

Copper Recycled Content

What Third-Party Certifiers and Auditors Need to Know

Copper Development Association | copper.org

WHY COPPER REQUIRES SPECIFIC EXPERTISE

Copper recycled content reporting follows universal ISO standards — but copper manufacturing has unique process stages that require copper-specific interpretation. Without knowing where the 'semi-fabrication casting boundary' falls, it is impossible to correctly validate a recycled content claim. This guide gives you the framework.

CENTRAL AUDIT CONCEPT: SAME FLOW = SAME ANSWER

1

Define the process-based boundary.

Confirm where the recycled-content calculation starts and ends before testing the claim. The same material flow should produce the same answer, regardless of how many processes are conducted in a specific facility

2

Check the scrap rule.

Verify what counts, what is excluded, and why. Returned process scrap can change the reported percentage, so scrap treatment needs to be clearly documented and applied consistently.

3

Verify the evidence.

Confirm that records support the claim, including input masses, scrap records, mass-balance approach, and chain-of-custody documentation.

HOW THE COPPER SEMI-FABRICATION WORKS: THE CASTING BOUNDARY

Key rule: Scrap that is generated WITHIN the casting process and returned to that same casting process does NOT count as recycled content. Scrap generated AFTER casting (during metalworking) that is returned to casting DOES count.

STEP 1: CASTING

Cathodes + scrap melted into wire rods, cakes, slabs, or billets



STEP 2: METALWORKING

Rolling, drawing, extrusion, cutting/sizing, and further shaping or assembly into semi-finished and/or end-use products— by semi-fabricators or downstream customers.



Scrap from metalworking that returns to casting = **RECYCLED CONTENT**



Result: Operational structure does not change the accounting = comparability across suppliers

COMMON CONCERN: SCRAP INFLATION

Could manufacturers deliberately generate excess scrap to inflate results? In practice: unlikely.

Excess scrap means higher material costs, more energy for remelting, and lower yield — all of which hurt profitability. Manufacturers have strong financial incentives to minimize scrap, not maximize it.

AUDIT CHECKLIST: RECYCLED CONTENT CLAIMS

Category	Audit Question	Look For (PASS)	Watch Out For (FLAG)
Process Boundary	Where is the recycled content boundary drawn?	Boundary set at the casting/metalworking line. Metalworking scrap returned to casting is claimed as recycled.	Boundary is vague, undefined, or set mid-casting. Internal same-melt scrap is claimed as recycled content.
Vertically Integrated Ops	How is scrap from processes after casting tracked and documented?	Boundary is applied consistently regardless of operational structure.	Boundary definition changes based on whether a step is done in-house or outsourced.
Mass Balance	Is recycled content calculated by mass?	Recycled content = (mass of qualifying recycled inputs) / (total mass of inputs) per ISO 14021.	Volume, value, or other non-mass allocation used without ISO-compliant justification.
Carbon Footprint Related Claims	Does the organization base any carbon related claims on recycled content?	Product Carbon Footprint produced and reported separately from recycled content. Clearly defined boundary (cradle-to-gate minimum).	Recycled content % used as a proxy for carbon performance. No separate PCF data. Cannot verify if high recycled content correlates with lower emissions.

PROCUREMENT CHECKLIST

Standard	Relevance to Copper Audits	Key Requirement
ISO 14021:2016	Defines recycled content (pre-consumer + post-consumer). Excludes scrap reclaimable within the same process. CDA's casting boundary is the copper-specific interpretation of 'same process.'	Mass-based calculation; clear process boundary
ISO 14040:2006	Life cycle assessment principles. Defines a 'process' as interrelated activities transforming inputs to outputs — casting and metalworking qualify as distinct processes.	Casting = distinct process from metalworking
ISO 59020:2024	Circularity measurement framework. Supports standardized reporting of recycled inputs.	Consistent circularity metrics
EN 45557:2020	Energy-related products standard. Annex A.5.2 (Metals) confirms downstream scrap (rolling, extrusion, forming) is pre-consumer material when returned to casting.	Post-casting scrap = pre-consumer recycle
CDA Industry Guidance	Recycled Content in Copper: Practical Definitions for Real-World Applications provides the copper-specific definitions and interpretation of the above.	Use as primary reference for audit scope

BOTTOM LINE

Define the boundary. Trace the material. Check the scrap rule.
Verify the mass balance. Keep carbon separate.