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Battery Recycling:

Battery case plastic recycling refers to recovering and reprocessing the plastic used in battery housings, especially from automotive, industrial, and UPS batteries.

Common Battery Case Plastics

Most lead-acid battery cases are made from

- Polypropylene (PP) – the most common material
- Occasionally ABS or other engineering plastics in specialized batteries

Typical Recycling Process

- Battery Collection
- Used batteries are collected from dealers, service centers, and recycling facilities.
- Battery Breaking
- Batteries are mechanically crushed or broken.
- Plastic, lead, and electrolyte are separated.
- Plastic Separation
- Polypropylene pieces are washed to remove acid residues and contaminants.

- Labels, rubber, and other impurities are removed.
- Grinding and Washing
- Plastic is shredded into flakes.
- Multiple washing stages ensure cleanliness.
- Extrusion and Pelletizing
- Clean flakes are melted and converted into plastic granules (reprocessed PP granules).
- Manufacturing New Products



The recycled PP can be used for

- New battery cases
- Automotive components
- Plastic containers
- Injection-molded products



Benefits

- Reduces landfill waste.
- Conserves petroleum-based raw materials.
- Lowers manufacturing costs.
- Supports a circular economy in the battery industry.



Challenges

- Acid contamination from batteries.
- Mixed plastic grades.
- Maintaining consistent recycled material quality.
- Compliance with environmental regulations.
- Recycling Yield

