



PERFORMANCE GUIDELINES FOR SINGLE USE KEGS – INTRODUCTION

Best Practices for Procurement, Performance, and Use of Single Use Beer Kegs

The Performance Guidelines for Single Use Kegs (“Guidelines”) is an industry recommendation to ensure quality and address best practices in the procurement, performance and usage of single use beer kegs. This guideline applies to all single use beer kegs, irrespective of their material composition.

In its entirety, the Guidelines will facilitate the safe operation of single use beer kegs and their components throughout the brewing industry network. The document addresses industry concerns regarding purchasing and procurement, performance, regulatory and safety considerations, keg filling, keg and plant quality control procedures, storage, handling, transportation, dispensing, decommissioning and recycling. Additionally, the document’s appendix includes an extensive glossary, test methodologies, detailed keg filling system descriptions, and more.

The Guidelines summarize industry accepted and recommended best practice guidance and are not intended to be used as a strict specification or standard. It is the brewer’s responsibility to address their own specific needs and to refine these guidelines as appropriate in a written practice for themselves and for their suppliers. It is also the brewer’s responsibility to familiarize themselves with all federal, state, and local statutes and regulations and to maintain compliance to all.

PERFORMANCE GUIDELINES FOR SINGLE USE KEGS – KEY QUESTIONS FOR YOUR SUPPLIER

The adoption of single use kegs for packaging draught beer is relatively new to the brewing industry. Brewers are faced with a large and growing number of supplier and design choices, with manufacturers utilizing myriad materials, technologies and processes in the production of their single use kegs.

The decision to produce draught beer sold in single use kegs is complex. The market has yet to settle on “best” or “preferred” materials or designs. Different materials and designs may be best suited for applications unique to your brewery’s needs. In addition, single use keg materials and technologies create significant operational differences when compared to the more familiar refillable beer kegs.

Because relatively few brewers have experience with single use kegs, your usual peer network may not have the information you need. You’ll need to ask a lot of questions to become an informed user. Consider the following questions and key factors as you go about choosing a single use keg supplier.

- What material(s) are used in the construction of the keg and its components? Various grades of Polyethylene (PET) (#1), High-density Polyethylene (HDPE) (#2) and Polypropylene (PP) (#5) are utilized by different manufacturers. Be sure to ask your supplier which material is utilized in their keg and how that choice of material affects

performance. Key performance factors include performance upon failure, susceptibility to UV light, oxygen ingress/CO₂ egress, moisture pick-up, incompatible substances, in addition to volume increase/decrease with changing temperatures.

- What safety features are designed into the keg? Manufacturers utilize various pressure relief technologies; be sure to ask how the technologies result in fail safe (see below) performance throughout the life span of the vessel, including after the keg is emptied. Make sure you understand the safety function and features of the keg, and can discuss them with your wholesaler and retailer partners.
- What does failure look like? Different materials with different safety features produce different results in situations involving catastrophic failure. Understand what tests and procedures your potential supplier has undertaken in order to better understand how their products perform when subjected to the rigors of the trade. Fail safe means that upon failure, no fragmentation or ejection of components and only venting of liquid or gas contents without propulsion of the keg, valve or any portion thereof. Be sure you and your vendor understand what failure looks like in the products you are evaluating.
- What are the oxygen barrier qualities of the material used in the production of the single use kegs? What is the average amount of time your beer will spend in the single use keg? Are you exporting, or is your beer staying close to home? Your supplier should be able to provide quantitative analysis of both oxygen ingress and CO₂ egress while your beer is housed in the keg.
- What keg filling procedures are recommended by the supplier? Prospective suppliers may recommend a purpose-build filling unit for practical as well as technical reasons related to the materials and design of the keg. Your existing keg filler may or may not be compatible. In some instances it simply won't be practical to use your filler, especially when you consider the time required to change over equipment hardware and load software for specific filling cycles which, for example, may not include cleaning steps. Filling kegs manually may be cost prohibitive from a cost of production viewpoint, and may result in lower quality draught beer in the keg.
- Are the kegs delivered to your brewery clean and ready to fill? Is some assembly required at the brewery? What recommendations does the supplier make for sanitizing the valve before filling?
- What is the composition of the gas inside the keg when it is delivered to your brewery? Is it possible or necessary to pre-purge with CO₂ or other inert gas?
- Does the keg require a proprietary coupler and or dispense system? There may be reluctance or resistance at both the wholesale and retail level to invest in new equipment and technology.
- Does the manufacturer provide clear and specific instructions for operation of the keg, including maximum allowable working pressure (MAWP)? Typical MAWP in refillable kegs is 60 psig. Many single use kegs have a lower MAWP. The practical operational implications of lower MAWP in single use kegs needs to be understood by the brewer, the wholesaler and the retailer.
- Does the keg vent automatically after being emptied and decoupled? If not, does the manufacturer provide clear and understandable instructions for de-pressuring and disposing the keg after use? How likely are your retailers to vent the keg safely? Consider the possible implications of an empty, pressurized single use keg, bearing your logo, brewery and brand names entering the waste disposal or recycling stream.
- Are there special requirements that need to be met in order for the keg to be recycled? Many regions have size restrictions on recycling containers that may relegate single use kegs to landfill. Depending on the material of construction, recycling might require the keg to be ground or shredded. Your wholesaler may or may not be willing to collect and store the empty kegs for recycling. Be sure to ask about recycling requirements in the areas in which your kegs will be sold.

STAKEHOLDER RESPONSIBILITIES

In order for the Guidelines to be an effective resource in developing best practices for the procurement, performance and safe use of single use beer kegs, all industry stakeholders must assume specific responsibilities. It is imperative that the brewer, keg and component manufacturers, and keg filling equipment suppliers establish understanding on a number of specific issues.

Brewer Responsibility

The brewer must clearly understand anticipated rigors of trade and the distribution and dispensing environment to which the keg will be subjected, as well as specific filling requirements. Brand specifications, such as CO₂ volumes and pH of the finished beer, must be understood and reconciled with keg materials and performance specifications. The brewer must ensure that his or her existing and potential future kegs, valves and filling lines are all compatible by fostering dialogue between current and prospective suppliers. This understanding must be clearly communicated to the supplier in the form of specific criteria. All aspects for both current usage and future requirements of keg systems should be considered.

Supplier Responsibility

Suppliers must provide technical drawings that verify that their kegs meet the brewer's criteria as well as complete operational and disposal instructions. The actual kegs sold to the brewer must fulfill the data provided in the drawings, both in detailed specs and suitability of use. Keg vendors and keg filling equipment providers must coordinate compatibility of their products to ensure kegs are fit for purpose as defined by the brewer, and compatible with existing equipment as appropriate.

Warranty

Suppliers must provide clear and understandable warranty terms and conditions. Brewers must understand the terms and conditions of the warranty and operate the kegs within the conditions specified by the supplier in order for the warranty to remain valid.