

When the green bin is collected by your Local Authority, it makes its way to **EnviroSort**. EnviroSort is a Commingled Materials Reclamation Facility (CMRF). The recycling is sorted into the key material types such as glass; paper, card and cartons; steel tins; aluminium cans; and plastics. Once sorted, each material type then leaves EnviroSort for reprocessors within the U.K.

In this month/issue we're looking at which metals can be recycled using the green bin collections. Steel cans, aerosols and aluminium cans (metals) are the third material type to be separated from the commingled collection.

Steel is made from natural raw materials and is an alloy of iron and carbon. It can contain small quantities of silicon, phosphorus, sulfur and oxygen. Iron ore is extracted from the earth's core by surface mining.

Aluminium's main ingredient is bauxite, which is generally extracted from the earth by open cast mining. The bauxite ore is then refined to recover alumina. Alumina is then smelted to produce aluminium. Approximately four to five tonnes of bauxite produce two tonnes of alumina and approximately two tonnes of alumina produce one tonne of aluminium.

Only steel food tins, aluminium cans, empty aerosols and metal lids can be placed in the green bin. All items need to be clean and dry. Labels can be left on. Remove the lid from the aerosols as they are plastic, and place these into the green bin separately. Any food or liquid left in any cans or tins will contaminate the other items in the green bin, and will also contaminate the sorted materials when they leave EnviroSort to go to the reprocessors. If aerosols are not empty, they are classed as hazardous and would need to be taken to an HRC.

Metal cans, tins and aerosols are separated from your other recyclables by two machines. The first are **The Magnets**. An over band of magnets lift out steel tins and metal lids. They are carried along until the magnetic current is interrupted and they fall down a chute into a bunker waiting to be baled.



The over band magnets

Next, **The Eddy Current Separator** repels the non-ferrous (non-magnetic) aluminium cans and aerosols. An Eddy Current Separator is actually two magnets, an inner magnet inside an outer magnet, both spinning in opposite directions. The current generated by these opposing magnets repels the aluminium cans. They are thrown down a chute into their own bunker.



The Eddy Current Separator

After the remaining materials leave the Eddy Current Separator, an operative will check the recycling for quality control and to ensure any steel tins, aluminium cans and aerosols haven't been missed.

When each bunker is full, it is emptied onto a central conveyor belt before being baled.

Both steel and aluminium can be recycled indefinitely without losing any quality.

Tins, cans and aerosols need to remain 3-D, as the previous machine in the recycling process is the Ballistic Separator which separated the 2-D items such as paper, card and crushed cartons, from 3-D items such as tins, cans and plastics. This is why we ask please don't crush or squash tins, cans and aerosols to save space.

Other metal items such as cutlery, coat hangers, saucepans, pipes, nails, screws, clean aluminium foil, tomato puree type tubes, keys, ladders, gates etc cannot be recycled via the green bin.

Aluminium foil and foil trays cannot be recycled via a green bin collection as they are a low-grade metal. If clean, these can be taken to the metal container at an HRC. If foil is not clean, it needs to be placed in your black bin.

Tomato puree type tubes cannot be recycled from the green bin as they are contaminated by product residue.

Stainless-steel cutlery and saucepans, although magnetic, cannot be recycled through a green bin collection as they contain chromium, which would be a contaminant if they are processed with steel cans. In addition, some cutlery has additional coatings such as silver plate which would also be a contaminant. Metal coat hangers also have coatings which could be chrome, lacquer or plastic which are contaminants. Items such as cutlery, coat hangers and pipes may get jammed in our machinery and cause injuries to colleagues.

Please do not empty and wash out oil cans and paint tins in order to recycle them as the contents are classed as hazardous and will pollute the water supply. These can be taken to an HRC.

Gas bottles and canisters should never be placed in the green (or black) bin and should be taken to an HRC.

Food pouches, crisp packets, chocolate wrappers etc. may look like metal but they are usually manufactured from plastic or a mix of plastic and aluminium. They are classed as soft plastics and may be recycled at a supermarket soft plastics collection point.

Sharp items such as nails, screws, needles, syringes and knives etc would cause a hazard to the sorting operatives who physically pick out incorrect items, as they could puncture gloves and cause injuries.

Electrical items such as kettles, toasters and sandwich makers cannot be recycled in the green bin as they contain many different types of metal and other components. These items need to go in to the small appliance container at your HRC.

Coffee pods cannot be placed in the green bin as they are too small for the machinery in most CMRFs to separate and they are made from a mix of plastic and aluminium, which is very hard to recycle, plus they may contain product residue. (Paper coffee pods can't be recycled from your green bin as they are contaminated with product residue.) Most coffee pod manufacturers have their own recycling schemes.

Recycling one tonne of steel saves 1.5 tonnes of iron ore and reduces CO₂ emissions by 80%. At EnviroSort last year, we sent out 2,407 tonnes of recycled steel, that's saving 3,610 tonnes of iron ore and 3658 tonnes of CO₂.

Recycling one tonne of aluminium saves 4 tonnes of bauxite and 9 tonnes of CO₂. At EnviroSort last year, we sent out 845 tonnes of recycled aluminium, that's saving 3,380 tonnes of bauxite and 7,605 tonnes of CO₂.

As aluminium is around 1/3 of the weight of steel, we recycle similar volumes of steel and aluminium every year. Recycling both steel and aluminium also ensures fewer areas of the planet are disturbed by mining.