

Aluminum Dynamics, LLC
Scrap Supplier Manual



Dated: 1/24/2025

Revision 2

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1.0 Purpose:

The purpose of this document is to provide guidelines and expectations for Non-Ferrous material suppliers providing material services to Aluminum Dynamics, LLC (“ADL”). The guidelines and expectations outlined in this document are based on safety, environmental protection, and process limitations. ADL and its parent company, Steel Dynamics, Inc. believe in vendor partnerships and working together to resolve any issues that may arise while maintaining the high standards of Safety, Environmental Stewardship, and Quality. Failure to adhere to the outlined standards may result in disqualification.

2.0 Scope:

The specifications outlined below apply to all purchases made by or on behalf of ALD and are subject to final approval by the receiving ALD processing facility.

3.0 General Terms and Conditions

3.1 Purchasing Authority

The purchasing of Aluminum Scrap is handled by the Purchasing Agents of OmniSource on behalf of ALD and can be contacted at the respective email address...

- ADProcurement@omnisource.com

3.2 Pricing

Pricing of commodities and any contractual agreements will be dictated by PO contracts.

3.3 Delivery Modes

Delivery may be by truck or rail at agreed upon minimum weights as specified at time of purchase.

Trucks – Shipping Guidelines	
Shipping Terms	<ul style="list-style-type: none"> • Loads must be scheduled in advance and have corresponding receiver number(s) • A rejected truck or partial rejection/reload of a truck may be assessed a \$250 fee. <ul style="list-style-type: none"> ○ If fees are not paid, they will be directly deducted from payment. ○ Rejected loads must be removed promptly
Shipment Period	<ul style="list-style-type: none"> • Subject to terms at the PO or contract Level
Payment Terms	<ul style="list-style-type: none"> • Subject to terms at the PO or contract Level
Truck Equipment Requirements	<ul style="list-style-type: none"> • Only covered trailers and covered dump beds are permitted. Any deviations must be discussed with ADL prior to scheduling delivery
Freight Terms	<ul style="list-style-type: none"> • Prepaid unless stated otherwise in the purchase order • ALD weight tickets are the governing weight for invoices (Excluding Prime) <ul style="list-style-type: none"> ○ If there is >2.5% difference in weight, the load is considered contained and the vendor will need to work with ALD to resolve the weight difference.

Rail – Shipping Guidelines	
Shipping Terms	<ul style="list-style-type: none"> • Loads must be scheduled in advance. <ul style="list-style-type: none"> ○ Shipments arriving at ALD without shipping notices may be assessed a \$500 fee. • A rejected railcar may be assessed a \$750 fee. <ul style="list-style-type: none"> ○ If fees are not paid, they will be directly deducted from payment. ○ Failure to notice rejected loads within 24 hours of rejection notice may result in demurrage fees back charged to the shipper.
Shipment Period	<ul style="list-style-type: none"> • Subject to terms at the PO or contract Level
Payment Terms	<ul style="list-style-type: none"> • Subject to terms at the PO or contract Level
Rail Equipment Requirements	<ul style="list-style-type: none"> • Contact ADL for Rail Equipment requirements prior to scheduling rail shipments.
Freight Terms	<ul style="list-style-type: none"> • Prepaid unless stated otherwise in the purchase order • ALD weight tickets are the governing weight for invoices

3.4 Scale Hours

Receiving scales are operated 24 hours a day, seven days a week. Exceptions include but are not limited to...

- December 24th and December 25th
- Midnight to 9:00AM Central Time on the first day of every month.

Any other exceptions that occur will be communicated by ALD to the contracted vendor. It is the responsibility of the vendor to communicate with shipping companies and schedule new delivery timeframes.

3.5 Updates of the Scrap Supplier Manual

ALD reserves the right to modify or update the Scrap Supplier Manual as required or deemed necessary.

4.0 General Statement of Work

ALD will be managing all aspects of its mill scrap needs, in partnership with OmniSource, including:

- Customer return and offal scrap
- Purchased scrap
- In house mill scrap
- Molten RSI
- Reclaimed dross molten/sow
- Induction furnace in house scalper chip molten

All purchased scrap is subject to inspection prior to receipt by ALD and will not fall under ALD ownership until successful inspection of material being unloaded has occurred. A load deemed unsatisfactory as outlined by this Scrap Supplier Manual is subject to rejection or downgrade as agreed upon by site and vendor, vendor disqualification, and/or legal action based on severity of issue. If load is deemed unacceptable after unloading/receipt, the supplier must retrieve it within 72 hours of notification. ALD is not responsible for logistics of rejected loads of scrap or any costs as a result. ALD retains the final say in any disagreements (excluding final decision on downgrade) that arise between ALD and the vendor without the vendor providing justified proof. Corrective actions that are requested for unsatisfactory loads as outlined in this Scrap Supplier Manual must be completed to retain a qualified supplier status. This includes documentation of corrective action to remedy the cause(s) for noncompliance. Additionally, any costs incurred by ALD due to nonconformance is the responsibility of the vendor.

5.0 General Safety Comments

ALD holds its employee and community safety in the highest regard. Metal inputs and their contents play an important role to ensure that safety is maintained and sets the baseline for the start of the process. ALD references the Aluminum Association guidelines when inspecting, running, and processing metal as a guidepost and baseline for metal purchases.

- The Aluminum Association. (2009). *Guidelines for Aluminum Scrap Receiving and Inspection Based on Safety and Health Considerations* (3rd ed.)
- The Aluminum Association. (2010). *Guidelines for Aluminum Sow Casting and Charging* (2nd ed.)
- The Aluminum Association. (2016). *Guidelines for Handling Molten Aluminum* (4th ed.)

5.1 Contractor, Drivers, and Visitor Safety Guidelines

- All drivers must follow the contractor and ALD's Visitor Safety guidelines
- Personal Protective Equipment (PPE) must be worn onsite when outside of vehicles. Minimum required PPE include:
 - Hardhat
 - Safety Glasses or Goggles Over Prescription Glasses
 - Safety Vests or Hi-Vis
 - Closed Toe Boots
 - Long Pants
 - Shirt with minimum 4" sleeves
- All drivers must follow all state road laws including site communicate or posted guidelines and signage
- Dangerous areas will have signage and signals to warn of potential to warn of potential site hazards. Remotely activated signs will notify and warn site travelers not to enter designated areas when lights are flashing.
- All drivers must remain aware of audio warning devices coming from:
 - Train Horns
 - Automobiles Horns
 - Mobile Equipment Alarms and Horns
 - Crane Horns and Alarms
 - Plant Announcements
- Heavy Equipment always has the right of way. Stay at least 40 feet back from all equipment. Continually check your surroundings and never position yourself in blind spots or swing radius of mobile equipment. Do not move near equipment that has not acknowledged your presence. Stay out of tipping radius of any trailer that raises its bed to dump
- Do not park on or near railroad tracks. Always maintain 8 feet from the centerline of the railroad tracks

5.2 Explosion Risks

Scrap inputs are subject to two kind of explosion risks:

- 1) Steam explosion: rapid expansion of entrapped water creating kinetic energy
 - a. Materials Stored Outside
 - i. Surface moisture, voids, etc. can become wet with water from general weather conditions (rain, dew point, etc.)
 - b. Closed Containers
 - i. Straws, bottles, crimped tubing, etc. create areas that trap moisture or fluids (air and liquids) inside the material.
 - c. Paper/Fibers
 - i. Paper interleaves, fiber cores, paper wrapped inputs, etc. all can readily pull moisture from the environment regardless of being stored inside or not.
 - d. Salts
 - i. Pot room salts, fluxing salts, road salt, etc. are hygroscopic by nature and absorb moisture from the environment surrounding them regardless of being stored inside or not.
 - e. Oxides
 - i. Generally denoted by rough patches or discoloration (rust, milky white patches, dross, etc.) trap and absorb moisture regardless of being stored inside or not.
- 2) Chemical explosions: a reaction that releases stored chemical energy
 - a. Oxidizers
 - i. Common oxidizers to be aware of in scrap streams are Fertilizers (Nitrates/Sulfates), Ammunition (Potassium Nitrate), and PCB's (Polychlorinated Biphenyl) but others could be but not limited to chlorates, peroxides, permanganates, and perchlorates.
 - b. Hydrocarbons
 - i. Common hydrocarbons are organic lubricants, organic hydraulic fluid, organic oil, octane (gas cans, fuel tanks, etc.), propane, butane (cigarette lighters, etc.), etc.
 - c. Aluminum Fines
 - i. Aluminum fines can be mixed with other oxides to create a thermite reaction. Typical applications of thermite reactions are welding metals.

These explosion types can result in molten metal being slung into the surrounding areas and major structural destruction. It is an expectation that all scrap metal that may have a known explosive risk contained be disclosed immediately. Failure to do so will result in immediate vendor disqualification and may result in legal action.

5.3 Material Handling Safety

5.3.1 Receiving Docks

Loads are likely to shift during transport causing banding to break, totes to spill, stacks to shift, mechanical energy to be stored etc. Loads that are deemed unsafe to unload but not limited to the reasons listed previously and the determination of safe vs. unsafe is at the sole discretion of ALD, will be rejected or discussion of cost reimbursement for the time required to resolve the safety concerns can occur.

5.3.2 Material Movement

Scrap will be moved throughout the plant and should be stable enough to be moved easily by mobile equipment throughout the plant. Common areas of unstable loads that should not be present include RSI with fork truck fins that are thin and fracture, banding that break when lifted, banding that is not tight, pallets with runners and boards missing, etc.

5.3.3 Material Storage

Scrap will be stored throughout the plant with some scrap being stacked to reasonable heights. Load stability is important in these scenarios to where stacks do not lean and pose a risk of falling. Common material storage problems include RSI leaning due to tilted molds on a pour, bands losing tension on a side of a bale, hydraulic rams going out on densification process, etc.

5.4 Personal Health and Safety

5.4.1 Radioactive Materials

Radioactivity will be monitored by ALD throughout scrap delivery and internal equipment processing. Any scrap with radioactive material will result in immediate rejection, disqualification, and an immediate investigation into root causes.

5.4.2 Toxic Materials

Toxic materials such as Cadmium, Beryllium, Arsenic, and Mercury, if found at atypical levels are subject to rejection.

5.4.3 Biohazards

Scraps found with included biohazard materials will be rejected immediately.

6.0 Environmental Stewardship Considerations

Scrap metal containing excessive coatings can cause flaring and damage to the environment through emissions of pollutants. ALD follows the Maximum Achievable Control Technology “MACT” definition by the Environmental Protection Agency of clean charging as defined as “furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher; and runaround scrap. Anodized aluminum that contains dyes or sealants containing organic compounds is not clean charge.”

- *40 CFR Part 63 Subpart RRR -- National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production. (n.d.)*

7.0 Quality Contaminants

The previously discussed safety and environmental considerations not only impact safety and environment, but also finished aluminum coil quality. Additional contaminants that pose quality issues are any materials that are not aluminum. This can include dirt, gravel, and plastic. ALD pays for aluminum when making purchases and non-aluminum contaminants are detrimental to not only finished products, but also to ADL’s business reputation. Accordingly, the existence of non-aluminum contaminants subject the entire load to rejection or downgrade and in extreme cases disqualification.

8.0 General Scrap Type Requirement

- **General Scrap Quality Requirements**

- All scrap should be clean and free of:

- Salts
- Oxides
 - Rust
 - Corrosion
- Aluminum "fines"
- Oxidizers
 - Nitrates (ie. Fertilizer)
 - Sulfates (ie. Fertilizer)
 - Chlorates
 - Peroxides
 - Permanganate
 - Perchlorates
 - PCB's
 - Ammunition
- Unknown powders or residues
- Water/ Snow/ Ice
- Lead
- Rusted Banding
- Batteries
- Volatile substances
- Non-aluminum contaminants
 - Glass
 - Sand
 - Rubber
 - Gravel
 - Dirt
 - Plastics
 - Iron/Steel
- Closed containers
 - Crimped tubing
 - Aerosol Cans
- Radioactive materials (2 times Background radiation)
- Aluminum-lithium alloys
- Air Bag Cartridges
- Biohazards

- Residual lubricant levels of up to 3% by weight are acceptable.
- Painted, lacquered or coated scrap is not acceptable.
- UBCs (used beverage cans) are not permitted.
- Paper interleaved or wrapped scrap is not acceptable. This includes coils.
- The mixing of alloy families in a shipment is allowable but must be minimized to less than three commodities per shipment and preferred to not to be mixed. The mixed loads must retain commodity integrity.

8.1 Input: Loose Scrap

Sizing Dimensions:
Thickness:

Greater than 2” size

N/A

Minimum Density:
Typical Density:

N/A

N/A

General Description

Loose scrap is defined as scrap having no special forms and can be dumped from a dump truck. Containment methods for loose scrap are dump trucks, boxes and supersacks.



Figure 1: General Loose Scrap



Figure 2: Boxed Loose Scrap



Figure 3: Supersack Loose Scrap

Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Dross ➤ Salts ➤ Dirt ➤ Sand ➤ Volatile Substances ➤ Gravel ➤ Aluminum Fines 	<ul style="list-style-type: none"> ➤ Oxidizers ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Batteries ➤ Closed Containers ➤ Lead 	<ul style="list-style-type: none"> ➤ No Lacquered Scrap

Packaging – delivery

- Preference for delivery is covered dump truck, followed by van trailer palletized supersacks with lift loops, and then van trailer gaylord
 - Damaged Supersacks or Gaylord Boxes are subject to Downgrade or Rejection
 - Dumped Supersacks or Gaylord Boxes during transportation to processing facility are subject to Downgrade or Rejection
- Material must remain covered
- Unloading/Dumping in covered area to prevent run-off potential

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in the Scrap Supplier Manual

8.1.1 Input: Shreds	Sizing Dimensions:	Greater than 2” size
	Thickness:	N/A
	Minimum Density:	N/A
	Typical Density:	N/A

General Description

Shreds are a sub-form of loose scraps that are typically delivered in dump trucks but can occasionally be contained in other packaging forms typical of Loose Scrap.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Dross ➤ Salts ➤ Dirt ➤ Sand ➤ Volatile Substances ➤ Gravel ➤ Aluminum Fines ➤ Oxidizers ➤ Batteries 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Closed Containers ➤ Lead ➤ Alucobond ➤ Trailers Refrigeration Side 	<ul style="list-style-type: none"> ➤ No Lacquered Scrap

Packaging – delivery

- Preference for delivery is dump truck, followed by van trailer palletized supersacks with lift loops, and then van trailer gaylord
 - Damaged Supersacks or Gaylord Boxes are subject to Downgrade or Rejection
 - Dumped Supersacks or Gaylord Boxes during transportation to processing facility are subject to Downgrade or Rejection
- Unloading/Dumping in covered area to prevent run-off potential

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in the Scrap Supplier Manual

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Shreds Appendix

Chemistries

3xxx		5xxx		6xxx	
Elements	Max	Elements	Max	Elements	Max
Si	0.70	Si	TBD	Si	TBD
Fe	0.70	Fe	TBD	Fe	TBD
Cu	0.25	Cu	TBD	Cu	TBD
Mn	1.50	Mn	TBD	Mn	TBD
Mg	1.00	Mg	TBD	Mg	TBD
Zn	0.25	Zn	TBD	Zn	TBD



Figure 1: Excessive Painted Scrap in 3XXX Shreds

8.2 Input: Bales	Minimum Volume:	30ft³
	Minimum Size:	24" x 30" x 40" contingent on volume
	Maximum Size:	40" x 52" x 48"
	Density:	14-22lbs/ft³

General Description

Baled scrap is typical of recycling facilities compressing scrap into large blocks and wrapping bands to maintain a rectangular prism form. When the bands are broke, the blocks generally fall apart easily. The most common baled input is UBC.



Scrap Guidelines

Prohibitions	Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Dross ➤ Salts ➤ Dirt ➤ Sand ➤ Volatile Substances ➤ Gravel ➤ Aluminum Fines 	<ul style="list-style-type: none"> ➤ Oxidizers ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Batteries ➤ Closed Containers ➤ Lead
	<ul style="list-style-type: none"> ➤ No Painted, Lacquered, or Oily Scrap ➤ Material is consistent or known throughout the bale ➤ No use of support sheets (cardboard, plastic, etc)

Packaging – delivery

- Banding: 6-10 bands – aluminum band preferred or wire
 - ¾ in x .03 in (5056-H36)
 - 10-gauge aluminum wire
 - 13-gauge steel wire
- Uniform bale sizes are preferred
- Transported in a Van Trailer

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in the Scrap Supplier Manual

8.3 Input: Densified	Minimum Volume:	30ft³
	Minimum Size:	24" x 30" x 40" contingent on volume
	Maximum Size:	40" x 52" x 48"
	Typical Density:	25-30lbs/ft³

General Description

Densified scrap is generally light gauge scrap that has been compressed into a form that is self-sustaining when left to its own devices. Generally referred to as briquettes. The types of scrap in this category are typically Class 1/2/3/4 and Scalper-Swarf converter scrap



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel ➤ Aluminum Fines 	<ul style="list-style-type: none"> ➤ Oxidizers ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Closed Containers 	<ul style="list-style-type: none"> ➤ No Painted, Lacquered, or Oily Scrap ➤ No use of support sheets (cardboard, plastic, etc)

Packaging – delivery

- Banding: 6-10 bands – aluminum band preferred or nylon/plastic
 - 3/4 in x .03 in (5056-H36)
 - 10-gauge aluminum wire
- Self-Palletizing preferred or on a pallet
- Uniform briquette sizes are preferred
- Transported in a Van Trailer

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in the Scrap Supplier Manual

8.4 Input: Molten	Maximum Temp:	760°C at delivery site
	Minimum Temp:	680°C at delivery site
	Maximum Weight:	N/A
	Typical Density:	168.49 lbs/ft³

General Description

Molten aluminum comes from tolling locations that melt aluminum scrap or dross and pour off into crucibles for transport.



Scrap Guidelines

Prohibitions	Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt 	<ul style="list-style-type: none"> ➤ Sand ➤ Gravel ➤ 2 -Times Background Radiation
	<ul style="list-style-type: none"> ➤ Crucible Spout clean and clear of obstruction ➤ Skimmed well and free of dross ➤ Free of Inclusion Causing Materials

Packaging – delivery

- Must be transported in approved crucible
- Communication with Melt Shop prior to shipping
- Open air trailers for removal by overhead crane
- Trucks must be chocked when parked and driver in designated area away from truck
- Molten Crucible must be locked in position while on Aluminum Dynamics, LLC property unless actively transferring
- Certificate of Analysis (COA) must accompany all BOL documentation

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in the Scrap Supplier Manual

8.5 Input: RSI Sow	Sizing Dimensions:	Low Profile Sows per Aluminum Association
	Thickness:	Low Profile Sows per Aluminum Association
	Typical Weight:	1500lbs-2000lbs
	Typical Density:	168.49 lbs/ft³

General Description

RSI stands for Remelt Secondary Ingots. RSI is pure aluminum with the presence of other metallic elements. Generally, cast into pans through the melting of aluminum scrap or processing of dross.



Figure 2: Ideal Low-Profile Sows

Scrap Guidelines

Prohibitions	Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Lifting Eyes ➤ Double Pour Sows ➤ Sharp Edges/Flashing ➤ Unstable Stacks ➤ Lime Use as a mold release agent ➤ Dross ➤ Pot Room Bath ➤ Salts 	<ul style="list-style-type: none"> ➤ Dirt ➤ Gravel ➤ Aluminum Fines ➤ Un-Melted Scrap ➤ Oxidizers ➤ 2 -Times Background Radiation ➤ Voids/Large Cracks ➤ Residual Lubricants

- Low Profile Sows Only
- No Four-Way poured sows
- No Unskimmed Sows
- No Hammering or Concealing Cracks Closed



Figure 3: Four-Way Poured Sow

Packaging – delivery

- Securely stacked as to be safely handled by forklift
- Fins on top of sows thick enough to be safely handled by forklift
- Heat and Alloy Identification marked on lifting ends of sows centered and near the top of the sow. Writing must be legible to a person on mobile equipment (~2.5” to 3” height)
- Certificate of Analysis (COA) must accompany all shipments
- Representative Chemical Samples must accompany all shipments
- Shipments on tarped flatbed with preference to Conestoga Trailers

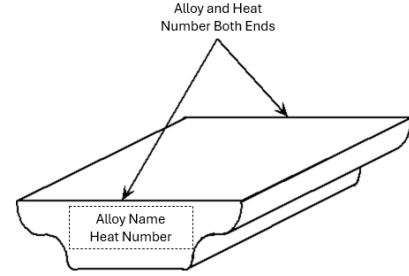


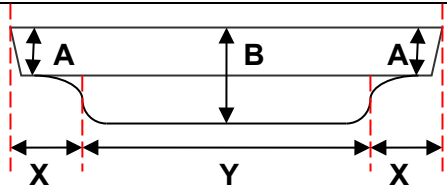
Figure 4: Heat and Alloy Identification Markings

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

RSI Appendix:

Low-profile sows minimize the internal shrinkage cavity
 Profile is defined through the ratio between the sow's width (w), and the sow's height (h)
A low-profile sow is a sow with a ratio $w/h \geq 4$



Width (w) = X+Y+X
 Average height (h) = (A*X+B*Y+A*X) / X+Y+X



w/h = 1,5
High profile



w/h = 3
High profile



w/h = 6
Low profile



Even in low profile sows, small internal cavities may be present.



Figure 6: Surface Shrinkage Voids



Figure 7: Double Pour



Figure 8: Unskimmed RSI



Figure 9: Cast in Dross



Figure 10: Release Agent Contamination

8.6 Input: Ingot Head or Butt	Maximum Size:	40” Long
	Minimum Size:	20” Long
	Maximum Weight:	30,000lbs
	Typical Density:	168.49 lbs/ft³

General Description

Material that has been cut from the head or butt of an ingot during the scalping/ingot saw process or from a VDC casting short length drop. Butt refers to the bottom block contact and head refers to the end of cast side where molten finishes flowing of a sheet ingot.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel ➤ Dross ➤ Embedded Material (Combo Bags, Alumina, Refractory, etc.) 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ No Major Cracks/Voids

Packaging – delivery

- Shipped on pallets or rigging that would allow fork truck forks to slide underneath
- Conestoga Flatbed trailer preferred or tarped flatbed trailer

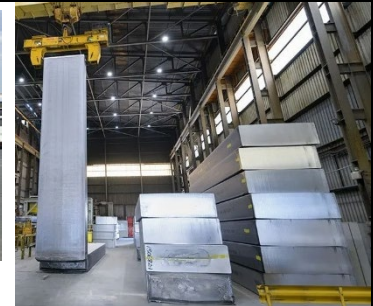
Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.7 Input: Ingots/ Ingot Stubs	Maximum Size:	144” Long (Larger upon Approval)
	Minimum Size:	40” Long
	Maximum Weight:	30,000lbs
	Typical Density:	168.49 lbs/ft³

General Description

Sheet ingots that are being scrapped for remelt.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel ➤ Dross ➤ Embedded Material (Combo Bags, Alumina, Refractory, etc.) 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ Cracks that run from one face to the opposite face (Split in Half) ➤ Cracks that have been resealed

Packaging – delivery

- Heat and Alloy Identification on the side most likely to be handled by a fork truck. Generally, the short faces. Writing must be legible to a person on mobile equipment (~2.5” to 3” height)
- Certificate of Analysis (COA) must accompany all shipments
- Representative Chemical Samples must accompany all shipments
- Preference for ingot sawed into stubs
- Shipments on tarped flatbed with preference to Conestoga Trailers

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.8 Input: Small Ingot/Pig Bundle	Maximum Size:	30" W x 30" D x 48" H
	Minimum Size:	N/A
	Maximum Weight:	3,000lbs
	Typical Density:	N/A

General Description

Small ingot/pig bundles are stacked ingots that are banded together. These generally contain master alloys such as Magnesium, but can be found



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Lifting Eyes ➤ Double Pour Sows ➤ Sharp Edges/Flashing ➤ Unstable Stacks ➤ Lime Use as a mold release agent ➤ Dross ➤ Pot Room Bath ➤ Salts 	<ul style="list-style-type: none"> ➤ Dirt ➤ Gravel ➤ Aluminum Fines ➤ Un-Melted Scrap ➤ Oxidizers ➤ 2 -Times Background Radiation ➤ Voids/Large Cracks ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ N/A

Packaging – delivery

- Shipped in Van Trailer
- Bundles are organized in a fashion to safely be handled by a fork truck.
 - Recommend banding bundles together and allowing for fork truck pockets by how the ingots are stacked
- Clearly labelled with Aluminum Association Alloy
- Banding - Min 6, Max 10
 - 3/4 in x .03 in (5056-H36)
 - 5/8 in x .020 in steel
 - 5/8 in x .036 in plastic
- Certificate of Analysis (COA) must accompany all BOL documentation

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.9 Input: Billets/ Logs	Maximum Size:	144" Long (Larger upon Approval)
	Minimum Size:	N/A
	Maximum Weight:	30,000lbs
	Typical Density:	168.49 lbs/ft³

General Description

Billets are cylindrical slabs of aluminum that have been scrapped for remelt



Scrap Guidelines

Prohibitions	Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel ➤ Dross 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Cracks that run from one face to the opposite face (Split in Half) ➤ Cracks that have been resealed

Packaging – delivery

- Heat and Alloy Identification on the side most likely to be handled by a fork truck. Writing must be legible to a person on mobile equipment (~2.5" to 3" height)
- Banding - Min 6, Max 10
 - ¾ in x .03 in (5056-H36)
 - 5/8 in x .020 in steel
- Certificate of Analysis (COA) must accompany all shipments
- Representative Chemical Samples must accompany all shipments
- Shipments on tarped flatbed with preference to Conestoga Trailers

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.10 Input: Plate	Maximum Size:	13” bundle height x 120” Length
	Minimum Size:	N/A
	Maximum Weight:	12,000lbs
	Typical Density:	168.49 lbs/ft³

General Description

Material that can be described as flat and greater than 6mm in thickness. This material generally comes from hot mills.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ N/A

Packaging – delivery

- Plates must be bundled together and not exceeding 12,000lbs
- 12” Maximum bundle height
- 120” Maximum Length
- Weight and Alloy designation must be permanently and legibly marked
- Shipped in Van Trailer

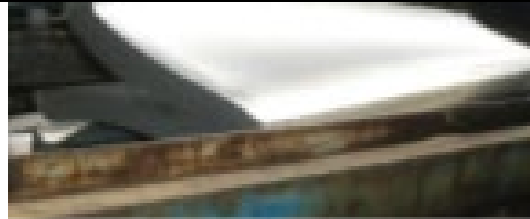
Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.11 Input: Mill End Cuts	Maximum Size:	13” bundle height x 120” Length
	Minimum Size:	N/A
	Maximum Weight:	12,000lbs
	Typical Density:	168.49lbs/ft³

General Description

End cuts from hot and cold mills.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ Hot mill cuts known to have sealed voids from alligating

Packaging – delivery

- Cuts must be bundled together where possible and not exceeding 12,000 lbs.
- Hot Mill Cuts must be able to be safely handled by a fork truck
- 12” Maximum bundle height
- 120” Maximum Length
- Weight and Alloy designation must be permanently and legibly marked
- Shipped in Van Trailer

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.12 Input: Coil	Maximum Size:	N/A
	Minimum Size:	24" x 24" x 24" Tall
	Maximum Weight:	58,000lbs
	Typical Density:	168.49lbs/ft³

General Description

Material in the shape of a coil or the appearance of a toilet paper roll. These are found in processing facilities as rejects, damages, or excess so they cannot be ran in their facilities.



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants ➤ Fiber/Steel Cores 	<ul style="list-style-type: none"> ➤ No Paper Interleaves ➤ No Painted, Lacquered, or Coated Scrap

Packaging – delivery

- Prior Arrangements must be made for coils weighing more than 15,000 lbs.
- Tarpred Flatbed, Conestoga Flatbed Trailer, Van Trailer, or similar enclosed trailer
- Unloaded under roof or good weather day (Sunny)
- Smashed or Crushed Coils preferred
- Aluminum Core or Self Supporting
- Coils must be banded to keep tail of coil secure
- If palletized, coils must be OD banded (Eye to the Sky)
- Must have Certificate of Analysis (COA) with shipping documents

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual

8.13 Input: Sheet Scrap	Maximum Size:	24" bundle height
	Minimum Size:	N/A
	Maximum Weight:	12,000lbs
	Typical Density:	168.49lbs/ft³

General Description

Sheet scrap can come from rolling mills or process consumers and has a thickness of 0.5mm to 6mm



Scrap Guidelines

Prohibitions		Restrictions
<ul style="list-style-type: none"> ➤ Rust/Oxidation/Corrosion ➤ Salts ➤ Dirt ➤ Sand ➤ Gravel 	<ul style="list-style-type: none"> ➤ 2 -Times Background Radiation ➤ Residual Lubricants 	<ul style="list-style-type: none"> ➤ No Paper Interleaves ➤ No Painted, Lacquered, or Coated Scrap

Packaging – delivery

- Bundled in a manner to safely be transported
- Preferred to be pallet mounted
- Banding - Min 6, Max 10
 - 3/4 in x .03 in (5056-H36)
 - 5/8 in x .036 in plastic
- Shipped in Van Trailer

Acceptance Criteria

Material is subject to visual inspection and visual classification, inspection for prohibited items and over/undersized material, mechanical weighing on certified scales, and radiation detection. All conditions apply as detailed in this Scrap Supplier Manual