



**Growlers, Crowlers®:
What you need to know
about draught beer to go**



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The Original



Growler Types

Glass:



Growler Types

Ceramic:



Growler Types

Plastic:



Growler Types

Stainless Steel:



The Crowler®

- Single-use container
- Seamed at the point of dispense
- Crowler® is trademarked by the Ball Corporation
- Introduced In 2013 through joint venture between Oskar Blues Brewery and the Ball Corporation
- Trademark is licensed to Crowler Nation, an offshoot of Oskar Blues/Canarchy



Currently



32OZ 'GROWLER-SIZED' BRITE CAN
307 BODY-DIAMETER
(HALF & FULL PALLETS)
Sold Out

The single use containers has never made more sense

The shortage of cans has made it very difficult to get into the single use business

Container Types



- The original 32-ounce Crowler®
 - 300 ends*
- Crowler A® 25.4-ounce
 - 300 ends*

*300 ends \approx 3.00 inches diameter

Note: ends (lids) are typically ordered separately

Container Options

- 12 oz, 16 oz, 16.9 oz, 19.2 oz also available
 - 202 ends*

*202 ends \approx 2 3/8 inches diameter

Note: Seam rollers are specific to ends being used



Growlers

Pros

- Convenient
- Come in different sizes
- No special equipment needed
- Containers widely available

Cons

- Vulnerable to UV exposure
- Carbonation loss
- Oxygen pickup
- Shelf life
- Questionable closure
- Re-use sanitation questions
- Breakage

Crowlers®

Pros

- Convenient
- Robust seal
- Opaque – UV protection
- Easy to cap on foam
- No re-use, so no cleaning
- Recyclable

Cons

- Shelf life
- Specialized seamer required
- Containers can be hard to acquire
- Labeling/ recycling questions

Cleanliness of Containers

Standard sanitary practices apply

- Store container and caps/ends in clean, dry area
 - Crowlers® inverted or covered
 - Growlers kept in covered area
 - Ends stored stacked and covered
 - Lids kept covered
 - Rinse container with cool water before filling
- Wear nitrile gloves when filling/seaming

Rinsing



Water is blocked by the growler neck



This one made with a 1/4" coupler and 5" nipple

- Rinsing helps to clean and cool container.
- An extension to a standard rinser helps to get the water past the “bottle neck”
- A cold plate coil can be used to cool the rinse water even more.

Purging

Same principles apply as with can or bottle filling

- Evacuate Oxygen
- Lower DO/TPO



Purging

Is it effective?

- Preliminary evidence from three minor sensory studies from breweries
- Indication of benefits of CO2 purge
 - Purged showed better results in sensory than no purge
 - Lower DO/TPO with 5 second purge than none
 - TPO still higher than expected from professional packaging line
- Better sensory results than growler after 3 days

Purging

Recommendations

- Purge for 5 seconds
 - Not longer than 10 seconds due to safety concerns
- Purge from the bottom with tube or long directional nozzle



Purging

All devices need to have self shut off. CO2 monitors are suggested



purging

All CO₂ should be directed to the bottom of the container



Filling

Filling properly is very important :

- Straight faucet fill is the most disruptive
- Bottom fill with a faucet-fitted tube is better
- A counter-pressure filling machine is the most ideal

Note: Faucet-fitted tubes and other filling equipment must be sanitized, rinsed and dried after each use

Tube Filling

- ½” OD Vinyl tubing fits snugly in standard faucets.
- Angles cut on the ends make insertion easier
 - Also lessens the chance of plugging the tube with the bottom of container



Counter Pressure Filler



Adapters can be made to fit various sized containers to counterpressure fillers



Safety

Filled growlers can shatter or explode

- Dependent on temperature, fill volume and carbonation level

2.7 Vols/Vol, 5% ABV, at a 95% fill			
	Temperature	PSIG	BARG
Refrigerated	38	13.1	0.90
Cool	50	20.3	1.40
Room Temp	68	32.4	2.23
Hot Day	100	57.5	3.96
Car	120	74.2	5.12

Safety

- Only use growler containers specifically designed for packaged carbonated beer and
- Ask the container supplier to verify container pressure ratings



Many containers currently in use are not designed for carbonated beverages.



Safety

For counter-pressure filling

- Know the pressure rating of the system
- Ensure system shielding



Safety

Do not overfill a growler

- Always leave 5% headspace or fill to the manufacturers recommended fill line if one is shown.

2.7 Vols/Vol, 5% ABV			
	Temperature	PSIG at 95%	PSIG at 99%
Refrigerated	38	13.0	13.0
Cool	50	20.3	20.4
Room Temp	68	32.4	33.2
Hot Day	100	57.5	60
Car	120	74.2	78.4

Safety

- Fill heights can be deceptively low
- Fill heights will vary by container

Proper fill line



Safety

Imperfections in glass can cause weakness in glass

- Visually inspect every growler before filling.
- Do not fill glass or ceramic growlers with:
 - Cracks or chips
 - Engravings
 - Pitted or unsmooth glass surfaces as found in older growlers



System Maintenance

Having a clean draught system is imperative,

Following guidelines from the Draught Beer Quality Manual:

- Clean every two weeks
 - Caustic chemical solution at 80-110F
 - 2% solution, 3% for old or problem lines
 - Recirculate 15 minutes with an electric cleaning pump
- Disassemble and clean faucet at every cleaning
- Scrub Coupler at every cleaning
- Quarterly acid line cleaner – descaling
- Semi-Annual
 - Disassemble and detail FOBs
 - Disassemble and detail couplers

Seamer



- Semi- automatic
- Can is spun mechanically
- Seaming is done manually

Note: This style can be made to seam a variety of heights of the same ends

Seamer



The original All American

- Seaming is done automatically

Seamer



Production

- Designed to run continuously

Seamer

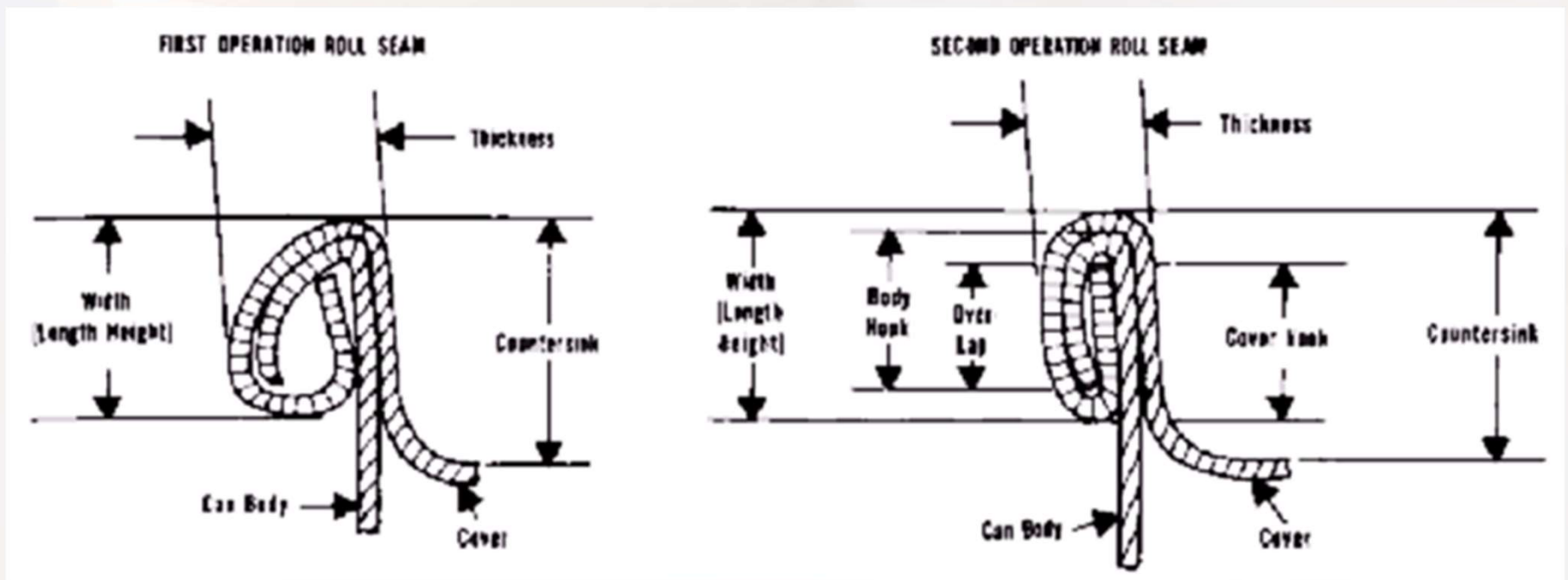


All seaming machines need to be maintained

- Daily lubrication
- Seam checks



Seams



Seam Checks

- Check first and second seams on a regular schedule.
- Easily done following seamers manufacturers instruction.
- Each container's manufacturers has its own specific tolerances.



Shelf Life

Recommendations for minimizing TPO

- Purge 5-10 seconds from the bottom
- Fill from the bottom until foam crowns the top Crowler
- Cap on foam, then seam
- No delay between steps

Bottom Line

- Not the same as packages filled from a professional packaging line
- Impossible to recreate the same oxygen evacuation
 - Elevated TPO is inevitable
 - Consumer education is critical
- Date coding on the label is recommended



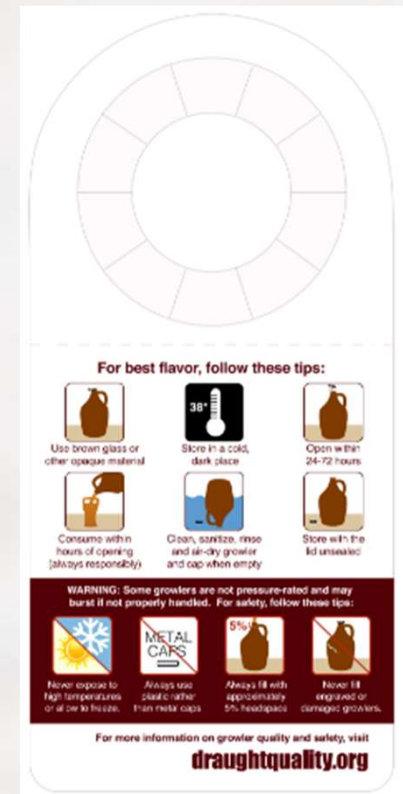
Consumer Education

The average customer doesn't understand shelf life like a brewer does:

Educate the end user. Verbiage is available from BA

Remind customers:

- It's not a commercially filled can/bottle
- Store cold
- Consume growlers within 72 hrs
- Consume Crowlers® in 7 -10 days



Available Publications

<https://www.brewersassociation.org/educational-publications/facts-about-draught-beer-to-go-cans/>

<https://www.brewersassociation.org/educational-publications/draught-beer-quality-manual/>

<https://www.brewersassociation.org/educational-publications/draught-beer-quality-for-retailers/>

<https://brewersassoc.s3.us-west-2.amazonaws.com/wp-content/uploads/2019/01/Draught-Beer-Quality-Growler-Tags.pdf>



BREWERS ASSOCIATION FACTS ABOUT DRAUGHT BEER TO-GO CANS

Cans filled and sealed airtight, available in sizes such as Crowler® cans, are a relatively new type of take-home draught beer package that has recently become very popular. These aluminum packages are slightly larger, usually up to 12 ounces, and are filled with draught beer and sealed directly after by the bartender or server. This document seeks to demonstrate some of the advantages this type of packaging has for brewers and draught beer drinkers. Limitations it puts on draught beer quality, and how brewers, bartenders and drinkers can employ its available best quality:

DISADVANTAGES OF TAKE-GO BEER

Aluminum containers used for draught beer are an evolution of the growler and serve the same function: to allow beer drinkers to take draught beer home with them. There are some key differences in the package, the most obvious of which is that while growlers are large glass bottles, these types of packages are large aluminum cans. Like other cans, they require a specialized opener to seal the can after filling. Growlers are typically small to medium sized, heavy metal bottles that are specifically designed to keep air out of a can, an opening to one that runs in a professional canning line, venting upwards of hundreds of cans per minute.

DISADVANTAGES

Cans need to be managed as single-use containers and cannot be reused. In order to maintain the quality of the beer being served into it, there are some important storage and handling instructions as follows:

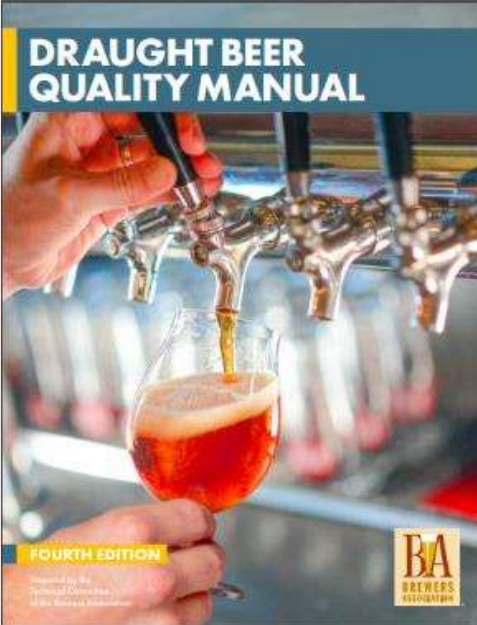
- Empty cans should be stored upright to keep air out and oxygen levels low.
- Can tops should be kept intact and stored in a clean container.
- When opening cans, cans should be taken to and held so that the consumer, especially the top lip that will be used to form a head.
- Cans should be stored with cold water before filling.

RECOMMENDATIONS

In order to extending the shelf life, it may be helpful to purge the package with carbon dioxide or nitrogen before filling.



Photo credit: Photo courtesy of Brewpub, Inc.



DRAUGHT BEER QUALITY MANUAL

FOURTH EDITION

Prepared by the
Technical Committee
of the Brewers Association

BA
BREWERS ASSOCIATION



BREWERS ASSOCIATION DRAUGHT BEER QUALITY FOR RETAILERS

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THANKS!

Questions?