

Beverage Cans and Ends

Metal Packaging Solutions



Adding Value with Innovative Packaging

Ardagh Group

Ardagh Group is one of the world's largest packaging companies, operating in the food, beverage, pharmaceutical, industrial and consumer care markets.

As a market leader we are driven by expertise, quality and commitment to continuous improvement. We aim to deliver differentiated products with real shelf appeal: tailored solutions with innovative shaping, printing and convenience features.

Innovation is at the heart of everything we do, from design and development to raw material reduction and energy efficiency. Ardagh Group is committed to pioneering new packaging products and manufacturing processes. Together with significant investment in research and development, this is how we maintain our leading global position.

We continue to succeed in process innovation by focussing closely on three areas: lightweighting, down-gauging and operational excellence. Our aim is to create higher efficiencies, as part of our own production processes and those of our customers.

Why Metal?

As metal is a permanent material, it has excellent environmental credentials. Permanent means that metal recycles forever. When metal products reach the end of their useful life, the materials are simply collected and recycled, again and again, with no loss of their inherent properties and so will always be available for future generations.



Advantages of Beverage Cans

- **Recyclable:** Beverage cans are fully and infinitely recyclable without loss of quality.
- **Permanent material:** The material in cans is only used, not consumed. Because they are infinitely recyclable, metals are a permanent resource.
- **Quickly chilled:** Beverage cans chill quickly and feel extra fresh to the touch.
- **Unbreakable:** Unbreakable beverage cans are ideal for large events.
- **Material thickness:** The wall of today's beverage can is as thin as a human hair. Thanks to ongoing research and development, it is now possible to manufacture cans with far less material than before.
- **Light-proof:** Beverage cans are absolutely light-proof, protecting the quality of light-sensitive beverages such as beer.
- **Hermetic seal:** Being absolutely airtight, beverage cans keep oxygen out and carbonation in, allowing beverages to stay fresh for longer.
- **Lightweight:** Light and convenient, beverage cans are great for refreshment on the go.
- **Fresh:** The characteristic sound of a can opening is a unique indicator that the drink inside is absolutely fresh.

Beverage Can Range



Size	Slim		Sleek		Standard	
	Aluminium	Steel	Aluminium	Steel	Aluminium	Steel
150ml	•					
200ml	•					
250ml	•			•		•
330ml			•	•	•	•
355ml				•		
375ml					•	
440ml					•	•
470ml					•	
500ml					•	•
530ml					•	
550ml					•	
568ml					•	

Matte Impact

Enhanced aesthetics with premium appeal

Product Benefits

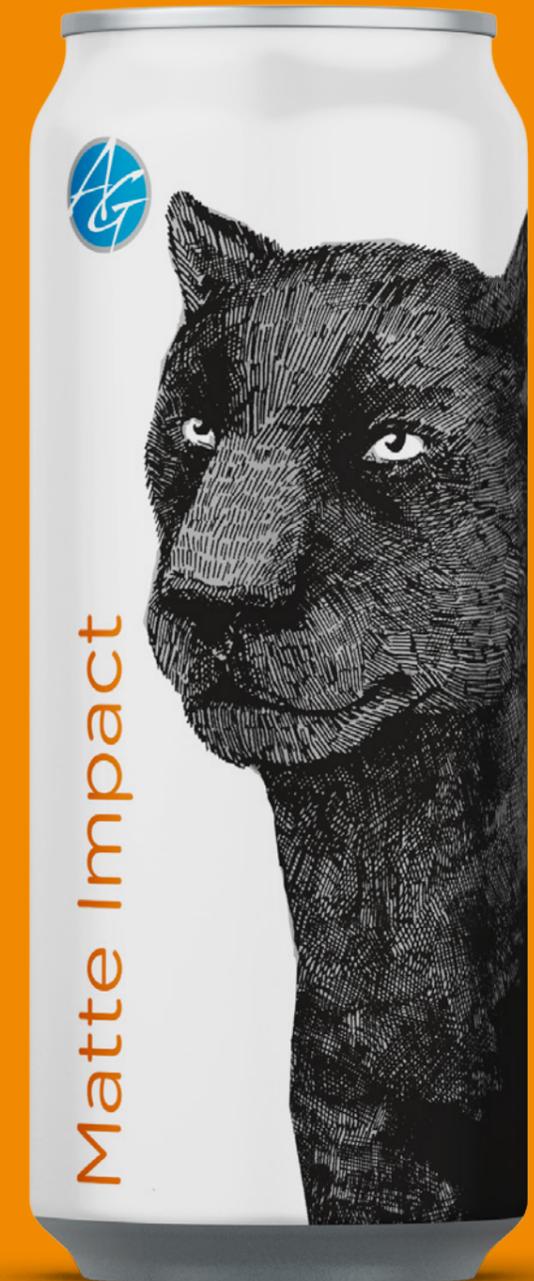
- Unique finish draws consumer's eye at POS
- Visual and haptic enhancement
- Strong contrast to glossy competition
- Ease of implementation throughout supply-chain

Technical Specifications

- Available for aluminium cans in all sizes
- Filling line trial recommended with CTS* on-site

Order Details

- Lead time: 4-6 weeks after receipt of artwork
- Minimum order: 400,000 units



*More information about our Customer Technical Service (CTS) can be found on p.22

Variable Print

Customise your packaging

Product Benefits

- Effective response to on-going trend of mass customisation
- Allows brand to easily adapt to time-sensitive events
- Enables unique collectable promotions
- Cost-efficient and highly targeted print process

Technical Specifications

- Available for aluminium and steel cans in all sizes
- Contrast created through one printed colour with either the can basecoat or can metal colour

Order Details

- Lead time: 6-8 weeks
- Minimum order: 400,000 units



1.0

- Up to 24 different messages possible
- 1.0 offers the appearance of alphanumeric characters in the colour of the can or the basecoat



2.0

- Up to 24 different messages or icons possible
- 2.0 offers the appearance of alphanumeric characters and simple images in the colour of the can or the basecoat or one printed colour



3.0

- Up to 24 different high-resolution images possible
- 3.0 offers the appearance of high-resolution images through the contrast of the can or the basecoat and one printed colour

Premium Print 1.0

For a sharper image

Product Benefits

- High level of design contrasts
- Fine details possible
- Enhances design options

Technical Specifications

- Available for aluminium and steel cans in all sizes
- Resolution of up to 48 lines per cm possible, please contact our graphics department for details

Order Details

- Lead time: 4-6 weeks
- Minimum order: 400,000 units



Premium Print 2.0

For the ultimate print quality

Product Benefits

- Ability to produce compelling graphics that command attention
- Enables photo-realistic images
- Consumers visually attracted to the level of premiumisation at POS

Technical Specifications

- Available for aluminium and steel cans in all sizes
- Resolution of up to 60 lines per cm possible, please contact our graphics department for details
- Laser-engraved plate technology
- Customised development process and proof cans required

Order Details

- Lead time: 6 weeks
- Minimum order: 400,000 units



Thermo Impact

Reveals a hidden message at defined temperature

Product Benefits

- Temperature-sensitive pigments change colour based on pre-defined metrics
- Facilitates interaction with consumers at the POS
- Enhances design opportunities

Order Details

- Lead time: 4-6 weeks for aluminium, 6-8 weeks for steel
- Minimum order: 1 mio units

Technical Specifications

- Available for aluminium and steel cans in all sizes
- Colours: white to aqua, blue, goldenrod, green, magenta, orange, blue jay, grape or radiant orchid
- Customer to choose from standard temperature range



Fluorescent Impact

Your cans shine under UV light

Product Benefits

- Captures consumers' attention with an 'out-of-the-box' drinks experience
- Optimal on-premise solution to highlight elements of the can design
- Opportunity to enter new markets with a nightlife tailored can

Order Details

- Lead time: 4-6 weeks
- Minimum order: 400,000 units

Technical Specifications

- Available for aluminium cans in all sizes
- Colours: white or clear ink, fluoresces under UV light



Coloured Shells & Tabs

Product Benefits

- Diverse and individualised design options for the end of the can
- Simple yet effective enhancement allows product to stand out from the crowd
- Eye-catcher; gives the can its finishing touch

Technical Specifications

- Available for end diameters 200 and 202
- Colours: gold, black, yellow, orange, magenta, blue and green
- Non-standard colours on request

Order Details Coloured Shells:

Gold and Black

- Lead time: 2 weeks (gold), 4 weeks (black)
- Minimum order: 350,000 units

Yellow, Orange, Magenta, Blue, Green and non-standard colours

- Lead time: 14-16 weeks
- Minimum order: 3 mio units

Order Details Coloured Tabs:

Gold, Black, Yellow, Orange, Magenta, Blue, Green and Red

- Lead time: 2 weeks
- Minimum order: 350,000 units

Non-standard colours

- Lead time: 14-16 weeks after colour matching
- Minimum order: 16 mio units



Printed Shells

Product Benefits

- Additional space for brand communication
- Ideal for easy to implement temporary promotions
- Late-stage differentiation, as the appearance of the end can be changed quickly while the can's appearance on the shelf stays the same
- Catches consumer's eye from a different angle

Technical Specifications

- Available for end diameters 200 and 202
- Colour: black; other colours on request
- Printing is unoriented
- Ink is safe for consumers

Order Details

- Lead time: 3-6 weeks
- Minimum order: 350,000 units



Embossed Feel

Sculptured can surface

Product Benefits

- Speciality look and feel
- Highlights key details in overall design
- Consumer's eye drawn to detailing; stands out at POS

Technical Specifications

- Available for aluminium cans
- Sizes: 330ml, 440ml and 500ml standard cans
- Axial load is reduced
- Development process and production trials necessary
- Filling line trial recommended with CTS* on-site

Order Details

- Lead time: 20 weeks
- Minimum order: 2 mio units
- Cost of tooling applies



Tactile Feel

Textured can surface

Product Benefits

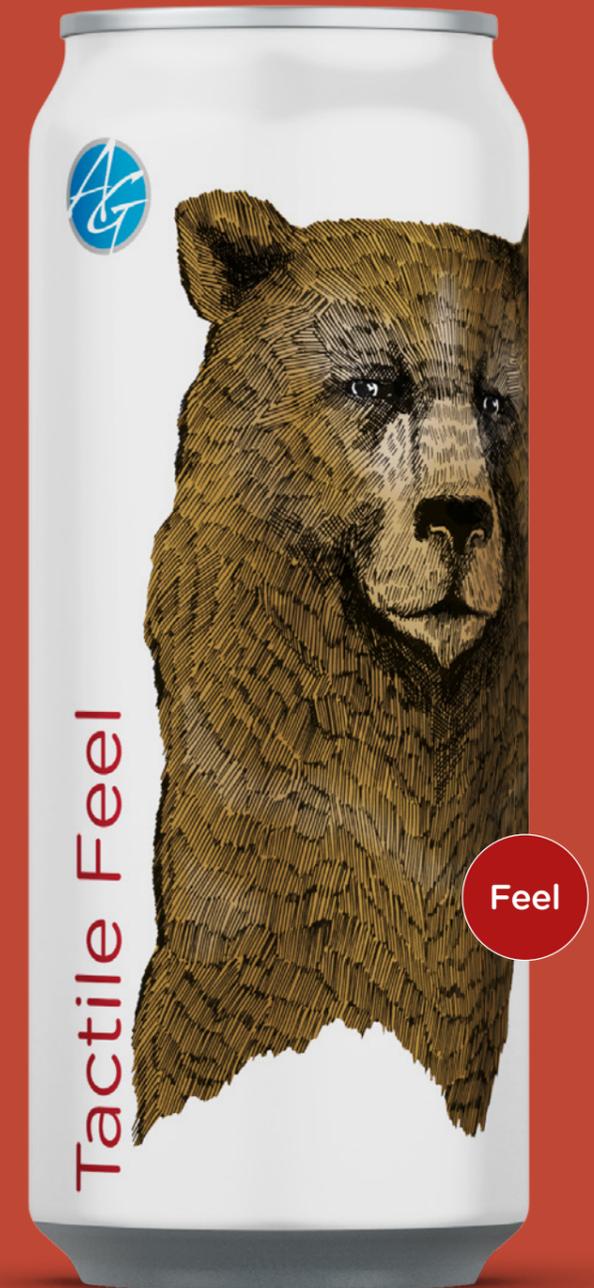
- Highlights specific design elements; attention-grabbing
- Furthers brand-to-consumer engagement due to overall sensory experience
- On-shelf product differentiator

Technical Specifications

- Available for aluminium cans in all sizes
- Filling line trial recommended with CTS* on-site

Order Details

- Lead time: 4-6 weeks (does not include first trial run)
- Minimum order: 1 mio units



*More information about our Customer Technical Service (CTS) can be found on p.22

Embossed Shells

Product Benefits

- Speciality look and feel
- Haptic, bold brand communication
- Perfect for limited edition promotions

Technical Specifications

- Available for end diameters 200 and 202
- Development and customer approval required

Order Details

- Lead time: 12 weeks from customer approval
- Minimum order: 5 mio units
- Cost of tooling applies

Incised Shells

Product Benefits

- Additional space for brand or legal information
- Late-stage differentiation, as the appearance of the end can be changed quickly while the can's appearance on the shelf stays the same

Technical Specifications

- Available for end diameters 200 and 202
- Development and customer approval required
- Each enquiry assessed on individual basis because of limitations on text size and space

Order Details

- Lead time: 12-14 weeks
- Minimum order: 5 mio units
- Cost of tooling applies

Punched Tabs

Product Benefits

- Reinforces brand communication
- Entertains and engages consumers as it is something to discover and designed to excite
- Consumers can feel your brand
- Potential basis for a tab collection

Technical Specifications

- Available for end diameters 200 and 202
- Colours: silver, red, blue, green, black, gold, orange, magenta and yellow
- Development and customer approval required

Order Details

- Lead time: 12-14 weeks from customer approval
- Minimum order: 5 mio units for standard colours
- Cost of tooling applies

Lasered Tabs

Product Benefits

- Reinforces brand communication
- A message or symbol on the tab boosts attention
- Extends consumers' behaviour from just drinking to collecting

Technical Specifications

- Available for end diameters 200 and 202, Stolle only
- Colours: red, blue, green, black, gold, orange, magenta and yellow
- Development and customer approval required

Order Details

- Lead time: 4 weeks for standard colours
- Minimum order: 5 mio units for standard colours



Coded Tabs

Product Benefits

- Promotional tool that reveals a code hidden under the tab when the can is opened
- Strengthens consumers' loyalty: winning and drinking occurs simultaneously
- Reinforces intent to purchase

Technical Specifications

- Available for end diameters 200 and 202, Stolle only
- Up to 12 characters, max. 6 in one row
- Colours: silver, red, blue, green, black, gold, orange, magenta and yellow
- Development and customer approval required

Order Details

- Lead time: 4 weeks for single-sided standard colours
- Minimum order: 3 mio units for standard colours



Interactive Packaging

Campaigns using AR (Augmented Reality) or QR Codes

Product Benefits

- Fosters sales by motivating consumers to pick up your product
- Builds a bridge between the online and the offline world
- Personal, emotional shopping experiences
- Boosts your image and activates the media through innovative promotions
- Thanks to image recognition software, any object can trigger an AR experience; so can your packaging

Advice for successful 'interactive campaigns' with your packaging

- Use the beverage can's surface as a billboard for your promotion
- Place a large incentive to attract consumers' attention
- Use the space for instructions to increase scan statistics
- The possibilities are endless, but the simpler you make your case, the more consumers will enjoy it
- Ardagh Group assists set-up with training and practical on-product communication guidelines

Technical Specifications (QR Code)

- Sizes and colour contrast are defined in the relevant graphics guidelines



If your interactive campaign leads to a raffle, **combine it with Coded Tabs** to create an emotional bond between the winning feeling and the consumption of the drink!

Nitro Can

In-can widget offers nitro beverage lovers a compelling off-trade drinks experience

Product Benefits

- Unique sound activated upon tab-opening
- Nitrogen release offers distinctive, cascading pour
- Technology delivers creamy foam with staying power
- Enhanced texture and mouth feel when consumed

Technical Specifications

- Material: aluminium with fixed widget
- Sizes: 250ml slim cans and 500ml standard cans; other sizes on request
- Reduced fill level to accommodate the widget
- Beverage compatibility test by CTS*
- Filling line trial recommended with CTS* on-site
- Widget-compatible filling line required

Order Details

- Lead time: depends on beverage
- Minimum order: 400,000 units



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Wine Can

Attracts a new generation of wine drinkers

Product Benefits

- Single-serve and convenient
- Looks cool and stands out at POS
- Best protection for your wine: air-tight, light-proof, unbreakable
- Premium can with 12-month shelf-life
- Wine compatibility test and support on the line by CTS*

Technical Specifications

- Available for aluminium cans
- Sizes: 200ml and 250ml slim cans
- Increased gauge and lacquer film to maximise protection of your wine
- Sealed with special wine end

Order Details

- Lead time: 2 months
- Minimum order: 150,000 units



Easy Pour End

Product Benefits

- Intelligent vent under the tab, can be punched e.g. with a key
- Ensures smooth pouring and excellent liquid flow
- Lets the drink flow faster without 'glugging'
- Creates a new drinking ritual
- Draws attention to the product itself

Order Details

- Lead time: 10 weeks from customer commitment
- Minimum order: 5 mio units
- Cost of tooling applies

Technical Specifications

- Available for CDL end diameter 202



Customer Technical Service (CTS)

Proving a professional service to over 400 customers and issuing over 1,000 follow-up reports is enough of a reason to take a closer look at the **filling line support** we offer you!

Our service portfolio ranges from **simple technical assistance to a comprehensive audit** of an entire filling plant lasting several days. Our experts see many different filling lines and together with **industry best practices**, they know exactly where to look and how to make your filling plant even more efficient.

Our experts are local technicians who **know our customers' needs**, who are very familiar with our customers' production lines and can speak their language.

Our Services

1	General Support	- Regular Visit
2	Training	- Seaming Specialist
3	Line Equipment Services	- Seam Control and Adjustment - Seamer Start Up Assistance
4	Audit	- Complete Filling Line - OEE Based Audit - Filled Goods Supply Chain
5	Project Services	- Filling Line Performance Improvement
6	Laboratory Analysis	- Compatibility Test - Test Packs - RP Evaluation - Water Quality - Filling of Cans - Detailed Root Cause Analysis



Development of innovative packages

Laboratory Analysis

The Ardagh Metal Beverage laboratory offers a wide range of specific analytical techniques and capabilities. It strives to exceed the existing industrial standards by using up-to-date methodologies in areas such as material and chemical analysis.

Our experts support the development of innovative packages for the future and ensure the correct behaviour of our customers' products.

Tests and benefits are:

- A **unique compatibility test** to provide reliable information on the shelf-life and behaviour of new drinks prior to launch, thus enhancing 'speed to market'
- A **can filling capability** to simulate actual filling conditions and qualify new packages
- An **electrochemical metal analysis** to check seam quality and predict metal migration
- A **test pack analysis** programme to monitor migration and stability of beverages in a new package
- A customer's process **water evaluation** to identify any risk potential for corrosion
- A comprehensive **root cause analysis** to identify and solve complex quality issues



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For enquiries email: beverage.cans@ardaghgroup.com

www.ardaghgroup.com