

DIVE BRIEF

Southwest Airlines brings bamboo on board for new cups

The airline began rolling out the cups and wooden stir sticks following a yearlong R&D process.

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Southwest Airlines introduced a cold beverage cup made with a pulp blend of 75% bamboo and 25% paper, along with a stir stick made from birch wood. *Courtesy of Southwest Airlines*

Dive Brief:

- Southwest Airlines has replaced the plastic cups it used to serve cold beverages during flights with new cups made with a pulp blend of 75% bamboo and 25% paper.
- Simultaneously, the airline launched a plastic-free drink stir stick that is made from 100% FSC-certified birch wood. The cups are still in the process of getting certified.
- Southwest expects these changes to reduce its inflight single-use plastics by more than 1.5 million pounds annually, while helping it exceed its 2025 goal to reduce single-use plastics 50% by weight from a 2022 baseline. Southwest also aims to eliminate single-use plastics from inflightservice by 2030.

Dive Insight:

Although inflight food service ware represents a small fraction of airlines' overall environmental footprints, multiple companies are taking steps to reduce their inflight plastic.

Earlier this month Alaska Airlines conducted a "feasibility study" with r.World's reusable cups on a flight from Seattle to Minneapolis. This summer, Oman Airlines announced that it had redesigned the packaging for the headphones it offers to economy-class passengers: Linstol helped it create kraftpaper envelopes, which replace PET foil. And last year, Delta Airlines switched from plastic to paper cups.

This spring, the International Air Transport Association, with support from Travel Without Plastic and WRAP (Waste and Resources Action Programme), released a report detailing the airline industry's opportunities to reduce single-use plastic packaging waste. It advocated for a unified approach across the industry to address the problem, including setting clear targets and introducing reuse solutions. Southwest's new fiber-based cold cups replace a plastic version that was made from polypropylene. The new cup has a polyethylene lining but is made from 93% non-plastic materials.

The airline started loading the new food service items onto its planes on Oct. 22. It was able to immediately transition all flights to use the new cups, but some issues with the supply of stir sticks are resulting in a slower full rollout of those items. It did not disclose which suppliers it partnered with for any of these items.

A year ago, Southwest Airlines introduced its 2025 and 2030 sustainability goals, which launched the process of finding where to reduce single-use plastics on flights, said Helen Giles, managing director of environmental sustainability. The company learned that its plastic cold beverage cups made up the majority of onboard plastic weight, so it decided to tackle those first, she explained. In 2022, the cups and stir sticks together comprised almost 65% of onboard plastic weight. Southwest did R&D with a cross-departmental team to ensure the new food service items would meet both operational and consumer standards. It talked to numerous suppliers to examine innovations for reducing single-use plastics, Giles said. Through a request for proposals process, Southwest selected two potential suppliers and tested their products at its headquarters and on flights.

"That led to some adjustments to the design — just to make sure it would be easy for our flight attendants to use but also comfortable for our customers," Giles said.

The partners tested many different cup materials, including solutions that were entirely free of plastic. But Southwest observed some challenges that it said made a complete departure from plastic unfeasible at this time. A main challenge is developing plastic-free cups that are suitable for holding alcoholic beverages.

“When you put alcohol in a completely paper cup, it degrades the cup quite quickly. It can lead to softening and soginess within the cup,” Giles said, noting that Southwest is “confident that suppliers are going to solve this problem.”

Southwest’s cups for hot beverages were already paper-based. The airline is searching for a single solution that will work for both hot and cold beverages, because “that would be a little more operationally efficient for our flight attendants,” Giles said. But the new bamboo-based cups are not yet that single solution. Testing showed that when filled with a hot beverage, the cups became too warm for consumers to comfortably hold. The wooden stir sticks are compostable, Giles said, but Southwest does not currently have a systemwide composting program in place. The PE lining renders the new cold cups non-recyclable, she said.

Recycling is particularly challenging for airlines due to space and resource constraints, Giles explained. The company does not have carts for collecting waste, just plastic bags, which Giles said makes it difficult to sort materials. Plus, Southwest does not have sinks to dump out remaining liquids.

Flight attendants go through the cabin with a clear bag to collect recyclables, Giles said, but that’s an imperfect system because most MRFs do not accept bags for recycling. She said forgoing plastic bags is “just not feasible at this time.”

Southwest already served water from cans and doesn’t provide plastic-wrapped amenity kits or traditional food service, Giles said, though it does serve some snacks in single-use packaging. “We just don’t have as much single-use plastics on board our aircraft, and that’s why the cups and stir sticks were so meaningful,” she said, though noted “we still have more improvements to make.” Southwest also touted its work this summer to switch from plastic to paper for napkin overwraps.