



Precious Metal Recycling

About us



Mastermelt is a leading global precious metal recycling company, with cutting-edge technology recycling facilities in the UK, Germany and Singapore. We recover precious metals from industrial waste streams, jewellery, manufacturing scrap and end of life products, thus playing a key role in the sustainable circular economy.



Committed to environmental
stewardship & responsible refining



Vastly experienced
& financially secure



Ability to treat a wide
range of materials

Our Sites



Sustainability

Mastermelt is dedicated to continuing its leadership in environmental, social, and governance (ESG) practices, as well as sustainability. We consistently evaluate our environmental and social performance in order to develop and execute plans that drive sustainable



Mastermelt is EcoVadis Platinum certified and is part of the CHWMEG Facility Review Program which promotes Responsible Waste Stewardship by supporting waste/recycling vendor management.



A large white wind turbine dominates the foreground, its blades extending towards the top right. The background shows a lush green landscape with a dense forest of evergreen trees in the lower half and rolling hills with scattered houses and more wind turbines in the distance under a clear blue sky. A semi-transparent blue rectangular box with a repeating geometric pattern of triangles and lines is overlaid on the center of the image, containing the text.

Our ESG strategy

To make a lasting, positive impact, the four pillars of our sustainability and ESG strategy are:

- Be a company of the sustainable circular economy.
- Reduce our greenhouse gas emissions and energy use.
- Source our materials from responsible, recycled sources only.
- Ensure excellent environmental health and safety (EHS) performance beyond compliances.



Pharmaceutical & Chemical

Mastermelt specialises in tailored refining services that maximise the recovery of precious metals from spent pharmaceutical heterogeneous and homogeneous catalysts, as well as from the chemical, agrochemical, petrochemical, and flavours and fragrance industries.

Mastermelt uses controlled thermal pre-treatment as the most effective way to recover precious metals from heterogeneous catalyst waste. The use of homogeneous catalysts is increasing in the Pharmaceutical, Chemical and Agrochemical sectors and has led Mastermelt to develop innovative solutions including distillation and metal scavenger recovery systems to capture precious metals.





Optimisation



Production



Recovery



Settlement



Green energy

Mastermelt's vision for green hydrogen is to support our partners in realising their H2 journey by enabling efficient circular processing of valuable precious metals, driving down the cost per kW.

Rising demand for Platinum, Iridium, & Ruthenium in MEA production calls for sustainable recycling in PEM & Fuel Cell industries. To sustain scarce metal supply, reclaiming and recycle for reuse is imperative.

Mastermelt focuses on working with clients from start-up to full scale production of fuel.







Aerospace

Mastermelt offers innovative proprietary methods and technologies to efficiently reclaim platinum, palladium & gold from end-of-life jet engine components. Our non-destructive technologies enable us to preserve the substrate super alloy and capture industry leading levels of PGM's; by preserving the super alloy we can return the maximum value possible to the customer and aerospace supply chain.



Electroplating, medical & glass

Efficient and sustainable metal recycling for electroplating processes. Mastermelt's innovative technologies improve metal recovery, maximize valuable metal recycling,

Typical electronic products that use precious metals include:

- Electronics
- Connectors
- Relays
- Lead Frames
- Smart Cards
- Hard Disc Drives
- Medical
- Diabetic test strips
- Additional Industries
- Jewellery
- Aerospace
- Fuel Cells
- Polymer Electrolyte Membrane

The electroplating industry generates precious metal waste from various scraps and residues,

- Gold & Silver cyanide solutions
- Platinum Group Metal (PGM) solutions and plating baths
- Ion exchange resins and scavengers
- Wipes, pots and filters
- Coated scrap components
- Jigging wires
- Plated scrap
- Spent anodes
- Sputtering targets



Medical

Recover valuable metals like platinum and gold from diabetic test strips, stents, catheter ablation, angioplasty, pacemakers, and defibrillators.

Significant metal values can be recovered from:

- Platinum Electrophysiology (EP) catheters tips
- Platinum Angioplasty guide wires
- PGM alloy; dental and production scraps
- Electrophoresis electrodes
- Silver Residues and reject products
- Pt lab wear: crucibles, forceps and stands



Glass

Mastermelt processes Platinum, Palladium and Rhodium alloys and residues from the architectural and heat resistant glass industries.

Examples of materials Mastermelt can treat are:

- Refractories from glass fibre production
- Precious metal residues and resins from architectural glass production
- Precious metal residues from heat resistant tableware borosilicate production lines
- Silver residues from mirroring applications.

Jewellery

Presman Bullion Ltd

Presman - Hatton Garden's oldest 'trade only' scrap buying counter. We cater to all your jewellery scrap needs, offering in-person services and insured FREEPOST envelopes. Our expert team uses both traditional and modern metal testing methods, ensuring accurate and efficient assessments.



Mastermelt

Providing a full 'in-house' precious metal reclamation service for the UK jewellery trade.

We process materials including scrap, lemel, and workshop waste, leaving jewellers free to focus on their craft and benefit from the additional income.

Au

Ag

Pt

Pd

Services and Jewellery materials we process:

- Lemel, Sweeps, Polishings, Extraction, Filtration and most types of flooring.
- Supply, fit and process extraction bags.
- Supply, empty and process waste from settlement tanks.
- Workshop clean-up service.
- Plating solutions.

Reclamation process including security/tracking

No matter which one of our processing sites handles your material, rest assured that our experienced staff will be doing their utmost to reclaim the maximum value of precious metal for you.

Taking Care of Your Material



Secure Facility



Job Tracking



Care & Attention

View processing video here: mastermeltgroup.com/the-reclamation-process





Mastermelt Technical Centre (MMTC) - Research and Development (R&D)

State-of-the-art instrumentation

Experts in **PGM chemistry**

Development of **innovative new recovery methods**

The Mastermelt Technical Centre in Stevenage, UK was created to accurately analyse the precious metal of materials and develop new recovery methods for customers' waste which contain PGMs. We use advanced instrumentation and have specialists in PGM chemistry and recovery. Our goal is to create innovative solutions for recycling customers' waste materials, particularly those that are challenging both because of their complexity of their chemistry and their environmental concerns.



Mastermelt Homcat Recycling Center of Excellence

Mastermelts Homcat Recycling Centre of Excellence, located at the Wilton Centre in the UK, offers a comprehensive, all-in-one solution for handling complex homogeneous catalyst waste streams. Equipped with cutting-edge technologies, the center specialises in advanced recovery methods for precious metals, contributing to efficient and sustainable waste management practices.





Difficult & Hazardous materials

We work with our customers to find solutions for treating difficult and hazardous materials. Our process includes testing the material, analysing its behaviour, identifying the best recycling method, and determining its precious metal content.

Examples of difficult material we can treat:

Homogeneous catalysts

Insoluble precious metals

Precious metal coating

Low concentration precious metal
heterogeneous or homogeneous catalysts.





Hazardous materials pose a threat to human health and the environment. Common examples of hazardous materials which we treat include:

- ▲ Contaminated Chemical Catalysts
- ▼ Chemical Solutions
- ▼ Filter Cakes
- ┆ Sludges

Shipments of hazardous (hazmat) materials requires a Transfrontier Shipment Notification (TFS), which Mastermelts regulatory team will handle the TFS application, to make life easier for you.

Abbreviation Glossary

ESG = Environmental Social Governance

MEA = Membrane Electrode Assembly

PEM = Proton Exchange Membrane

R&D = Research and Development

PGM = Platinum Group Metal

PM = Precious Metals





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