reaching 0.12 mm," Peter Schreiber continued, "with the added advantage of using less material and thus reducing environmental impact".

UNISEAL peel-off equipment increases convenience

The convenience awareness of the consumer has been established over the years with numerous easy opening devices, the most reputed being the Easy-Open-End. More recently, peelable ends are making the headlines and UNISEAL peel-off equipment is a major contender from Soudronic. This addition to their technology portfolio together with their shaping capability offers an even more complete single source supply and a total service to the can-making industry. Soudronic earned the Metpack 2005 Innovation Award for their peelable end Compeel® which consists of a curled ring and aluminium or composite membrane heat-sealed to the ring. This technology is currently being used for dry products such as infant formula baby foods, dried milk and coffee in Brazil, South Africa, Russia and Malaysia and other countries. However, the most significant growth is in the canned fish industry, which is continuing to snow ball. In France, Spain, Morocco and the USA there is a tremendous potential where the canning industry is ready to convert to peelable ends. Considerable development is being undertaken to develop the use of continuous processing for peelable ends as this will lower the entrance barrier for this consumer-friendly end.

For more information please contact:

Jakob Guyer
CEO
Soudronic AG
Industriestraße 35
CH-8962 Bergdietikon
SWITZERLAND
Tel +41/44 732 66 66
jakob.guyer@soudronic.com
www.soudronic.com

Food

NUTRITIONAL VALUE, SAFETY & PROTECTION

With today's manufacturing know-how, canned foods have made their mark in a world which is more and more sensitive to security, health and nutrition. Sophisticated food processing technologies and efficient thermic transfer during the shortest possible time frame ensures a precise control of retorting temperatures (sterilisation). It also maintains consistent high standards of quality to meet today's critical consumer demands. Furthermore, canned foods are protected from light and oxidisation, and when stored at room temperature, preserve their vitamins for at least 3 years without high energy-consuming refrigeration.

NUTRITIONAL VALUE

Studies confirm canned foods are as healthy as fresh foods

The current trend favours fresh, organic foods for nutrition and health, but in fact, fresh vegetables are not necessarily more nutritious than canned food. A study by the University of Illinois Department of Food Science and Human Nutrition found that canned fruits and vegetables provide as much dietary fibre and vitamins as the same fresh foods, and in some cases, even more.

Fresh foods begin losing their vitamins as soon as they are picked. They are often stored in warehouses or are in transit for as long as two weeks before they reach the market. Fresh fruits and some vegetables are harvested before they are even ripe and depend upon this time lapse to be ready for consumption. Canned foods, on the contrary, are harvested at their peak of ripeness and are processed from the source within hours (in most cases less than 2 hours), thus preserving more vitamins than their fresh counterparts.

Extra nutritional value

The nutritional and health value of canned foods has been largely underestimated for many years. Even today, the average consumer believes that the essential elements in food are lost in the canning process. In reality, canned food maintains high nutritional values.

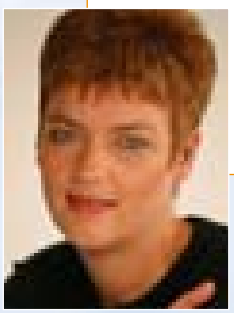
That's because canned foods preserve high

"A balanced diet constitutes a variety of produce from different food groups, fruit and vegetables, meat and fish, beans, bread, cereal and milk and dairy foods - which are all available in canned foods.

An excellent example of the advantage of canned foods is canned tomatoes, which contain a higher percentage of 'lycopenes' - a powerful anti oxidant against carcinogenic free radicals. - which is absorbed more easily by the body than fresh tomatoes. Oily fish such as canned mackerel, sardines and pilchards are rich in Omega 3 and are a recommended part of the weekly diet. Canned fish is a very convenient way to ensure sufficient quota of Omega 3. Canned food naturally "locks in" nutrients. The produce is picked and very quickly filled into the cans. People often think that nutrients are lost during the process but on the contrary, the canning process seals in the nutrients and preserves their content.

There are some unique ways that canned foods can contribute to a balanced diet and canners need to communicate to the consumer the process used, its effect on the produce and the fact that canned food does not contain additives. Labelling is important and indicating the contents in terms of calories, protein, salt, sugar etc., is very useful."

Lyndell Costain, UK Registered Dietician



levels of nutrients and vitamins, often more than fresh food, chilled, or frozen equivalents. The canning process actually captures and 'locks in' nutrients, which would otherwise be lost.

The quality of food which is destined for can processing is strictly controlled to maintain freshness. More so, in fact, than the majority of 'fresh' foods which are stocked and supplied using various distribution channels. The lapse of time between the harvesting, transport and processing of canned foods is extremely short. This is one of the principal reasons why they maintain such a high nutritional value.

Vitamins galore

Proteins and lipids remain intact in canned foods. Vitamins, which are often sensitive to heat, light and oxidisation are safeguarded. The vitamin content of canned vegetables is therefore higher than that of fresh vegetables that have been cooked for too long, or stored for several days in the refrigerator. It is a well-known fact that asparagus can lose up to 40% of its vitamin C within just 24 hours of storage, spinach 30% and green beans 20%.

Studies at the Cornell University of Ithaka, New York, have shown that with the short, high temperature heating used by the canner in modern food production processes, the nutritional value is in fact improved with certain types of food. In the case of tomatoes and corn on the cob, lycopenes - a secondary plant material - are released at high temperature during food processing.

The vitamin C loss is considerably less than in normal home cooking and an independent study from the Faculty of Ecotrophology in Mönchengladbach (Germany) shows that the A, B and E group vitamins, including folic acid, are preserved in canned foods together with carbohydrates, proteins and fatty acids.

Moreover, a report conducted in 2005 by TNO shows that the carotenoid content (essential for normal growth, the development of immune system functions and vision), found in carrots packed in steel cans is much higher, reaching a factor of 12 against 7.8 for fresh carrots.

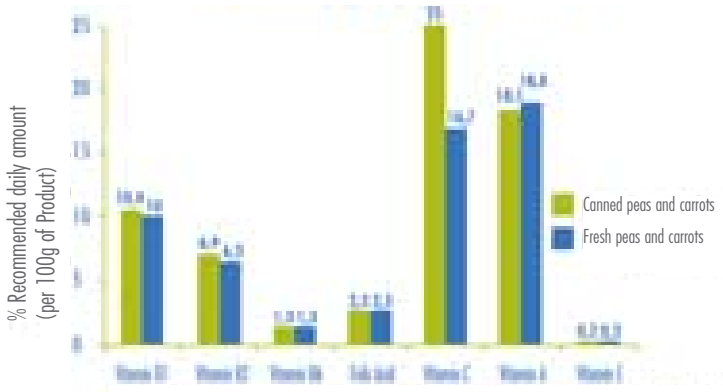
No needs for additives & preserving agents

Contrary to popular belief, canned fruits and vegetables are preserved using controlled heat sterilisation. No chemical preservatives are used and no additives are needed to preserve them.

Canning is one of the best studied forms of food preservation. The sterilisation process occurs inside the can as the food is uniformly heated.

Steel packs also transfer the heat to the food more rapidly and allow the penetration of heat to the centre of the product. This means that canned foods are the safest form of food because the conditions used are designed to preserve their microbiological safety, as well as nutritional and sensory qualities.

Canned products provide similar vitamin content to freshly prepared dishes



Source: Institut für Lebensmittelqualität/Willich und Fachhochschule Niederrhein/Mönchengladbach

Food

NUTRITIONAL VALUE, SAFETY & PROTECTION

SAFETY & PROTECTION

Consumers trust the can - more than ever

The steel food pack represents a high performing packaging solution which has been present in our food markets for over 200 years. Today, more than ever, it is associated with trust not only in the consumer's mind, but also in that of the brand owner.

Food canning - safest guarantee against microbial contamination of food

Food canning is one of the safest forms of food processing due to heat sterilisation and the strict adherence to health and safety requirements.

The simplicity of the canning process and the thoroughness of the heat sterilising process ensure that incidences of inadequate processing are extremely rare. In addition, the canning industry was one of the first to adopt the HACCP (Hazard Analysis Critical Control Point) principles of food safety.

Almost all kinds of foods have been implicated in Bacillus cereus food-borne poisoning, a spore-forming bacteria. The majority of outbreaks were linked to the consumption of heat-treated foods. Failure in refrigeration was frequently suspected. No wonder that the European Food Safety Authority has found canning the best means of fighting some forms of food-borne bacteria. Only heat treatments used for the canning of low acid foods can ensure the complete destruction of the Bacteria Bacillus cereus.

Consumers rely on steel packs being tamper proof

The demand for tamper-proof packaging is growing amidst fears and concerns about food safety. As consumers increasingly demand safe, tamper-evident packaging, the rigidity of steel packs responds well to the need to protect food. Steel packaging gives consumers peace of mind as it is nearly impossible to tamper with a steel pack without leaving obvious evidence.

Steel packaging is unrivalled when it comes to protecting the packed content and its resistance parameters (crushing, perforation, and denting) are considerably higher than alternative packaging solutions.

Unrivalled barrier properties & longest shelf life

Due to its 100% oxygen barrier properties and unrivalled protection against light and moisture, the steel can offers the longest shelf life compared to all alternative packaging solutions - 3 years, compared to competing solutions which offer from 4 weeks to 2 years.

Steel packaging is the only container that is totally lightproof and oxygen tight, offering excellent barrier properties against light, ultraviolet rays, oxygen and humidity for a wide range of products. When used to package sensitive products such as food, steel is hygienic, non-toxic and retains the product's flavour.

Steel Packaging: First in class for reliability

The brand owners' trust is rooted in the fact that steel packaging is best in class for reliability (one failure of the closing device per million cans detected and discarded), as well as for filling speeds. As a mature, reliable packaging solution, the combination of these aspects with the long shelf life of the can means less spoilage for the brand owner and less product recalls directly linked to the packaging itself. Furthermore, at every stage of the logistics chain, steel packs are more resistant to severe transport and handling conditions. Fewer damaged packs results in less product spoilage.

Excellent traceability

Steel packaging has an excellent traceability record. Quality management systems implemented in the steel industry and during can manufacture enable fast and detailed upstream and downstream traceability of steel packaging up to the production lot.

Stringent steel mill certifications give the food contact raw material a "pedigree" that identifies each coil by its composition, physical and mechanical properties. A unique serial coil number, computer generated and archived, is printed on a label and accompanies the coil shipment to the can manufacturer with all the relevant information.

In case of product recalls, this is an asset for brand owners and retailers since it allows to target with greater precision the quantities of products to be recalled and the response time needed.

Food

NUTRITIONAL VALUE, SAFETY & PROTECTION

SUMMING IT UP

- Consumers are becoming more **aware of health, nutrition, and food safety** issues.
- The **steel food pack is associated with trust** in the consumer's mind.
- Although canned foods are often overlooked as a convenient source of nutrition, many canned foods are bursting with nutrients. **They are an easy way to include additional vitamins and minerals in one's diet**.
- Studies confirm that **canned food is as healthy as fresh food** and in some cases, even healthier.
- **Foods packed in steel do not need additives or preserving agents**. They are preserved via controlled heat sterilisation.
- Canning is one of the **best-studied forms of food preservation**, as well as **the best means of avoiding certain forms of food-borne bacteria**.
- Steel packaging has **an excellent traceability record and offers unrivalled barrier properties, shelf life, reliability, and is also tamper proof**. They are values that are highly regarded by today's consumer.

The attributes of canned foods in terms of nutritional value, safety & protection are outlined in an information fact-file compiled by the European steel for packaging Industry as part of a sequenced information programme to brand owners, retailers and designers on the values of steel packaging in the Food segment.

In this article we brought you extracts from the third Information pack in the series - "Nutritional value, safety & protection".

The complete information pack is downloadable at ***www.apeal.org***

or a printed copy can be obtained by contacting APEAL

FURTHER INFORMATION REGARDING THE NUTRITIONAL VALUES OF CANNED FOODS

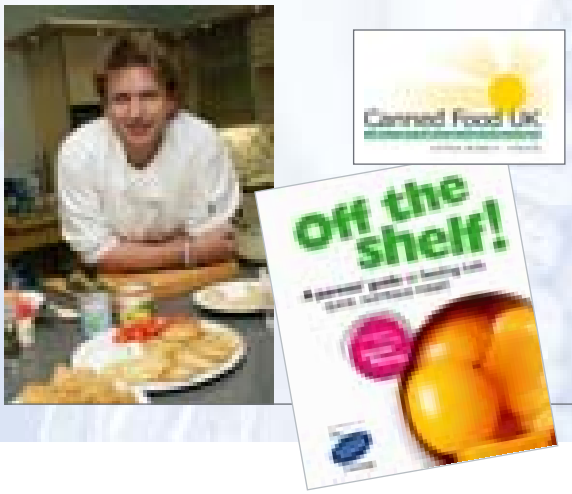
ANFIMA - ITALY
www.anfima.it

CICE - SPAIN
www.conservaenlata.com

CANNED FOOD ALLIANCE - USA
www.mealtime.org

DIE DOSENKÖCHE - GERMANY
www.die-dosenkoeche.de

CANNED FOOD UK - UK
www.cannedfood.co.uk



UPPIA - FRANCE
www.uppia.org

Event

2008

3rd International Steel Packaging Effectiveness Award

effectiveness

APEAL has just closed its entries for its 3rd International Steel Packaging Award based on effectiveness criteria, which recognises those packaging solutions that have proven to be the most effective in the market.

An original research based approach recognized by the market

The Steel Packaging Effectiveness Award focuses on the results achieved by the various steel packaging solutions in the market. The entries will be evaluated on the basis of proven marketing results: increased sales, market share, profitability, brand awareness and/or consumer attitude shifts.

Consumer research in 15 countries on 4 continents

The 3rd edition of the Award will extend the geographical scope of the international consumer research. Jury members, composed of renowned professionals from throughout the packaging chain, will evaluate the entries with the support of on-line research carried out in 15 countries throughout the world, on 4 continents (Belgium, Brazil, China, France, Germany, India, Italy, Japan, Poland, Romania, Spain, Sweden, The Netherlands, United Kingdom and USA). It will reveal the parameters (design, shape, convenience..etc) which played a significant role in achieving the marketing results.

This original approach, launched in 2002, stimulated much interest. Satkar Gidda, Sales & Marketing Director, Sieberthead, Jury member in 2005 commented: "Competitions like this are great for encouraging people to be inventive as well as innovative, whilst creating work that is right for the consumer, focusing on that key word, 'Effectiveness'".

Opportunity for international exposure

Due to the consumer research based nature of the Award, there is an outstanding opportunity for winners to gain international exposure. Tiago Heleno Forte, International Sales and Marketing Executive at Brasilata S/A Embalagens Metálicas, 1st Prize Winner in the General Line Category in 2005 commented : 'We consider the APEAL award not only a prestigious recognition of our constant innovation efforts but an important marketing and sales tool for promoting our products'.

Another winner of the 2005 edition, Tak Egawa - Manager, International Operations, Toyo Seikan Kaisha, Ltd, emphasized: 'We were extremely honoured to have won this prestigious Award. It gave us a tremendous opportunity to promote TEC 200 and our technological capability outside of Japan. The Award also helped our company strengthen our presence in the global packaging industry'.

Winners in each of the 4 Award Categories (Food, Beverage, Promotional and Giftware, General Line (Aerosol, Paints, Health & Beauty and others)) will be announced at the Steel Packaging Effectiveness Award ceremony, which will take place during the 5th International Steel Packaging Congress, on 24th April 2008, during Interpack / Düsseldorf.

For further information, please visit:

www.apealaward.org
www.apealcongress.org

24TH APRIL 2008
INTERPACK DÜSSELDORF

5TH INTERNATIONAL STEEL PACKAGING CONGRESS

TRUSTED EXPERIENCE - VALUE FOR THE FUTURE

STRATEGIES TO MEET NEW CHALLENGES

The next International Steel Packaging Congress will take place on 24th April 2008 on the first day of Interpack, the largest packaging fair in the world held every three years in Düsseldorf. Moderated by Mike Hewitt, Director of Brand Republic, the Congress will focus on the challenges being faced by our industry today and will look at product innovation, market development and sustainable development to respond to these challenges.

A packaging congress not to be missed

Since the first congress organised in 1996, the APEAL congress has attracted an increasing number of packaging decision-makers, and has become, over time, an event not to be missed within the sector. The last edition in 2005 was attended by 520 packaging decision makers from 40 countries worldwide. Whilst in 1996 the steel industry presented for the first time, with one voice, the latest developments in the material and its applications in the field of packaging, the 2nd congress in 1999 focused on the marketing and design aspects of steel packaging. In 2002, the accent was placed on the effectiveness of steel packaging solutions throughout the chain, whilst the congress in 2005 concentrated on packaging and the consumer.

Product innovation, market development and sustainable development

The first session will focus on packaging innovation as a means of enhancing brands. Changing consumer and brand needs and increasing competition are creating new opportunities in new market segments. We will see how packaging innovation is a way to sustain & grow brands. The second session will look market development in terms of geographical areas, market segments, economical factors and consumer behaviour. Finally in a society increasingly concerned about global environmental issues, such as global warming and depletion of resources, key note speakers will help address the global industry challenge of sustainable development.

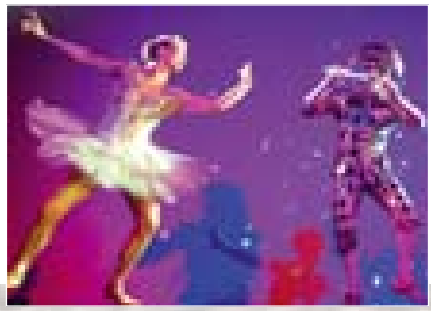
page 24 ➪

www.apealcongress.org

Event

5TH INTERNATIONAL STEEL PACKAGING CONGRESS

⇦ page 23



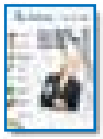
Video case studies from around the world

In contrast to traditional congresses, this year's Congress will use a digivote system, allowing the audience to participate and interact by means of a voting device. The Congress will feature a series of steel packaging solutions, where co-operation in the chain has produced steel packaging solutions which effectively meet consumer needs in various market segments. Alongside the intrinsic qualities of the traditional can, accepted and valued by the consumer, it will look at developments undertaken on the various aspects, design, shape, convenience, sizes, etc to keep in tune with evolving consumer habits and needs.

FAX REPLY +32/2/537 86 49

❑ **Yes,** I would like to receive the **APEAL News** on a regular basis.

❑ English ❑ French ❑ German ❑ Spanish



Name: ..... *First name:* .....

Company: ..... *Job title:* .....

Address: .....

Postcode: ..... *Country:* .....

Tel: ..... *Fax:* ..... *E-mail:* .....

APEAL NEWS READERSHIP

Circulation

13 000 copies in 86 countries

Brand Owners (44%), Institutions (16%), Can Manufacturers (11%), Retailers (8%), Steel Industry (5%), Journalists (5%), Consultants (4%), Packaging Designers (2%), Equipment Makers (1%), Others (4%).

Languages available

English, French, German, Spanish

ISSUE N°30 - DECEMBER 2007

Responsible Editor

Philippe Wolper - *APEAL*

Chief Editor

Charles Reuland - *APEAL*

Coordination

Sarah Clapham - *APEAL*

Editorial Committee

Catherine Jung - *Arcelor Packaging*
Volker Lauterjung - *Rasselstein GmbH*
Tom McMurtry - *Packaging Consultant*
Jackie Mellese - *APEAL*
Joris Nachtergaele - *APEAL*
Susan van der Steenhoven - *Corus Packaging Plus*
Jean-Pierre Taverne - *APEAL*
Evert van de Weg - *Packaging Consultant*

Concept Design: PAVY - www.pavy.be

Printed on recyclable paper

APEAL

The Association of European Producers of Steel for Packaging

Avenue Louise 89 • BE-1050 Brussels
Phone +32/2/537 91 51 • Fax +32/2/537 86 49
E-mail: info@apeal.be
www.apeal.org
www.steelforpackaging.org