

PRODUCTS CATALOGUE

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UBC (Used Beverage Cans)



Overview:

UBC (Used Beverage Cans) with 1% attachment refers to a batch of used aluminium cans that contain up to 1% by weight of foreign materials or contaminants. These attachments can include residual liquids, labels, plastic parts (like caps or rings), and other non-aluminum materials.

Characteristics of UBC with 1% Attachment

1. Material Composition:

- Aluminium Content: Approximately 99% aluminium.
- Attachments: Up to 1% of the total weight consisting of contaminants such as:
 - Residual beverages
 - Labels and adhesives
 - Plastic caps, rings, or liners
 - Minor food residues
 - Other small non-metallic components

2. Appearance:

- Cans: Generally empty and sometimes crushed.
- Attachments: Visible but minimal, often limited to small pieces of plastic or traces of organic material.

Processing Considerations

1. Collection and Transport:

- UBCs with 1% attachment are typically collected through recycling programs and transported to processing facilities in bulk.

2. Sorting and Cleaning:

- Manual Sorting: Initial manual inspection and removal of large contaminants.
- Automated Sorting: Use of magnetic and eddy current separators to segregate aluminium from steel and other materials.
- Washing: Rinsing to remove residual liquids and loose contaminants.

3. Shredding:

- Cans are shredded into smaller pieces to facilitate melting and further separation of attachments.

4. Melting and Purification:

- Melting: The shredded aluminium is melted in furnaces. During melting, most

non-metallic attachments either burn off or float to the surface and are skimmed off.

- Purification: Ensuring the molten aluminium meets quality standards by removing any remaining impurities.

Economic and Environmental Impact

1. Energy Efficiency:

- Recycling aluminium cans with minor attachments still saves significant energy compared to producing new aluminium from bauxite ore.

2. Contaminant Management:

- While the attachments add a step in the processing, the overall economic and environmental benefits of recycling aluminium are substantial.

Key Considerations

1. Quality Control:

- Ensuring that the attachment level does not exceed 1% is crucial to maintain recycling efficiency and aluminium quality.

2. Regulatory Compliance:

- Adhering to recycling standards and regulations regarding acceptable contamination levels.

Aluminium Extrusion Scrap



Overview:

Aluminium extrusion scrap refers to waste or discarded aluminium products that were originally manufactured through the extrusion process. This scrap is typically collected for recycling and repurposing due to aluminium's high recyclability.

Characteristics of Aluminium Extrusion Scrap

1. Material Origin:

- Derived from processes such as construction, automotive manufacturing, window and door frames, and other structural applications.

2. Physical Characteristics:

- Generally consists of clean, uncoated, and unpainted aluminium profiles, bars, or rods.
- May also include offcuts, faulty extrusions, or end-of-life products.

- Recycling aluminium extrusion scrap significantly reduces energy consumption compared to producing new aluminium from ore.

2. Environmental Benefits:

- Reduces the environmental impact by minimising the need for raw material extraction and lowering greenhouse gas emissions.

Market Value

1. Price:

- Aluminium extrusion scrap is highly valuable due to its high aluminium content and ease of reprocessing. Market prices vary based on purity, alloy type, and contamination levels.

Key Considerations

1. Quality Control:

- Ensuring the scrap is free from contaminants and meets the required purity standards is essential for high-quality recycled aluminium.

2. Regulatory Compliance:

- Adhering to industry standards and regulations for recycling and processing aluminium scrap is crucial for maintaining market value and environmental sustainability.

Processing Considerations

1. Collection and Transport:

- Aluminium extrusion scrap is collected from various industrial and manufacturing sources and transported to recycling facilities in bulk.

2. Sorting and Cleaning:

- Manual Sorting: Initial inspection to remove large contaminants.
- Automated Sorting: Use of advanced sorting technologies to separate aluminium based on alloy type and purity.
- Cleaning: Removing any residual coatings or contaminants to ensure clean scrap material.

3. Shredding and Melting:

- Shredding: The scrap is shredded into smaller pieces to facilitate melting.
- Melting: Shredded aluminium is melted in furnaces, with impurities removed through skimming and other purification methods.

4. Reforming:

- The purified molten aluminium is cast into new products or forms, ready for use in various industries.

Economic and Environmental Impact

1. Energy Efficiency:

Alloy Wheels Scrap



Overview:

Alloy wheels scrap refers to discarded or damaged aluminium alloy wheels from automobiles, collected for recycling due to their high value and recyclability. Recycling reduces energy consumption, conserves resources, and minimises waste and emissions.

Characteristics of Alloy Wheels Scrap

1. Material Composition:

- Primarily aluminium alloys, often with magnesium and other metals.
- Common alloy: A356.

2. Physical Characteristics:

- Common alloy: A356. Complete wheels, which may be bent, cracked, or damaged.
- Surfaces may be painted, coated, or finished.

3. Grades:

- Graded based on contamination (dirt, paint, rubber) and presence of other metals or non-metallic materials.
- Clean alloy wheel scrap is more valuable.

Processing Considerations

1. Collection and Transport:

- Collected from automotive repair shops, scrap yards, and recycling centres.
- Often from accidents, upgrades, or end-of-life vehicles.
- Transported in bulk to recycling facilities.

2. Sorting and Cleaning:

- Manual Sorting: Initial inspection to remove large contaminants.
- Automated Sorting: Use of advanced sorting technologies to separate by alloy type and purity.
- Cleaning: Removing paint, coatings, and other contaminants to ensure clean scrap material.

3. Shredding and Melting:

- Shredding: Scrap is shredded into smaller pieces.
- Melting: Shredded aluminium melted in furnaces, impurities removed through skimming and other purification methods.

4. Reforming:

- Purified molten aluminium is cast into new products or forms, ready for use in various industries.

Economic and Environmental Impact

1. Energy Efficiency:

- Recycling reduces energy consumption compared to producing new aluminium from ore.

2. Environmental Benefits:

- Conserves natural resources.
- Reduces landfill waste.
- Lowers greenhouse gas emissions.

Market Value

1. Price:

- High due to high aluminium content and ease of reprocessing.
- Varies based on purity, alloy type, and contamination levels.

Key Considerations

1. Quality Control:

- Ensure scrap is free from contaminants and meets purity standards.

2. Regulatory Compliance:

- Adhere to industry standards and regulations for recycling and processing.

Aluminium Wire Scrap



Overview:

Aluminium wire scrap refers to discarded or leftover aluminium wire from applications like electrical wiring, power lines, and telecommunications, collected for recycling due to its high recyclability, conserving energy, reducing emissions, and conserving resources.

Characteristics of Aluminium Wire Scrap

- 1. Material Composition:**
 - Primarily aluminium, either pure or alloyed.
 - May contain minor metals to enhance properties like strength and conductivity.
- 2. Physical Characteristics:**
 - Various thicknesses and lengths.
 - Can be bare, insulated, or coated.
 - Insulated wires need processing to remove insulation.
- 3. Grades:**
 - Classified by purity, insulation presence, and alloy content.
 - Common grades: clean bare aluminium wire and insulated aluminium wire.
 - Cleaner, purer scrap has higher value.

Processing Considerations

- 1. Collection and Transport:**
 - Sourced from electrical installations, power lines, construction sites, and electronic waste centres.
 - Transported to recycling facilities.
- 2. Sorting and Cleaning:**
 - Manual Sorting: Initial inspection to categorise by grade.
 - Removing Insulation: Additional processing for insulated wires.
 - Cleaning: Ensure clean scrap material.
- 3. Shredding and Melting:**
 - Shredding: Scrap is shredded into smaller pieces.
 - Melting: Shredded aluminium melted in furnaces, impurities removed.
- 4. Reforming:**
 - Purified molten aluminium cast into new products or forms.

Economic and Environmental Impact

- 1. Energy Efficiency:**
 - Recycling uses less energy than producing new aluminium from bauxite ore.
- 2. Environmental Benefits:**
 - Reduces greenhouse gas emissions.
 - Conserves natural resources.

Market Value

- 1. Price:**
 - High due to high aluminium content and ease of reprocessing.
 - Varies based on purity, alloy type, and contamination levels.

Key Considerations

- 1. Quality Control:**
 - Ensure scrap is free from contaminants and meets purity standards.
- 2. Regulatory Compliance:**
 - Adhere to industry standards and regulations for recycling and processing.

Copper Cathode



Overview:

A copper cathode is a high-purity form of copper produced in the final stage of refining, used in various industries due to its 99.99% purity. It is produced through electrorefining or electrowinning of copper solutions.

Characteristics of Copper Millberry

1. Composition and Purity:

- Typically 99.99% pure copper.
- Often referred to as "Grade A" copper.

2. Appearance and Physical Form:

- Flat, rectangular plates.
- Smooth, metallic surface with a reddish-orange hue.

- Certified to meet standards by bodies like the London Metal Exchange (LME) or ASTM International.
- Ensures quality and consistency for industrial use.

Key Considerations

- Copper cathodes are a crucial intermediate product, bridging mined copper ores and finished copper goods for various applications.

Production Process

1. Dissolving Impure Copper:

- Impure copper from mined ores is dissolved in an electrolyte solution.

2. Electrolysis

- Electric current passes through the solution.
- Pure copper ions deposit onto stainless steel or titanium cathode plates, forming the cathodes.

Uses and Applications

1. Manufacturing:

- Used to make copper rods, wires, and other copper products.

2. Industries:

- Electrical wiring, plumbing, various copper alloys, electronics, construction, and automotive.

Packaging and Handling

1. Stacking and Bundling:

- Cathodes are stacked and bundled for transport.

2. Protection:

- Wrapped in protective materials to prevent contamination and damage.

Standards and Certification

1. Industry Standards:

Copper Millberry



Overview:

Copper Millberry is a high-grade scrap copper product, commonly traded in the recycling market, composed of 99.95% to 99.99% pure copper. Sourced from clean, unalloyed copper wires, it is highly valued for its recyclability and high purity.

Characteristics of Copper Millberry

1. Composition and Purity:

- 99.95% to 99.99% pure copper.
- Sourced from unalloyed, clean copper wires.

2. Appearance and Physical Form:

- Clean, untinned, uncoated copper wire scrap.
- Bright, shiny, reddish-brown colour.
- Various wire gauges.

Environmental Impact

1. Benefits:

- Reduces the need for mining new copper ore.
- Conserves natural resources and reduces energy consumption.

Key Considerations

- Copper Millberry is a crucial material in the recycling industry, offering a sustainable source of high-purity copper for various industrial applications.

Source and Generation

1. Derivation:

- From electrical wiring and other copper-based materials stripped of insulation and contaminants.
- Sourced from demolition sites, discarded electrical appliances, and leftover manufacturing scraps.

Uses and Applications

1. Recycling:

- Melted and refined to produce new copper products.
- Used in electrical wires, rods, sheets, and other copper-based components.
- High purity makes it suitable for manufacturing industries.

Market and Trade

1. Commodity:

- Widely traded in the global scrap metal market.

Packaging and Handling

1. Bulk Quantities:

- Sold in bales or bundles.
- Requires careful handling to maintain cleanliness and purity.