Scrap contamination: Challenges and opportunities for copper recycling

Scrap avoidance is copper-containing scrap that comes from several sources:

- Top 10 ISRI scrap grades used by semi-fabricators (N=34)
  - BARLEY - No. 1 Copper Wire (Bare Bright)
  - BERRY - No. 1 Copper wire
  - CANDY - No. 1 Heavy copper solids & tubing
  - CLOVE - No. 1 Copper wire nodules
  - BIRCH - No. 2 Copper wire
  - CLIFF - No. 2 Copper solids and tubing
  - NOBLE - New yellow brass rod ends
  - COBRA - No. 2 Copper wire nodules
  - NIGHT - Yellow brass rod turnings
  - LABEL - New brass clippings

- Be part of the solution

  - Inbound inspection
    - Cost: $25,893
    - Production issues: 35,769
  - Production issues
    - Cost: $45,143

- Contact CDA to learn more and get involved

Data represented above compiled from Copper Development Association and International Wrought Copper Council Global Semis Scrap Survey, 2020, unless otherwise specified.

- Most common contaminants found in top scrap grades by semi-fabricators (N=34)

- Business impacts of scrap contamination
  - Increased processing failures
  - Reduced product quality
  - Difficulty separating contaminated scrap
  - Damaged customer relationships
  - Diminished productivity
  - Increased operational costs
  - Compromised employee safety
  - Environmental protection problems

- For U.S. brass mills, scrap makes up 60% of all copper sources

- Semi-fabricators convert recycled copper and single materials into a wide range of products.

- Copper combines 100% recyclability with high residual value.

- Copper and copper alloy semi-fabricators
  - Scrap yards/dealers
  - Manufacturers

- Semi-fabricators use copper-containing scrap that comes from several sources:
  - New Manufacturing Scrap
  - Scrap from End-of-Life Copper Scrap
  - Recycled Scrap
  - New Manufacturing Scrap

- The amounts and types of scrap used by semi-fabricators depend on the product, production process, and refining capabilities.

- Semi-fabricators convert recycled content (i.e., scrap) and virgin materials into a wide range of products.

- Scrap suppliers and semi-fabricators need to work together to address recycling challenges presented by scrap contamination.

- Be part of the solution

- Join ASTM Committee B05.08 to develop new scrap standards.

- Participate in the semi-fabricator scrap contamination survey.

- Explore new technology solutions to copper recycling challenges.

Contact CDA to learn more and get involved:

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