



international plastics design competition



Beverage Airline Trolley



Molder: Bemis Manufacturing Company

OEM: AeroCat B.V.

Product Description

Current food service carts are heavy and not completely recyclable. The goal was to provide the airlines with a lightweight, fully recyclable service trolley. Studies indicate that each kilogram (2.2lbs.) costs airlines \$168/year in annual fuel usage. Despite a high material cost (around \$20/lb) the cart is priced competitively.

Why is the product innovative?

AeroCat saw the need for a new airline service trolley. Current food service carts are heavy and are constructed of aluminum and thermoset resin panels. The basic design is decades old and cannot be completely recycled. We believe this trolley is the largest PPSU part produced anywhere. Virtually all the parts above the casters are PPSU. It is without a doubt the largest hollow wall extrusion. Both sizes, 24" deep and 48" deep, can be made off the same extrusion tool. There is also a smaller, extrusion used as the top tray. Because the material is so expensive, the costs involved with returning, disassembly, and recycling are minimal compared to the purchase price of new material. This provides a significant financial advantage to have the trolley qualify as a cradle-to-cradle product. Recycled 100% material has shown virtually no drop in performance, so the plan to blend new with recycled material in a 1-1 ratio has no inherent risk. The customer and final assembly location are based in the Netherlands, while the plastic processing and raw materials are sourced in the United States.