

Whirlpool

Pelican  
Products

Black &  
Decker

Industry Spotlight

## Appliances Manufacturing

Household appliance manufacturers use Z Corp. technology to speed and improve their intense design cycles, getting better products to market faster.

### PROBLEM

The design of household appliances requires not only accurate 3D models to communicate design concepts to internal and external customers, but a series of functional test parts to assess critical performance attributes early in the design cycle. Exposure to elevated temperature, moisture, airflow and vibration all combine to present demanding environmental conditions that many early stage concept models fail to withstand.

### Z CORP 3D PRINTERS IMPROVE:

- **Internal Communication:** Z Corporation 3D printers enable design teams to efficiently iterate on product concepts early in the design process, enabling multiple renditions to be visualized and critiqued by a variety of functional teams within an organization.
- **Presentation Models:** Z Corporation parts can be finished in a variety of ways to yield high quality surfaces. Exact replicas of production models can be used to solicit focus group feedback on proposed new features. Half-scale models of products can be built and transported to customer sites for evaluation, frequently eliminating the need to ship actual production units.
- **Functional Testing:** Utilizing Z Corporation's range of infiltration resins, manufacturers achieve application-specific functionality to gauge performance criteria. Infiltrated parts can be machined, drilled, and tapped. Additionally, infiltrants can be used to significantly improve the durability, humidity resistance and high temperature properties of Z Corp. parts during airflow, vibration and other rigorous environmental tests.
- **FEA Analysis:** The ability to print parts in full color enables engineers to quickly understand the material stresses on their designs. Z Corporation parts can be printed in over 2 million colors, highlighting potential weak points well before parts reach tooling development.



Yellow blower wheel (Z Corp. part) used in evaluation of an air conditioner.



Turbine blade showing FEA output.



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