Reusable Packaging System Design Standard

Part 2:
Containers

Summary of Requirements

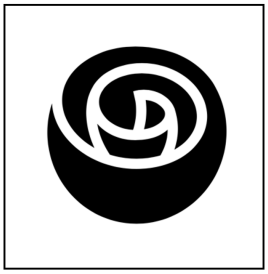
The Reusable Packaging System Design Standard provides a foundation to align reuse systems globally so they can share infrastructure and become interoperable. This systemic approach is necessary for reuse to become affordable, efficient, and convenient, and scale across sectors and global regions in a way that provides a solution to both the climate and plastic crises.

This document summarizes the part of the standard that focuses on *container design*. Containers are pieces of primary packaging, such as a bottle, cup, or jar, that are used to safely and hygienically deliver goods from a business to a consumer. This standard does not provide a prescriptive technical design for individual containers, but establishes parameters for aligning container design across brands and companies in a way that enables sharing of container collection points, washing facilities and logistics.

For more detailed requirements and guidance, see the document: Part 2: Containers.

Minimum use cycles
Containers must be designed to withstand at least 10 use cycles, on average, before the container is decommissioned and transferred to end-of-life recycling, landfill, or incineration.

Reuse symbol:



Labeling requirements
Containers must include reuse labeling as described in Part 5: Labeling & education, which includes the reuse symbol, the type and value of any return incentive (e.g. deposit), and instructions for returning the container.

Digital requirements
- Containers must incorporate a data carrier, for example a QR code, that includes standardized data fields described in Part 3: Digital. If multiple data carriers are included on a label, then the reuse data carrier must be integrated with or located adjacent to the reuse symbol so that all stakeholders can easily identify it as the scan point for reuse.
- The carrier must be attached to the container in a way that prevents it from being easily damaged or removed during washing or other parts of the use cycle.
- The carrier must not pose a danger during washing or other parts of the use cycle, including during unintended usage, such as a residential microwave or dishwasher.

Material requirements
- Containers should be plastic-free, when possible, and must avoid problematic substances.
- Containers must not contain materials or layers that could impede recycling at end-of-life and must incorporate the maximum amount of recycled content that is available and meets food and product safety standards.

Design requirements

- Containers must be designed to *optimize* durability. Durability should be increased to the point where maximum environmental and social benefits are achieved. It may be necessary to perform a full life cycle analysis to determine the optimum durability.
- Containers must withstand tainting by flavors, fragrances and colors that leach from products.
- Containers must withstand leaching of their own material additives or degradation products into consumer products, even after multiple use cycles. This is especially important for plastic.
- Containers must withstand multiple wash cycles, hot and cold cycles, and filling and capping processes, each of which could apply physical damages that impact quality or safety.
- For containers that are filled away from point-of-sale (e.g., soda bottles or condiment jars that are filled at manufacturing facilities), closures may be single-use and must maintain the same or increased level of safety, security and consumer confidence as existing systems. For example, single-use twist caps with tamper-evident bands and seals may be used.
- For containers that are filled at point-of-sale (e.g., coffee cups), safety is assured by point-of-sale employees and closures should be reusable.
- Containers should fit into existing shelf spaces and secondary packaging containers, which often vary by region.
- Containers should be designed to nest (e.g., cups) or collapse (e.g., boxes), where possible.
- Where nesting and collapsing are not feasible, such as with bottles, containers should be designed to minimize transport volumes in other ways. For example, straight-sided bottles can reduce the volume of empty space between bottles in a crate or box.
- Containers should have narrower tops to help facilitate insertion into secondary packaging (or narrow bottoms if the containers are to be inserted upside down). This is particularly important for glass containers, as narrow tops help minimize breakage during insertion.
- Container weight should be optimized to the lowest weight (e.g., wall thickness) for the chosen material that meets durability requirements.
- To help facilitate washing and sanitization, containers should have 90° or greater interior angles at the base; have smooth internal surfaces; avoid small gaps that can trap liquid and encourage microbial growth; and have “feet'' that can assist in airflow during drying.

Decommissioning requirements

- Existing standards for quality testing must be followed to determine when the container must be decommissioned, e.g., detecting chips, checking/sniffing for contaminants, testing for durability and degradation, etc.
- Containers must be designed following best practices for recycling at end-of-life.
- Reuse labels and data carriers that are made from a different material than the body of the container must be removable and/or designed to be easily separated.

Recommendations for harmonizing container design

Container design should be harmonized as much as possible across brands and companies in order to optimize collection, transport, washing, other logistics, and inventory management.

Recommendations for sharing & pooling containers

Pools of containers should be created and shared as much as possible across brands and companies as these improve transport and logistics efficiency and reduce overall system costs.

Additional details are provided in the full Part 2: Containers, including more detailed recommendations for container design.