How to Serve Brewery Fresh Beer in a Pub

What are the factors that affect brewery fresh beer and what is the best way to serve it in a pub?

duotank

“Brewery fresh beer as it is meant to be.”

The elegance of a fresh draught beer in a brewpub in England – Meantime

Brewery Fresh Beer

TABLE OF CONTENTS

duotank

Brewery Fresh Beer

More and more breweries are advertising “brewery fresh beer”. But what makes beer “brewery fresh”? And can you serve brewery fresh beer outside your brewery? In this whitepaper, we explain which factors need to be taken into account and how brewery fresh beer can be served outside the brewery.

“Three factors have a major influence on the taste of the beer: ***oxygen, light*** *and* ***temperature.*** *Oxygen causes beer to oxidize, giving bacteria the chance to convert the alcohol into acetic acid. Exposure to light changes the character of the hops and improper temperature control can remove some of the aromas from the beer. To avoid all this, it is necessary to choose a packaging that eliminates as many factors as possible.”*

Brewery van Honsebrouck Belgium[1]

What is brewery fresh beer?

Brewery fresh beer is of course beer that is served directly from the lager tank in the brewery. Here the taste of the beer is exactly as the brewmaster has intended it. But there are more possibilities for serving brewery fresh beer.

To serve it outside the brewery, you need to preserve the taste of brewery fresh beer. To make this possible, the storage, packaging, transport and dispensing method all need to be chosen carefully.

Packaging has a significant influence on the way beer is stored, transported and dispensed. But which packaging best preserves the taste of brewery fresh beer?

And which packaging best supports the other factors that influence brewery fresh beer? Let’s compare the different packaging methods based on the key factors for serving brewery fresh beer in a bar or pub.

De Remise - Koersel (BE)

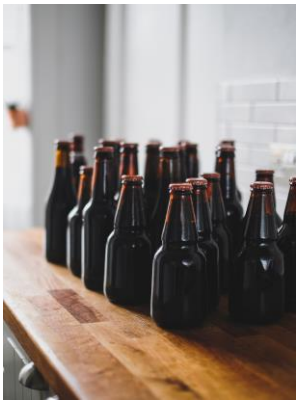
“Brewery fresh beer tastes better!”

Packaging and Transport

Light

Most packaging methods protect beer from light. There are a few exceptions, such as bottles and one-way kegs, such as the Unikeg® or Petainer®.

The one-way Key Keg is different because it makes use of the Bag-in-Keg technology. This technology, derived from the original Bag-in-Tank system used in tank-beer installations, has an aluminium-coated inner bag which shields the beer from the light.



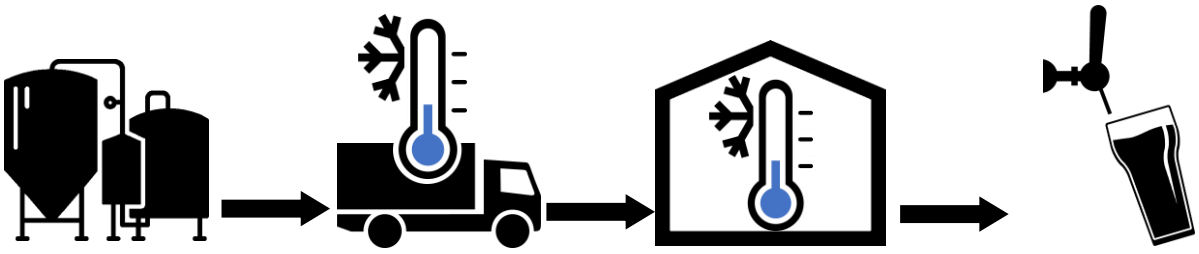
Bottles

One-way Keg

Temperature

A constant temperature gives beer a huge advantage[2]. This also is the biggest challenge, as it is dependent on the total logistical channel from the brewery to the glass. In order to perfectly maintain the beer's taste, the package needs to be cooled at all times, which means the whole logistical channel needs to be controlled.

The conditions must also be controlled at the bar itself, which often is a challenge. The bar needs to have enough cooled storage space to hold the complete stock of beer. Tank beer has an advantage in this respect, as the logistical process from the brewery to the storage tank at the bar is always completely controlled and guaranteed.



Oxygen

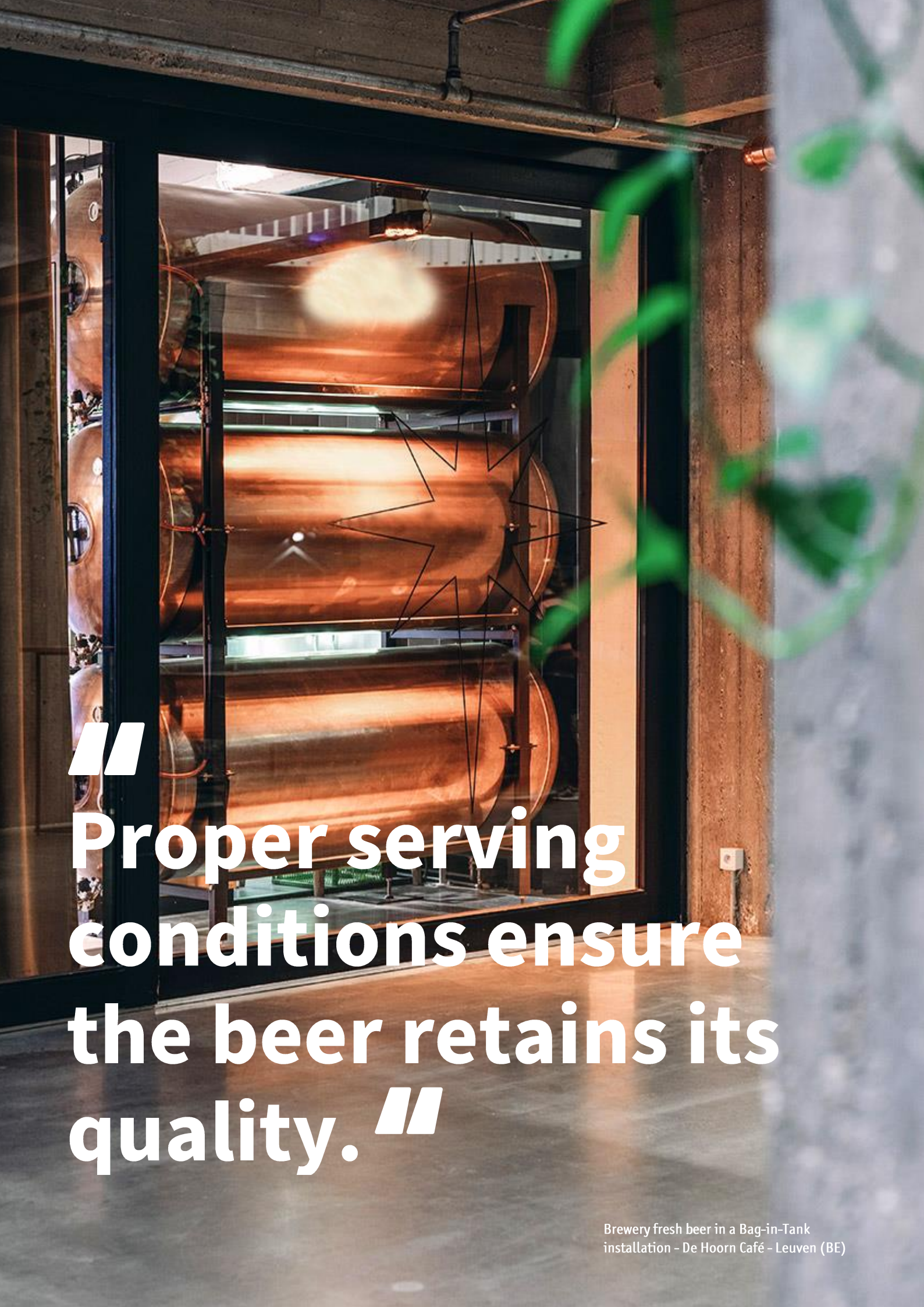
There are two ways for oxygen to penetrate into the beer: air can remain in the packaging during filling and oxygen can migrate during storage. The amount of oxygen that remains in the packaging during filling depends on the shape and size of the package.

Kegs are prefilled with CO_2 to drive air out of the keg. Cans are flushed with CO_2 during capping and filling, but a lot of CO_2 is needed (800-1000 grams per HL)[3] to minimize the amount of air inside the can.

The one-way Key Keg, due to its Bag-in-Tank technology, does not need CO_2 during filling. Here the process works the other way around.

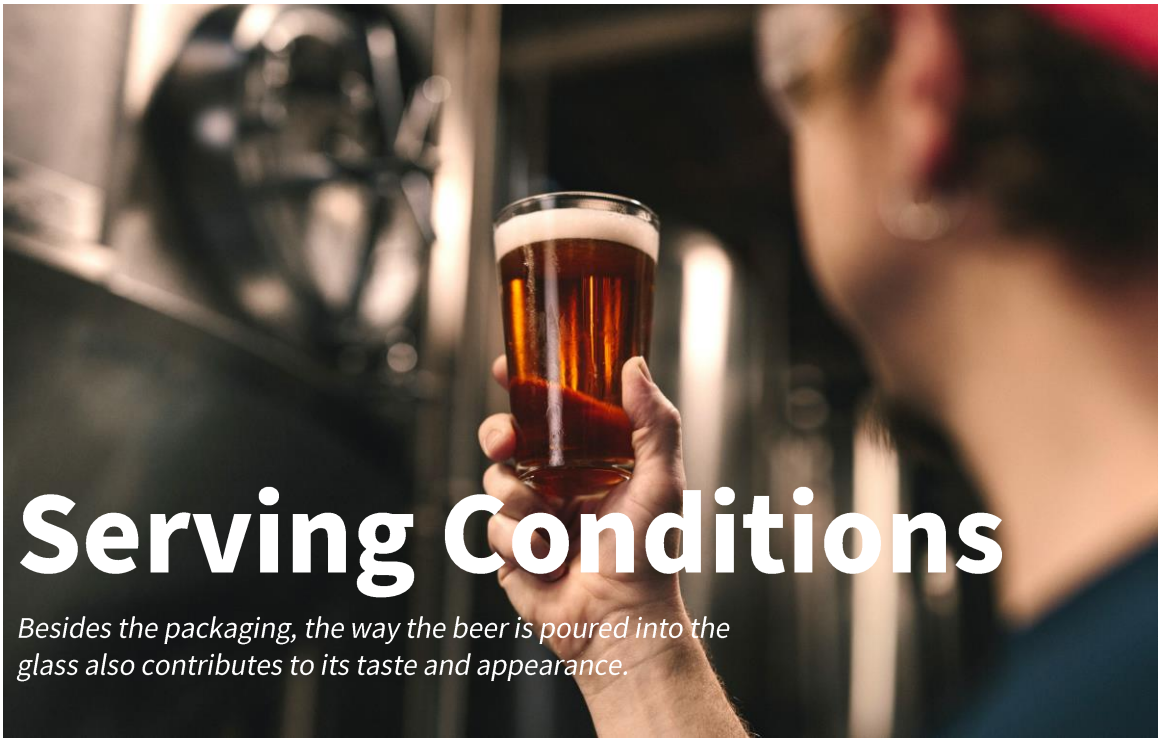
The bag inside is folded flat and contains virtually no air. During filling, counterpressure is created by adding compressed air to the outside of the bag. Oxygen migration is prevented by an EVOH barrier (airtight barrier in the foil)

In a 0.5 litre bottle, a bottle cap can migrate up to 1.5 mg per litre in half a year. One-way kegs and tank beer systems with a Bag-in-Keg or Bag-in-Tank have active oxygen barriers to prevent oxygen from penetrating. Stainless steel kegs and cans have the best oxygen barrier.



“Proper serving conditions ensure the beer retains its quality.”

Brewery fresh beer in a Bag-in-Tank installation - De Hoorn Café - Leuven (BE)



Serving Conditions

Besides the packaging, the way the beer is poured into the glass also contributes to its taste and appearance.

Maintenance of equipment

If you pour beer into a glass from a can or a bottle, you only need to make sure the glass is clean and the can or bottle is the right temperature. And, of course, you need to pour it correctly.

Draught beer is different. Here the installation and type of packaging makes a big difference. Maintaining clean lines is one of the most important factors with draught beer[4]. If an installation is not well maintained, this will affect the taste of the beer dramatically.

The cooling of the complete installation also needs to be considered. Not only do the kegs and tanks need to be cooled, but also the beer lines and tap columns. Beer pythons have been developed for this purpose. These are insulated beer lines packed together with a cooling line. This cooling line is connected to the beer cooler and a cooling pump makes sure that the beer lines are kept cool.

The right amount of CO_2

The amount of CO_2 plays an important role in keeping beer "brewery fresh". When creating the beer, the brewmaster has an ideal level of CO_2 in mind.

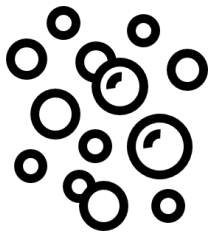
The amount of CO_2 plays an important role in keeping beer "brewery fresh". When creating the beer, the brewmaster has an ideal level of CO_2 in mind.

Bottled beer usually has a slightly higher CO_2 level. Therefore, it is necessary to let the beer "breath" after pouring and before serving. This will help to lower the CO_2 level to what the brewmaster intended.

Keg beer is pushed through the lines using compressed CO_2 or a blend of CO_2 and nitrogen. CO_2 is most commonly used for normal beer. When CO_2 is used to push the beer out of the keg, it also starts to penetrate into the beer. The higher the pressure, the faster this happens. This is why a keg normally has a lower amount of CO_2 than bottled or canned beer, but it is also why draught beer becomes over-carbonised after a few days.

A blend of CO_2 with nitrogen has an opposite effect. Nitrogen does not penetrate into the beer but it allows CO_2 to escape from the beer over time, making the beer flat.

The Bag-in-Tank and Bag-in-Keg systems work differently. Here the beer is inside an airtight bag. The beer is pushed out using compressed air on the outside of the bag. Because of this, no extra CO_2 enters the beer and no CO_2 escapes from the beer. The CO_2 level can be precisely controlled by the brewmaster. This is also why tank beer and Key Kegs can be connected to the tap much longer than regular kegs without compromising the CO_2 values.



"The right amount of CO_2 plays an important role in keeping beer 'brewery fresh'."

The Drinking Experience

Besides the influence of the packaging and serving conditions on taste, there is a third factor that makes beer 'brewery fresh': the experience of the beer!

> *"How a beer is presented can truly change its taste. Beyond the physical differences, the perception of how a beer is meant to be enjoyed can change not just the way it's ordered, but how good it tastes."*
>
> Draft vs. Bottle: A data breakdown of beer ordering habits, Beer Insights [5]

Studies show that not only the taste but also the presentation of the beer has a significant influence on the overall experience.

To create the authentic experience of brewery fresh beer, you must give the customer the feeling that he or she is drinking a beer directly from the lager tank. We like to call this "the drinking experience".

> *"Just imagine walking into a pub to order **a nice fresh glass of beer.** However, you have not yet decided which brand to order. When you get up to the bar, you see a big shiny tank with cold condensation drips on the connection of the tank.*
>
> *Which beer do you think you will choose? And then it tastes perfect, as if it came straight from the brewery. Which beer will you choose next time? And which beer will you recommend to your friends?"*
>
> Cees van den Heuvel - CEO Duotank Group.

"Beer should be chosen by its quality and taste."

What makes the ideal drinking experience?

Beers and Barrels | Breda (NL)

The customer needs to experience the beer's freshness. This can be accomplished simply by placing a sign that says "Brewery Fresh" or, even more convincing, "Freshly delivered on…"

Chadin | Amsterdam (NL)

In recent years, bars and pubs have increasingly been incorporating beer tanks into their interior to enhance the experience of brewery fresh beer.

The drink should be served by a professional, perfectly poured into the right glass, with just the right amount of foam and at the right temperature!

Cooper Inn hotel | Melbourne

Besides the freshness, the idea that the beer is cold is also important. Very often you see a tap column that is fully chilled and covered with condensation.

Beers & Beefs | Valkenswaard (NL)

Conclusion

The analyses in this whitepaper have demonstrated that it is possible to serve brewery fresh beer in a bar or pub. Both kegs and beer tanks can preserve the taste and provide the right serving conditions and drinking experience.

With a tank-beer installation with the Bag-in-Tank system, the temperature and amount of CO_2 are completely controlled by the system itself. And when the tanks are placed in the bar, they contribute to the drinking experience.

Kegs can also be used, but you need to make sure the kegs are kept cool at all times. The one-way kegs with the Bag-in-Keg system score better than normal kegs because, as with the tank-beer system, the amount of CO_2 is controlled by the brewer.

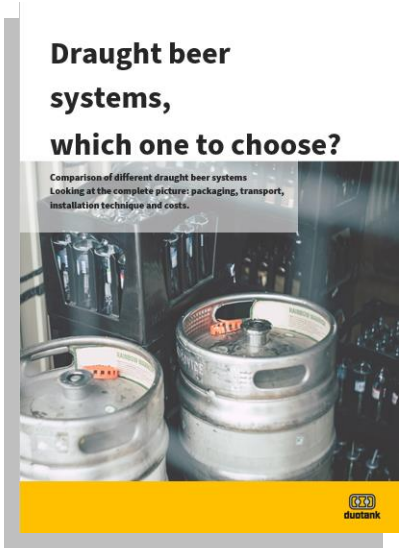
A total overview of the scores is shown below:

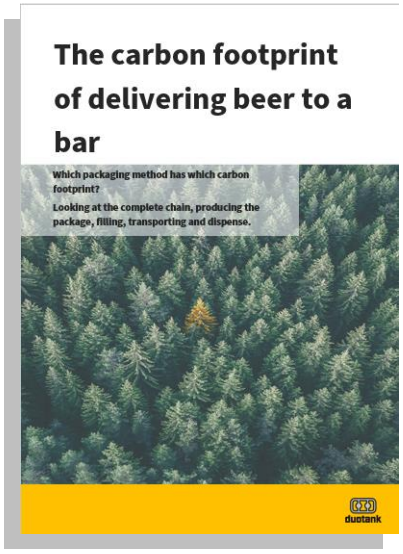
	Shielded from light	Oxygen penetration	Temp. control transport	Temp. control storage	Serving conditions	Amount of CO2 in the beer	Drinking experience
bottles	--	-	+/-* Not controlled	+/-* Not garantueed	-	-	-
Cans	+++	+++	+/-* Not controlled	+/-* Not garantueed	--	-	--
kegs	+++	++	+* Not garantueed	+* Not garantueed	+	+* Not controlled	+
One way kegs	--	+	+/-* Not controlled	+* Not garantueed	+	+* Not controlled	+
Bag-In-Keg	++	++	+/-* Not controlled	+* Not garantueed	++	+++	+
Bag-In-Tank	++	+	+++	+++	+++	+++	++

“Tank beer is an ideal system for serving ‘brewery fresh beer’!”

More information:

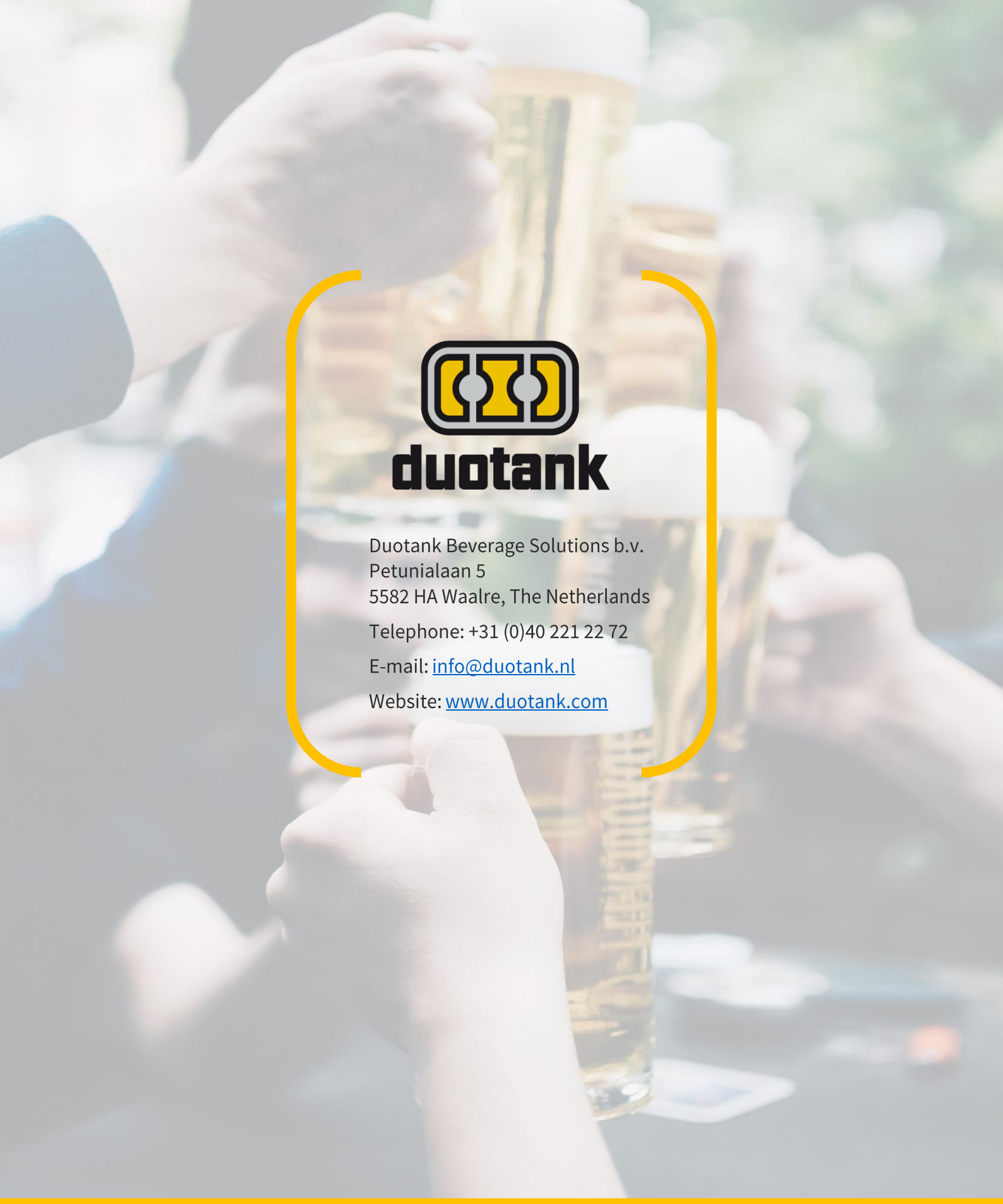
For more information about different beer packaging and transport options, also see the following whitepapers:





Resources:

1. Canned, bottled or draught beer: all pros and cons, Brewery van Honsebrouck Belgium, 2020 https://www.vanhonsebrouck.be/uncategorized/canned-bottled-or-draught-beer-all-pros-and-cons/?lang=en
2. Why Is Beer Better on Draft vs in a Bottle?, Bon appetit, Alex Delany, 2016 https://www.bonappetit.com/drinks/beer/article/draft-beer-vs-bottle
3. Abriss der Bierbrauerei, 7. Auflage, Ludwig Narziss, Werner Back, Martina Gastl, Martin Zarnkow, ISBN 978-3-527-34036-1
4. The importance of Draught Beer line cleaning, Market development Committee, Brewers Association, 2016 https://www.brewersassociation.org/association-news/importance-draught-beer-line-cleaning/
5. Draft vs. Bottle: A Data Breakdown of Beer Ordering Habits, Beer Insights, Andrew Turnwall, 2017 https://www.bevspot.com/blog/2017/04/26/draft-vs-bottle-a-breakdown-of-beer-ordering-habits/



Duotank Beverage Solutions b.v.
Petunialaan 5
5582 HA Waalre, The Netherlands

Telephone: +31 (0)40 221 22 72

E-mail: info@duotank.nl

Website: www.duotank.com