

Product Overview: High-Purity Copper Foil for Transformer Winding

High-conductivity copper foil engineered for high-performance and reliable transformer coil manufacturing. With excellent electrical conductivity, superior thermal dissipation, and stable mechanical properties, it significantly improves winding efficiency, reduces eddy current losses, and enhances overall transformer reliability.

High Electrical Conductivity

High-purity copper (≥99.9%) minimizes internal electrical resistance, reducing energy loss, heat generation, and operational power loss during continuous load.

Precision Slit Edge

Strictly controlled low-burr processed edges (<0.02 mm) eliminate sharp points, safeguarding insulating paper and supporting high-speed automated winding.

Smooth & Defect-Free Surface

Burr-free, degreased, and oxidation-free uniform surface guarantees superior bonding, protects inter-layer insulation, and prevents partial discharge.

Customized Dimensional Profile

Tailored thickness, width, coil weight, inner diameter, and temper options to match exact customer blueprints and automated winding equipment.

TECHNICAL SPECIFICATIONS

Parameter / Feature	Specification Details
Product Name	Copper Foil for Transformer Winding
Material Grade	High-purity copper (C11000 / T2 / C1020 / OFC / or customized)
Copper Purity	≥ 99.9% (or customized according to requirements)
Temper / Hardness	O (Soft) / H12 / H14 / H18 / 1/4 Hard / 1/2 Hard / Full Hard
Thickness Range	Customized (e.g., 0.1 mm – 4.0 mm)
Width Range	Customized (e.g., 20 mm – 1500 mm)
Electrical Conductivity	High conductivity, up to 100% IACS (≥ 58.0 MS/m)
Surface Quality	Smooth, clean, degreased, oil-free, oxidation-free surface
Edge Condition	Precision slit edge, strictly controlled low burr (< 0.02 mm) / deburred / rounded edge
Packing & ID	In coil, Inner Diameter: 76mm, 152mm, 300mm, 400mm, 500mm / customized
Executive Standards	ASTM B152 / JIS H3100 / EN 1652 / GB/T 5187 / or customized

PRIMARY APPLICATION AREAS

- Dry-Type Transformers:** LV windings in cast resin and VPI dry-type transformers, providing compact coil structure and heat dissipation.
 - Oil-Immersed Transformers:** High dielectric strength and mechanical stability when immersed in transformer oil during heavy-load operation.
 - Distribution Transformers:** Reduces coil winding time and energy loss in industrial & commercial power distribution units.
- Power Transformers:** Meets rigorous conductivity and mechanical tension requirements for high-capacity grid power transformers.
 - Reactor & Inductor Coils:** Consistent current distribution and thermal endurance for high-frequency smoothing and filtering reactors.
 - Electrical Equipment Coils:** Applicable in specialized electromagnets, welding equipment, and custom industrial machinery.

PROBLEM & MATERIAL SOLUTION MATRIX

Customer Concern / Pain Point	Our Copper Foil Solution
High Winding Resistance & Energy Loss	High Electrical Conductivity: High-purity copper ($\geq 99.9\%$) minimizes internal resistance, lowering operating heat and overall loss.
Unstable Winding & Coil Deformation	Uniform Thickness Control: Consistent gauge profile supports stable coil tension during automated winding, ensuring perfect geometry.
Edge Burrs Damaging Interlayer Insulation	Precision Slit Edge: Low-burr processed edges eliminate sharp points, safeguarding insulating paper and preventing short circuits.
Surface Contamination & Partial Discharge	Clean & Smooth Surface: Degreased, oil-free surface guarantees superior bonding and insulation performance in cast resin systems.
Non-Standard Transformer Designs	Flexible Customization: Tailor-made width, thickness, coil weight, and core sizes perfectly match your exact transformer blueprints.

"Our copper foil is engineered not just as a raw material, but as a fully optimized, production-ready solution for transformer coil winding manufacturing."

RIGOROUS 5-STAGE QUALITY ASSURANCE PROCESS

STEP 1 Raw Material Inspection

Rigorous verification of incoming copper cathode grade, chemical purity ($\geq 99.9\%$), and official mill material certificates.

STEP 2 Thickness and Width Control

On-line laser micrometer thickness gauge monitoring ensures precise dimensional consistency throughout the full roll length.

STEP 3 Surface Quality Inspection

Full surface scan to detect scratches, oxidation spots, oil residue, or pinholes that could affect electrical breakdown strength.

STEP 4 Edge Quality Inspection

Microscopic edge inspection post-slitting to strictly control burr height (< 0.02 mm) and edge wave defects.

STEP 5 Final Packing Inspection

Moisture-proof vacuum sealing, edge protectors, and reinforced export wooden cases to prevent deformation during ocean freight.

QUOTATION CHECKLIST

- Material Grade & Purity Requirement
- Required Thickness (mm) & Width (mm)
- Temper / Hardness Requirement
- Total Quantity (Tons or kg)
- Target Coil Weight & Inner Diameter (ID)
- Application Context & Destination Port

Need Customized Winding Solutions?

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