

Think Recycling



FACT SHEET-3

How Aluminium Cans Are Recycled

We buy 5 billion aluminium drink cans every year – each one can be recycled back into metal to make 'new' drink cans, over and over again.

Europe's only can recycling plant is in Warrington, Cheshire. This plant recycles cans collected in the UK and other European countries.

Here's how the process works:

Aluminium cans arrive at the recycling plant in large blocks, or bales

These bales are loaded onto a conveyor, which takes them to the shredder.

The shredder chops the cans into small pieces

The pieces are about the size of a 50p coin.

This is so that it is easier to remove all the inks and coatings used to decorate and protect the can.

It also makes the metal melt faster in the furnace

The shredded cans are pass under a very powerful magnet

This removes any traces of steel.

Drink cans are made of steel too, and can be recycled – but not in this factory!

Because the steel cans are magnetic they can be separated from the aluminium using this powerful magnet.



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The aluminium shreds move along the conveyor into the decoater

Here the decoration is removed from the shredded cans.

The decoater blows hot air through the shreds and the inks and coatings vaporise.

The decoating process also warms the shreds up, so that they melt faster when they reach the furnace.

The hot gases are removed and cleaned.

The decoated shreds are fed into the furnace

The furnace is heated to 7000C – this is a low melting point for a metal.

At this stage of the process other chemicals are added to make the aluminium the correct composition.

Any impurities rise to the surface of the molten aluminium, forming a layer of 'dross'. Dross is removed using a special 'scraping' tool and this is also taken for recycling.

The molten aluminium is transferred to another furnace

This 'holding furnace' is where the metal waits to be cast into ingots.

The holding furnace tilts very gradually to pour the hot, molten aluminium.

The metal flows into moulds, which are suspended over a pit about 10m deep. As it enters the mould it is cooled by a curtain of water which surrounds the mould.

As the aluminium cools it hardens and becomes heavier. This makes the base of the mould lower into the pit so that more aluminium flows into the mould.

Gradually an ingot is formed.

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The finished ingots are lifted from the casting pit by an overhead crane

It takes about three hours to cast the ingots.

The factory makes three ingots at a time.

Each is 9 metres long and weighs 27 tonnes – and contains 1.5million recycled aluminium drink cans.

The ingots are loaded onto a truck and despatched to the rolling mill

At the rolling mill the ingots are rolled into a very, very thin sheet which is used by the can making company to make new drink cans for us to buy in supermarkets, cafes and vending machines.

And the whole process starts all over again!

Facts about the recycling plant

It is open 24 hours a day, 50 weeks of the year.

It recycles around 18 million aluminium cans every day.

It produces 15 27 tonne ingots every day.

There are about 80 people working in the plant.

It is capable of recycling every single aluminium can sold in the UK each year.

Facts about aluminium can recycling

It saves 95% of the energy compared to making aluminium from its raw materials (known as primary production).

It saves 95% of the greenhouse gas emissions compared to the primary, or smelting, process.

It saves raw materials.

It reduces the space needed for landfill – where waste is buried in holes in the ground.