CORE CONCEPT

Scrap Metal Recycling Operations Course: Scrap Grading, Shredding, Sorting and Trading

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Introduction:

Scrap metal recycling operations, covering scrap grading, shredding, sorting and trading, is a 1-week course for scrap yard, purchasing, processing line and mill receiving units, ending with a Scrap Yard Grading and Processing Plan for a case recycler. Recyclers lose margin and mill acceptance when loads are misgraded, shredder output carries copper and tramp elements, non-ferrous fractions stay mixed and radioactive or sealed items slip through the gate. Nominees already buy, inspect or process scrap and learn through inspection walkthroughs of incoming loads, shear and shredder lines and stockpiles. CoreConcept Training Center delivers this scrap metal recycling course.

Course Objectives:

- Classify incoming ferrous and non-ferrous scrap against ISRI specifications and buyer grade sheets at the weighbridge and tipping floor
- Set shear, baler and shredder operating practice that produces dense, clean grades at the lowest wear and power cost
- Configure magnetic, eddy-current and sensor-based sorting stages that recover aluminium, copper, brass and stainless fractions from shredder output
- Operate portal radiation monitoring, hazardous item rejection and quarantine routines that keep orphan sources and sealed containers out of processed scrap
- Price scrap purchases and sales from market assessments, recovery yields and quality deductions and draft contract terms that limit claims
- Produce a Scrap Yard Grading and Processing Plan that links grade quality to steel and aluminium mill charge-mix requirements

Target Audience:

- Scrap yard operating units responsible for gate intake, weighbridge records, stockpiles and daily throughput
- Scrap purchasing and trading units responsible for supplier pricing, grade disputes and sales contracts
- Shredder, shear and baler line supervision units responsible for machine settings, wear parts and output density
- Sorting plant units responsible for magnetic, eddy-current and sensor-based separation of non-ferrous fractions
- Mill raw-material receiving units responsible for scrap acceptance, residual element checks and charge-mix quality
- Yard health, safety and environment units responsible for radiation screening, fire prevention and runoff control

Course Outline:

Day 1: Scrap Flows, Material Families and Yard Baseline

- Obsolete, Prompt and Home Scrap Source Mapping by Sector
- Ferrous, Non-Ferrous and Stainless Material Family Identification
- Magnet Test, Spark Test and Handheld XRF Screening
- Yard Mass Balance From Weighbridge Tickets to Shipments
- Scrap Yard Throughput, Downgrade and Rejection Baseline Audit

Day 2: Scrap Specifications, Grade Sheets and Processing Equipment

- ISRI Specifications for HMS, Shredded and Busheling Grades
- ISRI Code Names for Copper, Brass and Aluminium Grades
- Buyer Grade Sheets for Dimensions, Density and Contaminants
- Alligator and Guillotine Shear Cutting Practice for Heavy Scrap
- Hammer Mill Shredder Feed, Grate and Rotor Wear Settings

Day 3: Intake Inspection, Sorting Lines and Charge-Mix Quality

- Tipping Floor Load Inspection and Grade Deduction Recording
- Drum Magnet and Picking Station Layout for Shredded Steel
- Eddy-Current Separator Rotor Speed and Splitter Adjustment
- X-Ray Transmission and LIBS Sorting of Zorba Fractions
- Residual Copper and Tin Control for Arc Furnace Charge

Day 4: Radiation Risk, Yard Hazards and Scrap Trading Exposure

- Portal Radiation Monitor Alarm Response and Source Quarantine
- Sealed Containers, Gas Cylinders and Explosive Item Rejection
- Shredder Fire, Dust and Noise Control Measures
- Stockpile Runoff, Oil Interceptor and Fluff Residue Handling
- Scrap Pricing From Market Assessments, Yield and Quality Claims

Day 5: Inspection Walkthrough and Yard Grading Plan Build

- Case Recycler Gate and Tipping Floor Walkthrough Findings
- Case Shredder Line Output Quality and Recovery Review
- Case Supplier Contract and Grade Dispute Settlement Exercise
- Case Radiation Alarm and Hazardous Item Drill Debrief
- Scrap Yard Grading and Processing Plan Completion and Review

Skills You Will Gain:

- Scrap Grade Classification
- Weighbridge Mass Balancing
- Shear and Shredder Practice
- Non-Ferrous Separation Control
- Radiation Alarm Response
- Scrap Price Negotiation
- Residual Element Control
- Recycling Yard Hazard Control

Why Attend This Course:

- Deliver a Scrap Yard Grading and Processing Plan for a case recycler to the yard manager, the commercial lead and the mill buyer
- Decide which supplier loads to accept, downgrade or reject and which sorting stage to tune when non-ferrous recovery falls
- Avoid mill rejections, copper-contaminated heats, radiation alarms at the customer gate and claims from mixed or wet loads
- Pass on grade photo atlases, inspection checklists, alarm procedures and pricing worksheets to yard and buying teams

Conclusion:

Back at work, the participant presents the Scrap Yard Grading and Processing Plan to the yard manager, the commercial lead and the mill or smelter buyer. They use it to agree which grades the yard will produce, which shredder and sorting settings to trial, how incoming loads are inspected and priced and how radiation and hazardous items are screened. After the first month of shipments under the plan, the yard should review downgrades, buyer claims, non-ferrous recovery and alarm records against the baseline and reset its grade sheets.

Frequently Asked Questions FAQ:

What should participants know before a scrap metal recycling operations course?

Participants should already buy, inspect, process or receive scrap in a yard, sorting plant or mill. No metallurgy degree is needed. Bringing recent weighbridge tickets, grade sheets, claim records or photographs of rejected loads helps them apply the walkthroughs to their own site.

How does scrap metal recycling operations differ from a steelmaking or foundry course?

It stays upstream of the furnace: sourcing, grading, shearing, shredding, sorting, screening and trading scrap. Steelmaking and foundry courses cover melting, refining and casting, and this course touches them only where scrap quality affects the furnace charge.

Why does scrap metal recycling treat residual copper as a grading issue?

Copper and tin cannot be removed from steel in the furnace, so wire and motors left in shredded scrap end up in the product and cause cracking. Picking stations, sorting and grade checks at the yard are the only practical control.

What do participants take back from the scrap metal recycling operations course?

Participants take back a Scrap Yard Grading and Processing Plan for a case recycler, with a grade and inspection checklist, shredder and sorting settings, a radiation and hazardous item procedure and a pricing worksheet they can adapt to their own yard.