PRALL-TEC

SMART SOLUTIONS FOR METAL RECYCLING

GERMAN TECHNOLOGY FOR GLOBAL RECYCLING

PRALL-TEC GMBH

GERMAN ENGINEERING FOR ADVANCED METAL RECOVERY

PRALL-TEC is a German technology company specializing in the mechanical treatment of metal-bearing waste materials. Since 2007, we have been developing high-performance Impact Crushers, Balling Mills and complete system solutions tailored to the demands of modern metal recycling – from incinerator bottom ash (IBA) to aluminum salt slags and industrial residues.

What sets us apart is our ability to combine robust machine design with custom process engineering. Whether you need to recover fine non-ferrous metals or separate complex composite materials, our modular systems deliver high throughput, precise separation, and long-term durability – even under harsh conditions.

With installations across Europe, Asia, Africa, and the Americas, PRALL-TEC stands for:

- German-made quality and innovation
- Flexible and scalable recycling technology
- Full-service support from planning to commissioning

Our mission: Turning waste into clean, valuable resources – efficiently and sustainably.

WHY METAL RECYCLING?

RECOVERING VALUABLE RESOURCES

In every ton of incinerator ash, salt slag, or industrial waste, there are hidden treasures: aluminum, copper, zinc, steel, and more. Recovering these metals is not only a matter of profitability – it's a necessity for environmental protection and circular economy.

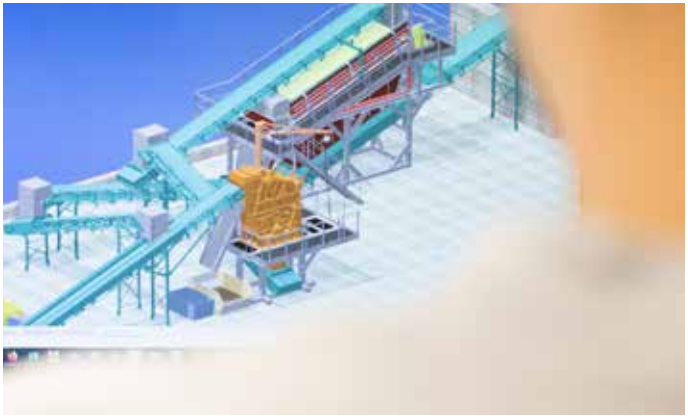
The global challenge:
As raw material prices rise and legislation tightens, the demand for efficient, high-yield recycling solutions is growing worldwide. Landfilling is no longer an option. Governments and industries need sustainable technologies that extract every ounce of value from waste – cleanly and cost-effectively.

Our answer:
PRALL-TEC develops flexible, robust, and smart systems for the mechanical separation of complex materials. Our machines help you:

- Maximize metal recovery from IBA, salt slags & industrial residues
- Improve material purity and resale value
- Comply with international recycling standards
- Reduce landfill volume and CO_2 emissions
- Sustainable metal recovery – engineered in Germany.

RECYCLING TECHNOLOGY MADE IN GERMANY

ENGINEERED AND BUILT IN GERMANY. PERFORMING WORLDWIDE.



In modern crushing and recycling technology, efficiency is the key to success. At PRALL-TEC, we offer our customers not only top-quality machines but also comprehensive turnkey solutions that cover every step of the process – from planning and production to logistics and installation. This ensures smooth operations and customized solutions that are perfectly tailored to our customers' needs. With years of experience and a passion for innovation, we continuously set new standards in the recycling industry. Our commitment to quality and customer satisfaction drives everything we do.

Everything from a single source!

At our site in Lengerich, North Rhine-Westphalia, we design and manufacture recycling machines and systems for customers around the world. From planning and production to delivery, we offer everything from a single source – ensuring top quality, efficiency, and reliability.

ASR – AUTOMOTIVE SHREDDER RESIDUE

PRALL-TEC SOLUTIONS FOR EFFICIENT ASR METAL RECOVERY

Automotive Shredder Residue (ASR) is one of the most challenging materials in the recycling industry. This complex mix of plastics, wires, fibers, foams, and fine metal particles still holds significant amounts of valuable non-ferrous and ferrous metals.

The Challenge:

- Heavy stainless pieces
- Moisture, dust, and fluctuating material composition
- Difficult separation of light and heavy fractions
- High wear caused by minerals in the product

  can be solved with PTRF.

PTV

ASR
INPUT MATERIAL

OUTPUT MATERIAL AFTER
PTV & AIR TABLE

PTRF

ASR
INPUT MATERIAL

OUTPUT MATERIAL AFTER PTRF
FINE GRINDING MILL & SIEVING

LIGHT METAL SCRAP

PRALL-TEC UNLOCKS VALUE FROM LIGHT METAL SCRAP

Light scrap contains valuable materials – but only the right technology makes them accessible. With PRALL-TEC impact crushers and rotor mills, mixed light scrap is efficiently processed into clean, separated metal fractions.

Materials:

- Aluminum profiles & turnings
- Copper cables
- Shredded composites & E-waste

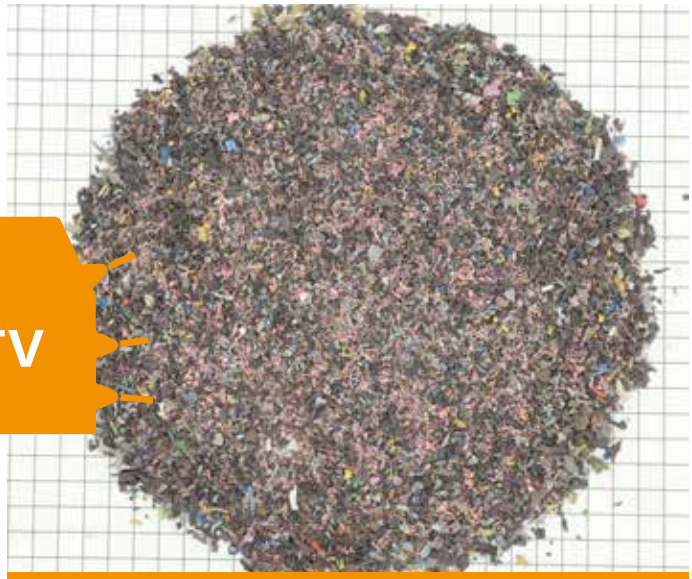
CABLE
INPUT MATERIAL

PTRS

OUTPUT MATERIAL
AFTER PTRS

INPUT MATERIAL
PRE-SHREDDED CABLE

PTV



OUTPUT MATERIAL AFTER PTV
FOR FURTHER SEPARATION

WASTE ELECTRICAL & ELECTRONIC EQUIPMENT

PRALL-TEC SOLUTIONS FOR EFFICIENT WEEE PROCESSING

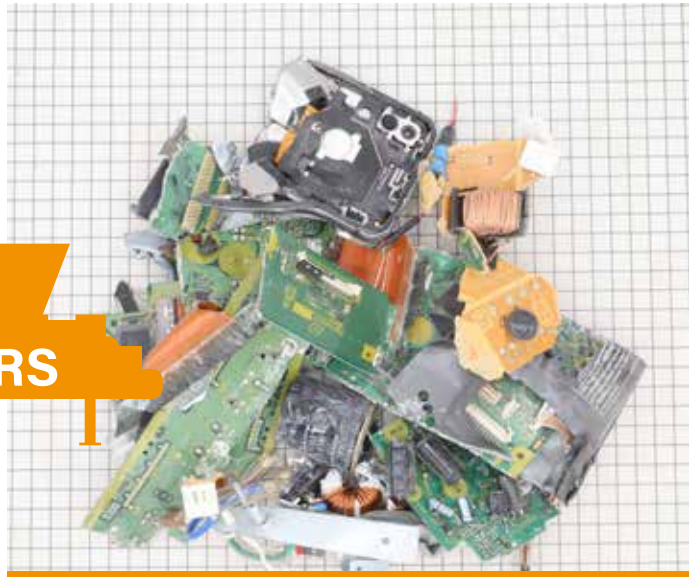
E-waste is complex: plastics, metals, and circuits in tight spaces. PRALL-TEC's crushing solutions break down electronic waste with precision, exposing valuable metals like copper, aluminum, and precious alloys for efficient recovery.

Applications:

- Household electronics
- IT and telecom scrap
- Circuit boards & small appliances

E-WASTE
INPUT MATERIAL

PTRS



OUTPUT MATERIAL
AFTER ROTARY SHEAR

INPUT MATERIAL
PRE-SHREDDED E-WASTE

PTV

OUTPUT MATERIAL AFTER PTV
FOR FURTHER SEPARATION

BATTERIES

PRALL-TEC SOLUTIONS FOR LITHIUM-ION BATTERIES RECYCLING

End-of-life batteries are a growing challenge – and a valuable resource. PRALL-TEC's crushing systems enable the safe and efficient processing of lithium-ion batteries, opening the way to recover critical raw materials.

Target Materials:

- Cobalt
- Lithium
- Graphite
- Nickel
- Copper & aluminum foils

BATTERIE
INPUT MATERIAL

PTH

OUTPUT MATERIAL AFTER
PTH & FURTHER SEPARATION

BATTERY BREAKDOWN & BLACK MASS LIBERATION

INNOVATIVE BATTERY RECYCLING FOR TOMORROW

EFFICIENT BATTERY RECYCLING LINES

1 Lift for Transport Boxes

The lift transports boxes containing used batteries into the battery tower to prepare them for the recycling process.

2 Function of the Dosing Hopper

Used batteries are carefully emptied from the transport boxes into the dosing hopper, which ensures a consistent feed into the subsequent stages of the recycling process.

3 3-Stage Water Spraying

In this phase, the batteries are sprayed with water in three stages to prevent spark formation and ensure a safe recycling process.

4 PTRS Rotary Shear 1

The PTRS rotary shear performs coarse shredding of the batteries to prepare them for the subsequent steps of the recycling process.

5 PTRS Rotary Shear 2

In this stage, the batteries are further shredded to improve material separation and maximize recycling efficiency.

6 Big Bag Filling

After shredding, the separated materials are filled into big bags to prepare them for transport and further processing.

7 Water Separation

In this step, the main amount of water drains from the big bags. The water is filtered and reused.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INCINERATOR BOTTOM ASH (IBA)

PRALL-TEC. SMART CRUSHING FOR IBA

Waste-to-energy doesn't end at incineration. Bottom ash still holds valuable non-ferrous metals like aluminum, copper and zinc. PRALL-TEC machines are designed to extract these resources efficiently – turning ash into opportunity.

Key Materials Recovered:

- Metallurgical slags
- Ironworks slags
- Aluminum salt slags
- Stainless steel slags
- Electric steel plant slags

PT

IBA INPUT (METAL MIX AFTER EDDY CURRENTS)

IBA OUTPUT CLEAN HEAVY METALS

PTRF

INPUT MATERIAL IBA LIGHT FRACTION

OUTPUT MATERIAL AFTER PTRF

FERROUS & NONFERROUS SLAGS

PRALL-TEC TURNS SLAG INTO METAL-RICH OUTPUT

Slags from steel, copper, and non-ferrous production contain valuable residual metals. PRALL-TEC impact crushers are ideal for breaking up fused material, exposing embedded metal, and preparing it for recovery.

Applications at a glance:

- Metallurgical slags
- Ironworks slags
- Aluminum salt slags

PTV

INPUT MATERIAL
ALUMINUM SALT SLAGS

OUTPUT MATERIAL
AFTER PTH

PT1.1

INPUT MATERIAL STAINLESS
STEEL SLAGS

OUTPUT MATERIAL AFTER
MOBILE CRUSHER PT1.1

THE COMMON GOAL OF DEVELOPING NEW SOLUTIONS WITH OUR CUSTOMERS AND PARTNERS, WHICH WILL SET NEW RECYCLING STANDARDS IN THE FUTURE.

FURTHER INFORMATIONS

PRALL-TEC

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