COMMITMENT TO RECYCLING REDUCES CO₂ EMISSIONS

The beverage carton industry fully supports recycling and contributes to packaging waste collection schemes. All the materials used in beverage cartons are recyclable, enabling a better use of raw material resources: the life of the wood fibre is extended into other paper products, with the carbon locked within them for a greater period of time (i.e. avoiding CO₂ emissions). The residual material, which comprises polymer and aluminium foil, can be used in a number of different applications. These range from composite materials for products such as roof tiles to separate raw materials for industry, or energy recovery.

UK MARKET
60,000 TONES APPROX. (2011)

75% FIBRE
The virgin fibre used in beverage cartons has maximum strength for the lowest possible weight and is a valuable raw material for new paper-based products. Fibre gives stability and strength and is a renewable resource when sourced from responsibly managed forests.

21% POLYMER
Internal layer seals the liquid and acts as an adhesive to the aluminium, fibre and external layer to keep out moisture.

4% ALUMINIUM
Aluminium foil is thinner than a human hair and provides a barrier from oxygen, flavours and light (used in longlife packs only). Most cartons contain aluminium foil, but some do not. The ones without aluminium foil are generally made up of 85% fibre and 15% polymer.
The bales of collected cartons are unloaded and when ready to be used they are de-wired. This allows the beverage cartons to be fed loosely along the conveyor belt and dropped into a Kadant Helisoft pulper with cold water.

The cartons are pulped using a large rotating screw for about 20 minutes until a slurry is created.

The slurry is diluted to wash the fibre away from the polymers and aluminium foil (polyAl). The fibre is pumped to a storage chest which then feeds into Stage 9.

The polyAl is pumped into a washing drum to ensure that as much fibre as possible is captured and the remaining polyAl is as clean as possible, ready for Stage 10.

The polyAl is then baled up ready for reprocessing. The polyAl could be recycled into composite products such as garden furniture. Another alternative is to use pyrolysis, which involves heating in the absence of oxygen, to recover energy from the polymers and create aluminium flakes that can then go on for recycling.

We are currently exploring options but will have a solution in place in 2013.

The fibre is pumped from the storage chest, via a cyclone cleaner to Kadant’s specially designed ScreenONE which has an energy efficient three stage screening process.

This ensures that any grit or small pieces of polyAl are removed and that the cleanest possible fibre is sent on to the stock chest, ready to be blended with other fibre sources to make coreboard. Sonoco Alcore can then use this coreboard to make tubes for many applications, including cling film and textiles tubes.

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