

MFPs: Micro-Foaming Pellets Technology for Plastic Reduction

ASTRI's "MFPs: Micro-Foaming Pellets technology for plastic reduction" reduces plastic consumption, carbon emissions, and material cost. Building on this new technology, long glass fiber-reinforced foaming pellets have been developed that achieve $\geq 15\%$ weight reduction while maintaining or enhancing mechanical strength, plus heat resistant foaming pellets that enable recycled plastic foaming. These integrated, ESG driven solutions serve automotive, appliance, industrial container, and medical sectors, delivering measurable sustainability benefits alongside superior performance.

Industry Challenges

- Foamed plastics traditionally suffer significant strength loss when compared to normal plastics, while combining glass fibers with foaming agents requires costly equipment or complex processes
- Recycled plastics require low temperature, extended processing, causing conventional foaming agents to decompose, fail to foam

Major Benefits

- Reduces plastic consumption by $\geq 15\%$ and lowers carbon footprint
- Long glass fiber reinforcement maintains or improves mechanical strength
- Cuts overall material cost
- Heat resistant solution allows recycled plastic foaming
- Compliant with REACH, RoHS, and food safety standards

Application Areas

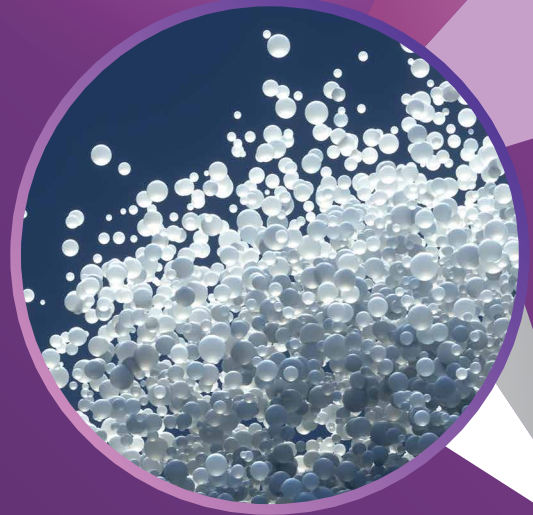
- Automotive parts and components and electrical home appliance housings
- Industrial containers and pallets
- Medical reusable tubing
- Recycled plastic products and Consumer goods packaging

Collaborator(s)

Manufacturers of chemical raw materials, electronic technology, smart hardware and plastics, and a financial investment management company

Award(s)

R&D 100 Awards,
International Exhibition of Inventions Geneva



Delivering lightweight strength while overcoming conventional foaming's limitations, our solution reduces material costs and environmental impact without compromising performance

