

## How Flame UK Handles Your Waste

### Hardcore/Concrete/Inerts

We crush and screen inert waste to produce a recycled secondary aggregate. This process is a WRAP (Waste and Resources Action Program) formalised quality control procedure for the production of recycled aggregates from recovered inert waste and is endorsed by the Environment Agency.

### Wood

We sort, process and chip the wood we receive to be used in panel board manufacture and biomass burners. In this way we ensure we are following the waste hierarchy by recycling the waste for reuse in the creation of a new product or fuel source. Panel board manufacturers combine the wood chip with resin and heat to create a man-made wood product; using different specifications they are able to create panels which can be used in various products from furniture to the construction of apartment buildings. Biomass burners use processed wood to generate heat and electricity with less effect on the environment than fossil fuels.

### Ferrous and non-ferrous metals

These materials are separated into individual metal types so that 100% of the metal can be recycled into new metal used in the automotive and manufacturing sector for the creation of new products.

### Cardboard and Paper

This material is separated, baled and sent to cardboard and paper reprocessors. The material is soaked in water and made into a pulp, cleaned, pressed into sheets and dried. Recycled card and paper is used to make boxes and packaging as well toilet roll, stationary and animal bedding.

### Plasterboard

Plasterboard/Calcium Sulphate is sent for shredding, screened and then reused as a soil improver on agricultural land, cat litter, and cement and in new plasterboard.

### Rigid Plastics

Mixed rigid plastics are separated, baled and recycled. The waste is first put through a shredder where large contaminants including metal will be removed. The material is then washed in a two- stage process in which paper and other contaminants are removed. The plastic granulate is then used by plastic production companies, particularly in the automotive sector for the production of bumpers and dashboards.

### Polythene

Polythenes are sent for washing to remove contaminants such as labels, dust and mud, then they are segregated into different colours/grades for reprocessing.

### Soils

Clean soils are screened to produce topsoil's for reuse or to restore old quarry workings back to agricultural or recreational after-uses.

### Green and Food Waste

Trees, bushes, grass cutting etc are segregated and sent to composting facilities where the material is shredded and placed in Windrows. The natural process of composting is carried out by the thousands of micro-organisms which live naturally in waste. These organisms, like all living things, need food, air and water. They feed on the organic waste materials, converting it into compost. This process generates sufficient heat to keep the organisms going as well as killing off most harmful bacteria and weed seeds. Turning or stirring the pile frequently puts more oxygen into the pile which helps the organisms, speeding the process along.

### Waste Electrical and Electronic Equipment (WEEE)

The WEEE material is broken down into its individual components manually and recycled as either metal or plastics.

#### Batteries

Batteries are sent to recover the precious metals they contain such as lead, mercury, cadmium, zinc, manganese and lithium.

#### Glass

Glass is crushed and its contaminants removed. A mechanised colour sorting process is undertaken then mixed with raw materials. The melted glass is either moulded or blown into new jars or bottles.

#### Carpets

Mixed carpet and underlay waste is inspected to remove contaminants before being sorted by the fibre type of its pile and backing using near infra-red spectroscopy. As standard, various fibre streams are shredded, baled and supplied as feedstock material onto either the International plastics recycling market, equestrian or the horticultural market.

#### Tyres

Tyres are shredded to create a crumb product that is used in the horse manage and arena industry for flexible equestrian usage.

#### Textiles

All used textiles are hand sorted and graded to specific customer requirements by highly skilled workers who are able to recognise the large variety of fibre types. Once graded the clothes are then weighed and press packed into bales using the most up-to-date weighing and pressing equipment.

#### Asbestos

Asbestos is a hazardous waste; it is required under legislation to be disposed of in hazardous landfill sites.

#### Unrecyclables

Unrecyclable or residual waste can be sent to landfill or sent for incineration at a waste to energy plant. In either case the intrinsic energy contained in the material can still be recovered. In landfills the degradation of the waste creates landfill gas which has a high methane content. The methane is a valuable fuel and can be readily converted to electricity. This method of producing renewable energy is now regarded as one of the most mature and successful in the field of green power. Modern waste to energy plants use the waste itself as fuel to efficiently produce electricity and or heat while producing very low emissions. In both cases there are very strict regulations that the operator of such a site must adhere with, which help to minimise the environmental impact.

Development within the waste industry is constantly improving these processes and allowing more wastes to be diverted and recycled reducing the volume of this kind of waste.

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