

WASTE MATERIALS RECYCLING



MCGRATH

THE MCGRATH GROUP

This publication has been prepared to provide clients with information about what happens to their wastes that we handle at our Materials Recycling Facility (MRF).

Our key core priority is to optimise the recycling process for all the material we manage. The McGrath Group acknowledges the importance of achieving, and exceeding, the needs and expectations of our clients. Providing client satisfaction is a fundamental part of delivering a client focused service and is firmly embedded into all our business activities.

Our facilities use the very latest in sorting operating technology to process wastes into individual material streams ready for re-processing into raw materials for manufacture into new products. Materials that cannot effectively be segregated for recycling are diverted from landfill and processed into a material suitable for fuel generation.

Our priority is to provide superior customer support through robust management systems and highly trained staff who work safely and efficiently to deliver outstanding results. The McGrath Group is accredited to various trade bodies including PAS402:2013. We also operate an Integrated Management System which is certified against International Standards ISO 45001 (Health & Safety), ISO 9001 (Quality), ISO 14001 (Environmental) and ISO 50001 (Energy Management) ensures our products and services are supplied safely, consistently and sustainably.

This demonstrates our commitment to supporting the waste industry in its journey towards a truly sustainable approach and gives you the assurance that by using our MRF facility you and your clients are making a tangible contribution to the reduction, recycling and recovery of waste materials.

We have supplemented this with interesting industry statistics and data for recycling rates and carbon savings, to help customers benchmark their progress and demonstrate their own environmental performance.



ASBESTOS



Typical items we accept:

- Asbestos insulating products - Fire protection, thermal insulation, wall partitions, ducts, soffits, ceiling/wall panels
- Corrugated sheets /Wall cladding/Roofing/Ceiling tiles
- Decorative plasters/paints
- Asbestos Vehicle brake linings/shoes
- Asbestos cement

Material description:

Asbestos is composed of silicate chains naturally bonded with magnesium, iron, calcium, aluminium, and sodium or trace elements to form long, thin, separable fibrils. It can be found in consumer products, engineering and building materials that were made between the early 1920s and 1970s.

Asbestos is 'Hazardous Waste' when it contains more than 0.1% asbestos. Removing asbestos is particularly dangerous, as the fibres become dangerous when disturbed and released into the atmosphere. This material should only be handled by certified asbestos removal specialists.

Our asbestos solution:

We provide lockable, labelled skips for storing asbestos waste on-site and logistics services to facilitate removal of asbestos. Our digital data capture systems enable us to provide complete chain of custody reporting from collection to final destination. Electronic waste transfer consignment notes are issued for all materials we manage in compliance with your Duty of Care obligations.

We are a registered waste carrier and licensed to accept fibrous and cement-based asbestos from site. We deliver asbestos waste to licensed landfill sites in accordance with the Landfill Directive and Environmental Permit Regulations, Control of Asbestos Regulations 2012 and Hazardous Waste Regulations 2005

BATTERIES



Typical items we accept:

- Appliance batteries (A type)
- Clock/radio batteries
- Button cells
- Vehicle batteries
- Mobile phone batteries

Material description:

The battery collection and recycling targets increase every year in line with the Battery Directive target. Many batteries contain dangerous chemicals that if released into the ground can cause soil and water pollution. The recycling process involves a number of different procedures depending upon the type and material in the battery. Certain batteries are treated directly due to hazardous chemicals/acids within them. It may involve draining the liquid core and dismantling the casing before being placed in a furnace at high temperature. The high temperature process vaporises paper, plastic and gels while the reusable metals like nickel, lead, iron, cobalt and cadmium are reclaimed to be re-used as raw materials in the manufacture of new batteries or stainless steel.

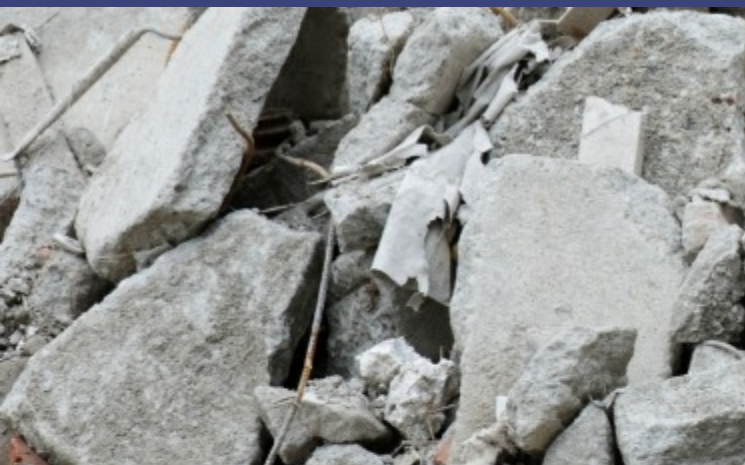
Our battery recycling solution:

Batteries are segregated at our MRF by:

- Zinc-carbon and zinc-chloride - clocks & radios
- Alkaline - MP3 players, torches & toys
- Button cell - contain mercury, silver, lithium or other heavy metals from hearing aids, pacemakers & photographic equipment
- Zinc-air - hearing aids & radio pagers
- Silver oxide button cells - watches/ calculators
- Lithium button cells - watches & photographic equipment

Our digital data capture systems enable us to provide complete chain of custody reporting from collection to final destination. Electronic waste transfer consignment notes are issued for all materials we manage in compliance with your Duty of Care Obligations.

CONCRETE/STONE



Typical items we accept:

- Masonry
- Hardcore
- Paving slabs
- Granite settes and kerbs
- Ceramics

Material description:

Concrete is a building material mainly composed of cement, crushed rock or gravel, sand and water. It is the second most consumed material after water that shapes our built environment.

Concrete and Stone products are 100% recyclable. Concrete recycling is important because it protects natural resources and eliminates the need for disposal by using the readily available concrete as an aggregate source for new concrete or other applications.

Our concrete recycling solution:

Following mechanical pre-segregation exercises feedstock material is processed via our bespoke crushing/wash plants, conveyers and magnets.

Sampling and laboratory testing are carried out on a scheduled basis enabling us to produce a range of certificated products. Our high-quality crushed concretes, including the highest Department of Transport WRAP Protocol approved certified material and premier washed recycled aggregates, available in all sizes and grades can be delivered by our reliable, low-emission fleet or collected from our MRF.

CONFIDENTIAL WASTE



Typical items we accept:

- Shredded and unshredded paper
- Fabric, plastic, electronics
- Video tapes, DVDs
- IT media i.e. CDs/USBs

Material description:

Businesses need to comply with the General Data Protection Regulation (the "GDPR") legislation and ensure that client, employee and other confidential business information is kept and handled securely at all times.

Identity theft is a growing concern for businesses and individuals alike.

Our confidential waste solution:

We can supply special secure containers for collecting confidential waste for on-site and off-site destruction, These can be lockable and located in convenient locations throughout your office/factory and are recorded via CCTV.

All confidential waste operatives are fully trained and security vetted. Each consignment is documented with a Waste Transfer Note and a Certificate of Destruction. Once shredded in a secure environment, all paper is baled and recycled and made into new paper products such as writing, newspapers, kitchen rolls and boxes.

FLUORESCENT TUBES



Typical items we accept:

- Linear tubes
- Energy saving bulbs/Halogen bulbs
- Fluorescent lamps (CFLs)
- Mercury, Metal halide/Sodium SON/SOX lamps
- Filament /Lighting/Sterilisation/ Sunbed tubes

Material description:

In 2005, changes were made to the Hazardous Waste Regulations such that fluorescent tubes and other types of lamps were newly classified as hazardous waste items.

Any damage or breakage of fluorescent tubes could see people being exposed to mercury dust and vapour. The main problem with mercury vapour is the fact that it is both odourless and visible. They need to be disposed of correctly (separately from general waste) to ensure your business remains compliant with the regulations.

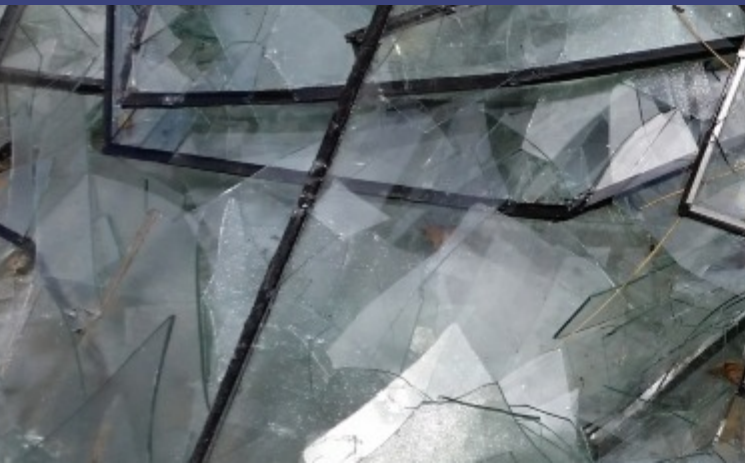
Our flu tube recycling solution:

We provide a selection of containers suitable for the storage of spent light tubes which can be collected/replaced on a scheduled or on demand basis.

We have the equipment to accept both whole and pre-crushed lamps of all kinds and sizes, providing a closed-loop recycling process.

The crushed glass can be mixed with a new glass melt for a variety of applications i.e. furnace linings, fibre glass, the manufacture of glass bricks and new lamps .

GLASS



Typical items we accept:

- Windows
- Glass doors and bottles
- Architectural, Flat and Structural glass
- Jars

Material description:

Glass waste is generated by the demolition and refurbishment of buildings.

Glass waste is generated by the removal of windows but also increasingly by architectural or structural applications such as wall surfacing, glass building blocks, reinforced plate glass and pigmented structural glass.

Glass can be recycled back into containers, glass wool or recycled aggregates for use in construction as a sustainable alternative, saving CO2.

Our glass recycling solution:

Glass is sorted and separated from other recyclables at our MRF, processed by a crusher to reduce in size and then sent to the washing screen.

Our Trio twin washer/wet trash screen cleans all the material and removes small light items to produce a reusable material such as graded aggregates manufactured in line with WRAP's quality protocol and Highway Works Specifications.

GREEN WASTE



Typical items we accept:

- Leaves and flowers
- Grass and weeds
- Tree bark and pruned branches
- Clippings and twigs
- Shrubs

Material description:

Green waste is the waste that arises from landscaping or gardening work and generally consists of leaves, twigs, small branches, bushes and grass.

This biodegradable waste can comprise of decomposing organic matter and can be used as fertiliser.

Composting provides you with a valuable soil fertiliser which improves the soil structure and at the same time diverts green waste from landfill.

Our green waste solution:

We bulk all green waste collected and deliver this to a local composting/Anaerobic Digestion facility which is fully licenced by the Environmental Agency and DEFRA.

Controlled air and temperature vessel composting facilities optimise the procedure to produce high quality compost, which comes with the added benefit of being virtually odour free. The end result can be used for landscape and horticultural uses.

MIXED CONSTRUCTION AND DEMOLITION



Typical items we accept:

- Mattresses
- Floor coverings
- MDF
- Plastic film
- Mineral fibres
- Paper/card

Material description:

Construction waste consists of unwanted material produced directly or incidentally by the construction industry and will involve an assorted mix of items whose quantities are too small, composition too difficult or location too restricted to segregate.

Non-hazardous items such as floor coverings, textiles, Medium Density Fibreboard and general wastes are segregated off-site at our Materials Recycling Facility (MRF).

Our mixed C&D waste solution:

Our Zero-to-Landfill recycling systems ensure mixed construction and demolition waste is either recycled or converted into energy.

Assorted rubbish discharged at our MRF is digitally recorded upon entry, inspected for quality control purposes and then sorted into individual material streams visually, magnetically and by size and weight before recycling.

METALS



Typical items we accept:

- Lead roofing
- Copper pipework and cabling
- Radiators
- Aluminium castings
- Stainless steel
- Metal food and drink cans
- Aerosols

Material description:

Metals come in two forms; ferrous (steel and iron) including steel packaging such as food cans and non-ferrous (copper, brass, aluminium and zinc) which includes over 75% of drink cans.

The most commonly used non-ferrous metals in the construction industry are aluminium, copper, lead and zinc. Recycled non-ferrous materials are essential to the survival of the metallurgy industry as even new metals often require the combined use of recycled materials.

Our metals recycling solution:

We accept deliveries of metal waste and also provide a range of containers from 7-yard skips to 40-yard roll-on containers to collect and transport non-ferrous metal waste to our MRF.

We separate this waste into discrete streams: Aluminium, Copper, Lead, Steel and Zinc which are baled and transported to specialist recycling facilities.

Virtually all metals are recycled into a high-quality manufacturing resource.

PAINT



Typical items we accept:

- Primers/sealers
- Gloss paint
- Emulsion paint
- Artistic paint
- Commercial paint
- Spray paint

Material description:

Paint contains chemicals, such as solvents and metals that can harm the environment and endanger human health if disposed of improperly.

All paint has the potential to cause pollution if it is not handled appropriately and must be pre-treated before it can be landfilled.

However, paint contains many components that have great potential for reuse, recycling and recovery.

Our paint recycling solution:

We can help you identify whether your paint is hazardous or non-hazardous and recommend the most appropriate recycling option that is fully compliant with all relevant hazardous waste regulations.

Reusable, leftover paint is sent to an appropriate reuse project. Water-based paints are taken to a specialist site for composting.

Oil-based paints are shipped to companies for energy recovery and isocyanate paints are sent to a specialist processor.

PAPER/CARDBOARD



Typical items we accept:

- Newspapers, magazines, telephone directories, envelopes/mail
- Office paper/mixed or coloured paper
- Cardboard and paper packaging

Material description:

Paper and cardboard are normally the largest material streams in commercial/Industrial waste.

Paper is 100% recyclable, however despite yearly improvements in recycling rates there are still significant amounts of paper/cardboard that are not captured for recycling.

Our paper/card solution:

Paper/cardboard recyclables are mechanically and manually segregated and re-sorted at our MRF.

The material is then bulk processed and baled into mill-sized bales ready for bulk transportation to our approved UK paper and cardboard re-processors who are accredited to the Environment Agency.

Using UK re-processors reduces our carbon impact of recycling and ensures a complete audit trail. This product is then re-constituted into new paper products such as newsprint, cardboard, packaging, tissue etc

PLASTERBOARD



Typical items we accept:

- Partitions
- Ceiling/wall linings
- Thermal Insulation Board

Material description:

Gypsum material can be reused time and again without altering its fundamental properties. Recycled gypsum can therefore be used as a replacement for virgin gypsum in a number of applications. Unique plasterboard recycling technology allows all unwanted waste to be reprocessed into a usable, sustainable and environmentally accredited raw material for a range of alternative markets.

Under the EU Landfill Directive, the disposal of gypsum waste such as plasterboard was banned in England and Wales in 2006. The Plasterboard waste itself is not hazardous, but when mixed with organic waste, and exposed to rain in an anaerobic environment, it produces hydrogen sulphate gas that is both toxic and odorous.

Our plasterboard solution:

We can accept plasterboard waste delivered directly to our MRF. We can also supply labelled/colour coded covered skips and compactors to segregate plasterboard waste on-site with scheduled and/or responsive collections service available.

Mechanical and manual techniques are used to separate the plasterboard into its constituent material streams, such as Paper, Metals and Gypsum Core which is collected and crushed into a fine powder ready for new products such as feedstock, for manufacturing new plasterboard and cement, production of interior wall blocks or used as a constituent in colouring products for all forms of decorative and industrial coloured concrete, cat litter and soil conditioners.

PLASTICS



Typical items we accept:

- uPVC windows/frames
- Pipes/ductwork
- Flooring/wall coverings
- Packaging
- Insulation
- Plastic bags
- Film
- Plastic bottles/caps/lids
- Pots/containers/trays/cartons

Material description:

Plastic is a valuable, finite resource and environmentally the optimum use for most plastic is to be recycled - preferably into a product that can be recycled again and again.

Recycling plastic into end applications that displaces virgin plastics can save on average 2 tonnes of CO2 for every tonne of plastic recycled.

There is a wide range of markets and increasingly these include full closed loop options.

Our plastics recycling solution:

All plastic waste is manually and mechanically segregated and re-sorted by its type at our MRF. We have developed innovative closed loop recycling systems with our supply chain partners who process these products into Raw Material feedstock. A variety of techniques are used to remove contaminants using a series of cyclones and water baths. The material is then decontaminated by chemical solutions, shredded or melted down, granulated, filtered and ground into powder-form or granules. At this stage the products are either manufactured directly into end products such as drainage pipes, ducting, flooring, kerbstones, new plastic bags, plastic containers/packaging or pelletized feedstock.

REFUSE-DERIVED FUEL (RDF)



Typical items we accept:

- MRF residues
- Trommel fines
- Sweeper fines
- Biomass

Material description:

Waste materials which cannot be recycled or composted can often be used to generate energy.

This is the recovery of renewable energy in the form of electricity and/or heat for the controlled incineration of residual waste.

This offers a clean and renewable energy with reduced carbon emissions and less environmental impact than any other form of energy.

Our RDF/SRF solution:

We have invested heavily in the very latest technologies to develop one of the UK's most sophisticated facilities for processing RDF/SRF. Consignments tipped at our MRF are processed to extract any metallic or mineral items. The non-mineral residues are then bulked using bespoke, integrated cross wrap/baling plants into durable bales for safe and secure transportation to our network of highly efficient WtE processing facilities. At the WtE plants RDF/SRF is incinerated, the combustion gases are only released after being cleaned by flu gas cleaning systems. The steam heats thousands of homes/businesses, the CO2 provides fertiliser for greenhouses and horticulture. Ash residues are recycled and the remaining material is used in sustainable road and cement production.

SOIL



Typical items we accept:

- Topsoil
- Subsoil
- Excavated spoils
- Muck
- Utility arising

Material description:

Changes to Landfill Tax arrangements issued by the Government in 2012 means that soil excavated or removed from construction sites is now subject to the standard landfill tax.

This was introduced to discourage sending this material to landfill when it should be widely reusable within the construction industry and elsewhere.

Our soil recycling solution:

We provide a range of containment and logistics services to manage soil and other wastes generated by groundworks. We can supply plant such as Excavators and Grab Lorries for soil removal.

We can also accept soils delivered directly to our MRF which will be inspected and tested against our WRAP Quality Acceptance Protocol and the Factory Production Control (FPC) requirements.

TIMBER/WOOD



Typical items we accept:

- Joists/beams
- Floorboards
- Doors and panelling
- Window/door frames
- Pallets and crates
- Shuttering and fencing
- Wooden furniture
- Chipboard and OSB
- Melamine/laminates
- All soft/hard woods

Material description:

The recycling of timber/wood began as an initiative against deforestation as it was discovered to have a negative impact on the global climate.

Wood waste can come from all kinds of sources such as construction/demolition projects and domestic, industrial, and commercial premises.

Our wood recycling solution:

We have developed a state-of-the-art timber recycling facility with stringent segregation processes to ensure the highest quality and product. It is then loaded into industrial high performance shredders where it becomes a finer shredded material. Any contaminants like nails and hinges are removed by incorporated over bound magnets. The end product range varies in size and the vibrating screeners perform well in sorting out the different grades, various sizes of the results are applied to different uses. The end product can be applied to various different uses; landscaping equine products, horticultural mulch, wood chips or may be reformed into another product such as MDF, chipboard or Wood Polymer Composite (WPC).

WASTE OIL



Typical items we accept:

- Automotive oil
- Hydraulic oil
- Industrial oils
- Cooking oil

Material description:

Re-refining waste oils consumes 89% less energy and emits 65% less emissions than refining crude oil.

Oil recycling involves the recovery of used oils and the process of creating a new product.

It is vital as oils are a significant risk to the health of the environment as one gallon of motor oil dumped into the waterways has the potential to pollute one million gallons of water.

Our waste oil solution:

We supply a range of sealable drums to enable waste oils to be collected safely on-site and can arrange to collect on a scheduled, on-demand or one-off basis. Electronic Duty-of-Care consignment notes are generated for each collection in compliance with the Hazardous Waste Regulations 2016.

We bulk waste oils at our MRF and transport them to a re-refinery for processing. Recycled motor oil can be combusted as fuel, usually in plant boilers, space heaters or industrial heating applications such as furnaces and cement kilns. Vegetable oils are refined into a range of certifiable biofuels which can power road transport and sustainable heat and power.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)



Typical items we accept:

- Computers
- Printers
- Mobile phones
- White goods
- Electronics i.e. radios, TVs
- Ovens and grills

Material description:

Many electrical items contain valuable plastics and precious finite metals including gold, silver, copper and indium (used in liquid crystal displays). These are valuable in the recycling process and can be reused in new products.

Large household appliances (e.g. ovens, fridges, washing machines) currently make up over 40% of WEEE but there are also large volumes of other equipment such as IT equipment (mainly computers).

Our WEEE recycling solution:

We are fully licensed to collect and dispose of WEEE. We have considerable experience managing this type of waste and offer our clients assurance that materials are recycled in full compliance with the Waste Electrical and Electronic Equipment (WEEE) Regulations. We transport WEEE to fully audited Authorised Treatment Facilities (ATFs) where re-use or recycling takes place. Typically this may involve a variety of secure techniques from depollution to disassembly, shredding, recovery or preparation for disposal. We aim to reuse equipment that cannot be remarketed it is stripped of metals, plastics etc which are segregated for recycling and reuse into recycled products.



CONTINUOUS HEALTH & SAFETY ASSESSMENT SCHEME
Accredited Contractor
www.chas.gov.uk



CLOCS



PAS 402



Constructionline
Gold Member





McGrath Group

McGrath House, 62 River Road, Barking, Essex IG11 0DS

Tel: 0845 548 5500 / 0845 658 8391

Fax: 0844 579 3560

Email: info@mcgrathgroup.co.uk

Web: www.mcgrathgroup.co.uk

