Metso Metal Recycling’s sustainable technology and services

Metso Metal Recycling offers a wide range of efficient solutions for the fragmentation, compaction and separation of virtually every type of metal scrap. We are focused on designing and building first-class equipment that gives our customers the highest availability and minimizes downtime.

We have a global network of parts distribution centers strategically located in regions where our customers’ operations are concentrated, so you can count on our comprehensive and efficient service 24/7 wherever you are. Every Metso part is supported by our team of experts. We provide service from the moment you order a part to beyond its delivery and installation.

Our metal recycling customers operate in the following industries:
- Scrap processing
- Steelworks
- Foundries
- Car manufacturing

Our strengths:
Through brands like Lindemann™ and Texas Shredder™, Metso has been part of the metal recycling industry for over a century. We have built deep industry knowledge, and our people have thousands of man-years of expertise in metal recycling processes and equipment. Metso has its own foundries to supply castings for mining and metal recycling lines. This provides significant value in the know-how of metal casting and gives us the flexibility to develop optimal solutions for our customers – and it sets us apart from our competitors.

The Metso Way – making the big difference to our customers

At Metso, we provide our customers with world leading products and services built on technological excellence, experience and the highest safety standards. Everything we do is based on deep industry knowledge and expertise that makes the big difference. We call our way of creating profitable solutions for our customers The Metso Way.

The Metso Way is built on:

Knowledge
We understand our customers’ business environment, drivers and challenges. We aim to provide world leading expertise in all areas we serve. Whether we deliver a single product or take comprehensive responsibility for a customer’s process, our knowledge guarantees we can help our customers maximize their business performance.

People
Our highly competent and committed professionals around the world bring deep knowledge and experience to the industry. We are close to our customers, listen to their needs and always put their interests at the center of our work. We never leave them behind and always live up to our values.

Solutions
Our technically, economically and environmentally sustainable solutions help our customers improve their productivity, performance and profitability. We strive for the best process and resource efficiency.

The New Generation of Alloy Hammers

Metso’s material technology experts have engineered a metal alloy that is optimized for metal shredding. Combined with rigorous lean manufacturing processes at our foundries, Metso has brought to the market a shredder hammer line that provides the lowest cost-per-ton for our customers.

The special Metso alloy is harder on key areas and helps to keep the original shape of the hammer for longer. With the correct hammer profile for your rotor, the shredder will feed better since it grabs the material and pulls it in, resulting in a higher production rate over a longer period of the life of the hammer (it keeps the sweet spot longer). This alloy has a higher yield point than manganese (it deforms less), consequently, you can push its geometry and use a thicker hammer that will not jam in your rotor. This gives you a more powerful striking force and improves material breakage and non-ferrous recovery.

Crafted to the same strict specifications and exacting standards as our equipment, our genuine parts ensure equipment compatibility for trouble-free operation.

Higher efficiencies
- Optimized hammer hardiness and design results in a higher production rate and longer lifetime of the hammer
- Weight-efficient hammer profile design ensures that Metso’s alloy hammer not only lasts longer but is also lighter

Reduced maintenance cost
- The longer hammer lifetime means fewer maintenance intervals, delivering a lower cost-per-ton over the course of its lifetime
- By optimizing the hardness with a special heat treatment, Metso’s alloy hammer is gentle on pins but hard on scrap, resulting in a longer hammer pin life

Less downtime
- Our strategic heat treatment process ensures that Metso’s alloy hammer is more forgiving in the right spots, thus offering you the best of both worlds: the hardness of the alloy and a better tolerance for unshreddables

Driving Your Success

In today’s market, our customers must continuously strive to improve their business efficiency. At the same time, scrap has evolved, and it is getting lighter as cars and other products have much more plastics and other softer materials, which prevents proper work hardening of manganese. These changes call for new ways of thinking in optimizing the shredding process.

Solution
The new generation of alloy hammers with strategic heat treatment

Getting more out of processes while putting less in is critical in today’s world of metal scrap processing. We at Metso shape our solutions based on industry trends to ensure your company becomes and remains competitive. Together with our customers, we are building the scrap yard of 2020.

Challenge
Optimizing the shredding process with changing scrap material

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3D modeling of new products is done to assure proper fitting and to tolerance check for optimum product performance. We use CFD to ensure that our products are defect-free from the inside out. The software enables the pouring temperatures, metal velocity and solidification process to be adjusted and possible sand inclusions to be detected so they can be optimized and prevented.

Final testing is done to bring a reality check and confirm a strong product with superior quality.

3 Steps for top durability, efficiency and reliability of Metso Alloy Hammers

1. Research & Development
   - Computer Aided Design
   - CFD utilization
   - Testing
   - Engineering work guided by state-of-the-art technology and software
   - Metso’s Computational Fluid Dynamics (CFD)

2. Production Process
   - Raw Materials
   - Production Process
   - Quality Control
   - The hammer is created from a high-purity steel scrap, resulting in a high-quality melt and composition for our outstanding hammer.
   - Proper pattern design, metal pouring, heat treatments and finishing details that do not compromise the quality or reliability of our hammer are the outcome of Metso’s almost 100 years in the foundry business.
   - Heat treatment time and temperature are electronically monitored at every step of the process. The heat treatment is critical for the hardness and long life of the hammer. We do several heat treatment processes to make our best hammer ever.
   - Various processes to check for metal cracks and casting defects are done continuously to assure the best quality possible in our hammers. A zero-defect policy further ensures total product quality.

3. Proven Results
   - Durability
     - The special alloy is harder in key areas to help maintain the original shape of the hammer and the hammer pins, resulting in a longer hammer life.
   - Efficiency
     - Our alloy hammer is more forgiving in the right spots – offering the hardness of the alloy and better tolerance against unshreddables. They undergo a special heat treatment that makes them gentle on the hammer pins but hard on scrap.
     - Compared to a manganese hammer for the same shredder, our alloy hammer is lighter in weight. This is possible by reducing excess material during the production process.
   - Reliability
     - Our alloy hammer requires less frequent maintenance intervals and delivers a lower cost-per-ton at the end of the life cycle.
Metso Metal Recycling Equipment

Our range:
Pre-Shredders
Shredders
Shredder Plants
Metal Crushers

Scrap Shears
Turnings Crushers
Briquetting Presses
Double Screw Presses
Anode Crushers

Screening Drums
Scrap Baling Presses

Metso Metal Recycling Services

Uptime Services
Inspection Services
Parts Services
Repair and Refurbishment Services
Troubleshooting Services

Performance Services
Process Monitoring Services
Process Optimization Services
Training Services
Upgrade Services

Project and Engineering Services
Start-up Services
Health, Safety and Environmental Services
Engineering Services
Plant Relocation Services

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