

Lightweight aluminium bottles seem to have been on the cusp of high-volume commercial production for many years, but it looks as if the Exal C2C bottle that won the Can of the Year for 2009 really could soon make the breakthrough into the big time.

We've seen the C2C bottle before, but what swung the judges in its favour this time was that the latest version – commercialised with Canadian source water supplier Eaux Vives – was the complete package featuring a screw-thread aluminium closure that topped a container made from aluminium coil.

Water feature

An aluminium bottle with a fistful of attractive features won the Can of the Year in 2009. John Nutting delves into the story behind its development

What makes Exal's C2C bottle special is that the Youngstown, Ohio, metal packaging specialist has overcome the challenges of making a decorated and

lined thin-wall container and then necking and forming the thread reliably without affecting the performance of the coatings.

● Aerosols
 What caught the eye of the judges with Toyo Seikan's aerosol can for Kao Corporation in Japan was the contrasting effects of print and surface finish, created by the partial grinding with sandstone of the aluminium monobloc can. By using special design patterns an almost three-dimensional effect is created, and the decorative appearance changes depending on the viewpoint

GOLD WINNER A 2009

● Ends, Caps & Closures
● Food Three-Piece
 Impress Metal Packaging's Easip end is a development of the Easy Peel end which uses a peelable foil membrane that is thermosealed to a polypropylene-coated steel ring. What's clever in the Easip end on the Bonduelle can is that a change in the geometry of the ring and the composition of the aluminium and polypropylene membrane enables the food can to be processed with a pressure differential of up to 1.4 bars, whereas only 0.3 bar was possible before, requiring overpressure retorts. This looks like a traditional food can, yet is advancing the technical and convenience features for the food processing industry

GOLD WINNER B 2009

● Beverage Three-Piece
 This shaped three-piece syrup container made by Massilly's Safet division in France for Routin's Fruits Syrup displays superb graphics with a subtle profile that matches the blue plastics pouring spout

GOLD WINNER C 2009

● Aerosols
 Hair refresher can with green and yellow design and a woman's face on the label.

GOLD WINNER A 2009

● Aerosols
 Hair refresher can with pink and purple design and a woman's face on the label.

GOLD WINNER B 2009

● Beverage Three-Piece
 Fruits Sans Sucres syrup container with a blue plastic pouring spout and a label featuring strawberries.

GOLD WINNER C 2009

● Food Three-Piece
 Bonduelle can with a yellow and green label showing a vegetable salad.

GOLD WINNER B 2009

● Food Two-Piece
 Gomes da Costa can with a green label showing a fish fillet.

GOLD WINNER D 2009

● General Line Cans
 Finite-element analysis was used at Brasilata to design this 18-litre can so that it met the latest UN drop test requirements for dangerous products while reducing tinplate use by nine percent. Saw-tooth beads enable the can to absorb impact on the corners

GOLD WINNER E 2009

SHERWIN WILLIAMS
Sumare
 ANTES DE USAR LEIA AS INSTRUÇÕES DO RÓTULO.
 VENDA PROIBIDA PARA MENORES DE 18 ANOS.
 A INALAÇÃO DESTE PRODUTO PODE CAUSAR A MORTE.
 VENDA EXCLUSIVA PARA USO PROFISSIONAL.

GOLD WINNER F 2009

CANS OF THE YEAR AWARDS

● Fancy Cans

Jean-Paul Gaultier, the French fashion designer, has long been a supporter of metal packaging, and this particular tinplate container made by Crown Speciality Packaging for Solid Perfume Jewel first sold last year in a pack for both women and men combines intricate embossing with a striking metallic finish



● Beverage Two-Piece

When the Wong Lo Kat herbal tea brand – China's biggest selling drink produced under licence by JDB – started using aluminium cans for the first time in 2008 it wanted to match the flat-sheet print quality of the three-piece welded cans it has been using for many years. Pacific Can was one of the first canmakers to match that label quality on a two-piece can along with meeting the stringent performance requirements for a hot-filled and retorted drink



● Decoration & Print Quality

The judges chose this container made by Crown Speciality Packaging for the Bruichladdich Distillery because of its decoration and print quality using half-tone images to complement stunning graphics to create the theme of 'Waves Rock and Peat'



● Prototype

This clever idea from Impress Metal Packaging uses three fish cans that click together, so that when one is opened it can be clicked into the base of another, thereby sealing it to keep the contents fresh



CAN OF THE YEAR 2009



● BOTTLES: Exal Corporation Winner of The Canmaker Can of the Year for 2009

Canada's Eau Vives Water planned to launch its pure Eska waters with a premium image that would meet growing scrutiny of environmental issues. It chose Exal's aluminium bottles made with C2C D&I-based technology that almost halves the weight compared with impact-extruded bottles. The result is Eska branded water in a premium pack with a resealable ROPP cap



CAN OF THE YEAR 2009

CATEGORY WINNERS

CAN OF THE YEAR 2009

Exal C2C (USA) aluminium bottle for Eaux Vives Water

AEROSOL CANS

GOLD: Toyo Seikan Kaisha (Japan).
Liese Hair Refresher can for Kao Corporation
SILVER: Impress Metal Packaging (Germany).
'3 Wetter Taif' Power Haarlack can for Schwarzkopf & Henkel
BRONZE: Aeroacan (France).
Bosque Verde shoe polish aluminium can for Francisco Aragon

BEVERAGE THREE-PIECE

GOLD: Safet, part of the Massilly Group (France).
Fruiss Syrup can for Routin
SILVER: Impress Metal Packaging (The Netherlands).
Karvan Cévitam Specials Syrup can for H J Heinz
BRONZE: Daiwa Can Company (Japan).
Starbucks Double Shot premium coffee can for Suntory, the filler for Starbucks

BEVERAGE TWO-PIECE

GOLD: Pacific Can (China).
Wong Lo Kat Herbal Tea aluminium can for JDB Group
SILVER: Rexam Beverage Can North America (USA).
Nitrous Monster Energy Drink aluminium can for Hansen Beverage Company
BRONZE: Ball Packaging Europe (Germany).
Grotweg Schwarzbier aluminium can for Germany International Beverages Ltd

BOTTLES

GOLD: Exal Corporation (USA).
Aluminium bottle for Eska – still and sparkling water for Eaux Vives Water
SILVER: Boxal (France).
Floressance Range of Food Supplements shaped aluminium bottle for JLB Développement
BRONZE: Exal Corporation (USA).
Amber Sun Ale aluminium bottle for 16 Mile Brewing Company

DECORATION & PRINT QUALITY

GOLD: Crown Speciality Packaging Europe (France).
Islay Single Malt Scotch Whiskey tin for Bruichladdich Distillery
SILVER: CPMC Company (China).
Long Jing Tea decorated tin for COFCO
BRONZE: Crown Speciality Packaging Europe (France).
Bushmills 1608, 400th Anniversary tin for The Old Bushmills Distillery Company

Other brands recently launched with C2C include the DeJant Group's Cloud9, an 'aphrodisiac' drink initially intended for hotel mini-bars but expanded into night-clubs where its popularity prompted its sale into supermarkets across the US. A sugar-free version is planned for 2010.

Another significant advance in can-making technology was launched in the past 12 months by Impress Metal Packaging, which won three Gold awards this year.

Conventional peelable easy-open ends have been expanding in the food markets but are limited to use on cans in counter-pressure retorts in which the expansion of the end is counteracted by external pressure. But the Easip end from Impress uses different coatings and a structure that enables it to withstand higher pressure differentials, enabling its use in non-counter-pressure applications, making it more versatile.

ENDS, CAPS & CLOSURES

GOLD: Impress Metal Packaging (France).
Easip peelable end for Bonduelle
SILVER: Franpac - Massilly Group (France).
Easy Open Ends on pâté cans for Hénaff
BRONZE: Universal Can Corporation (Japan).
UniSOREX ROPP closure on French Café aluminium bottle for Namyang Dairy Products
COMMENDATION: Bericap VUN SK 24/12 AF plastics closure

FANCY CANS

GOLD: Crown Speciality Packaging Europe (France).
Solid Perfume Jewel embossed tin for Jean-Paul Gaultier
SILVER: Huber Decorative Packaging (Germany).
Churchill's Porcelain Jar and Biscuit Tin for Churchill's Confectionary
BRONZE: Crown Speciality Packaging Europe (France).
Jack Daniel's Tennessee Whiskey container for Brown Forman
COMMENDATION: Huber tin for Martell Cognac.

FOOD THREE-PIECE

GOLD: Impress Metal Packaging (France).
Food can with Easip peelable end for Bonduelle
SILVER: Pirlo Metal Packaging (Austria).
Lever Lid Can with aluminium membrane for Beck's Cocoa
No Bronze award

FOOD TWO-PIECE

GOLD: GDC Embalagens (Brazil).
Gomes da Costa Pâté drawn can for GDC Alimentos
SILVER: Glud & Marstrand (Denmark).
Fiskeduserne fish pâté drawn Cup Can for Amanda Seafood
BRONZE: Galeb Group (Serbia).
Neo Chicken Pâté drawn can for Neoplanta

GENERAL LINE

GOLD: Brasilata (Brazil).
18-litre UN-spec dangerous goods can for Sherwin Williams
SILVER: Blechwarenfabrik Limburg (Germany).
Ecosta 10 pail for various customers
BRONZE: Companhia Metalúrgica Prada (Brazil).
Wanda Safety Can for Akzo Nobel Coatings SA

PROTOTYPE

GOLD: Impress Metal Packaging (France).
PowerClick Cans with Easy Peel ends
SILVER: Xolution (Germany).
XO-422 recloseable beverage can lid
BRONZE: Pirlo Metal Packaging (Austria).
DryCan for tea and coffee

First used by French-based vegetable canner Bonduelle in 2008, the ends are assembled from a steel ring made from Corus's polyester-coated Protact to which an Alcan Alufix Retort membrane is heat-sealed.

The membrane is prevented from tearing away under internal pressure by the conical shape of the bonding surface which puts the bonding area into shear, enabling it to be stronger. The ease of opening is unchanged. For this Impress won Gold in Ends, Caps & Closures, and Three-Piece Food cans.

Impress also won Gold in the Prototype category for its Powerclick cans. Anyone who uses only part of the contents of a tuna can will appreciate this idea, which uses three cans, each with a peelable easy-open end, that cleverly click together. Once one is opened it can be clicked under another in rotation to seal it. So simple. 

Key is the fact that it weighs just 27 grams, about a third less than an equivalent impact-extruded bottle and hugely less than a glass bottle, which is good for reducing logistics costs. And it's recyclable, which is part of the reason why Eaux Vives' managing director Simon Lester selected it.

The C2C – short for Coil-to-Can – project kicked off in 2001 when Exal and German machinery manufacturer Hinterkopf collaborated to design a production line that combined the lightweighting and productivity potential of a D&I canmaking line with the styling opportunities offered by monobloc aerosol can lines.

"The key is to combine the efficiency of beverage canmaking and the flexibility of aerosol manufacturing systems," Exal's chief executive Delfin Gibert told *The Canmaker*. "[Customers] like the C2C bottle because it looks expensive, but is more-cost effective than previous versions."

Revealed in *The Canmaker* at the end of 2003, the first bottle prototypes featured plastics thread outserts, a well-tried but more costly technology.

First to use this design at the end of 2004 was US firm Brain Twist for its novel drink Fair Warning. About half a million bottles were made for the drink sold through 7/11 stores across North America.

It took another three years for the next limited-volume launch when Canada-based Blue Spike Beverages launched Octane 7.0, an alcoholic energy drink, using a C2C bottle with a metal crown. In the intervening period, Exal's Gibert revealed plans for setting up a series of C2C production lines around the world which would have a combined capacity of 12 billion cans.

Vital for this was to develop a line with the facility to form the screw thread and eventually raise productivity. The first objective was achieved early in 2009 and the Eaux Vives Water product using a 30cl C2C bottle was launched commercially in Canada. An additional novelty is that the screw threads are different for the still and sparkling versions of the drink, probably acknowledging that the internal pressure influences the opening torque required.

This is why the last C2C bottle was judged the Can of the Year.

"It has been a long time coming, but the apparent simplicity of the aluminium bottle belies the huge amount of technology necessary to make it succeed in global markets, which we believe will happen soon," said the chairman of the judging panel. "We have chosen aluminium bottles before as the Can of the Year, but this is the first developed outside of Japan to offer a commercial customer the option of light weight and recloseability."