

Complete Recycling Of Beverage Cartons

The technology, Complete Recycling of Beverage Cartons, is an innovation, which recycles 100% of the materials used in aseptic beverage cartons: paper, polyethylene (plastic), and aluminum. The high quality paper is converted to pulp and used as input for various paper products. The remaining polyethylene and aluminum is heated and pressed into durable roofing sheets. A part of the polyethylene and aluminum laminate is also used in a catalytic thermolysis process to reverse the polymers into liquid hydrocarbon fuels that can be further converted into bunker oil or diesel. The aluminum recovered from this process can be further converted onto poly-aluminum chloride for water treatment applications or for use in paints or fireworks. The significance of the technology is that it has conquered the recycling of a challenging multiple product laminate, and is making useful products out of post-consumer waste. The technology is fully developed and has been in commercial operation.

Salient features

There are several benefits associated with the recycling of aseptic beverage cartons:

- It adds value to the polyethylene/aluminum composite, which presently is a difficult to recycle product.
- It also helps reduce landfill waste by recovering all of the constituent materials of the beverage cartons.
- The roofing material is durable, retards fire, is impenetrable by water, and lightweight.
- In addition, the roofing material replaces asbestos and concrete roofing sheets. Asbestos is a known hazardous material. Concrete is heavy, absorbs water, and is susceptible to organic growth.

Areas of application

- Waste to wealth management

End users

- Waste management companies
- Municipal corporations
- Paper companies
- Roofing sheet companies
- Packaging companies

