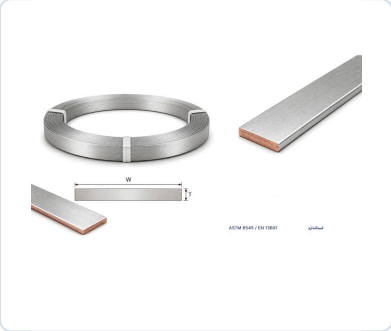
Tinned copper tape (tin-coated copper tape) for earthing and lightning protection



KALOT Group tinned copper tape (tin-coated copper tape) is our solid copper tape with a layer of tin on all its surfaces. We use it where copper touches, or runs next to, galvanised steel, zinc or aluminium in air, in the flue gas zone of building chimneys, for lightning protection down conductors and on façades that must not pick up green copper stains. We supply tinned tape in seven sizes, from 20 × 3 to 30 × 5 mm, in rolls; its cross-section and weight per metre are the same as plain copper tape.

- Solid copper tape with tin coating; seven sizes from 20 × 3 to 30 × 5
- Connection to galvanised structures in air; beside aluminium, always below it
- Down conductors and roof networks; stain-free facades
- Supplied in rolls, to the length you order

Technical specifications

Product type	Solid copper tape with tin coating (tinned copper tape) for lightning protection, bonding and earthing
Material	Copper with tin coating
Coating	Tin, electroplated; at least 8 microns thick
Dimensions (width × thickness)	From 20 × 3 to 30 × 5 mm, in seven sizes
Cross-section	From 60 to 150 mm²
Weight per metre	From 0.53 kg (20 × 3 and 30 × 2) to 1.34 kg (30 × 5); 25 × 3: 0.67 kg
Reference standard	ASTM B545 for the tin coating; EN 13601 for copper
Supply form	Roll, to the length you order
Order code	TPBT 203–305
Connections	KALOT brass clamps; bolts and nuts on the earth bar
Compatibility	With copper, tinned copper and brass; with galvanised structures only in air, below the galvanised part and with anti-corrosion coating over the joint; avoid connecting to aluminium wherever possible, and if it is unavoidable, make the joint above ground and fully covered
Main application	Connection to galvanised structures in air, down conductors and roof networks, building chimney flue gas zones, bonding

Tape dimensions are given as width × thickness; the trade also states the same size as thickness by width, so a 30 × 2 tape is called a "2 by 30 tape". The tin coating adds less than one per cent to the tape's weight, so cross-section and weight per metre are the same as plain copper tape. We supply tinned tape in rolls, cut to the length ordered. Our products are continually improved; please confirm final specifications with our specialists before ordering.

This document is not contractual; we may update product design, dimensions, weights and images without prior notice.

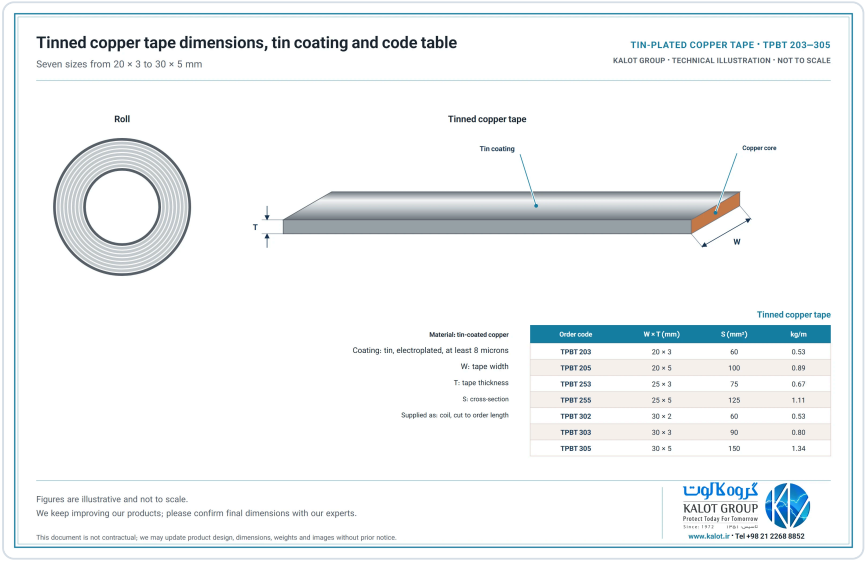
Tinned copper tape table: code, dimensions and weight per metre

Order code	Width × thickness (mm)	Cross-section (mm²)	Weight per metre (kg)
TPBT 203	20 × 3	60	0.53
TPBT 205	20 × 5	100	0.89
TPBT 253	25 × 3	75	0.67
TPBT 255	25 × 5	125	1.11
TPBT 302	30 × 2	60	0.53
TPBT 303	30 × 3	90	0.80
TPBT 305	30 × 5	150	1.34

Structure of tinned copper tape: solid copper with tin coating

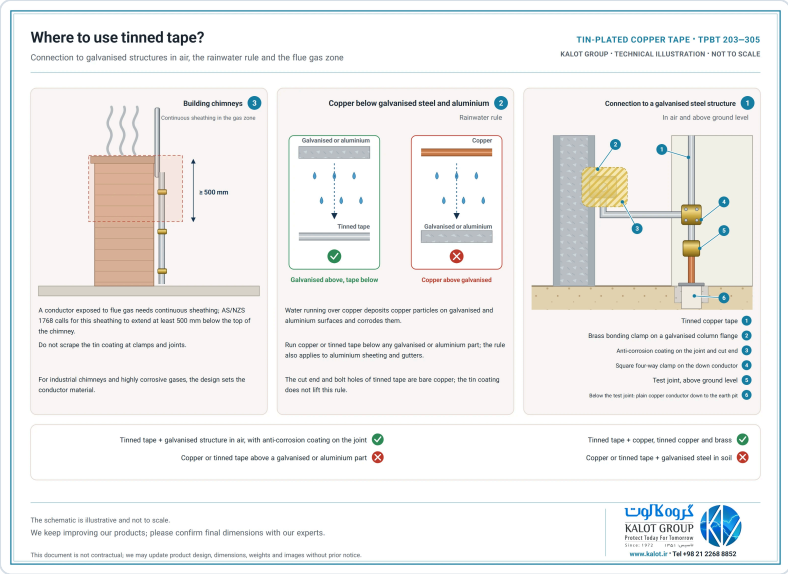
Tinned copper tape is a flat, solid copper conductor with a layer of electroplated tin on all its surfaces; its cross-section is a rectangle of width W and thickness T, and it is supplied in seven sizes, from 20 × 3 to 30 × 5 mm. It is not a copper and tin alloy: the core is copper and the tin is only the surface layer, which is why cut ends and drilled holes show copper. We supply the tape in rolls, cut to the length ordered. Tinned copper busbar is used for rigid connections and earth bars, and flexible copper bonding tape for bonding panel doors and moving parts.

Dimensions, tin coating and code table



The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

Schematic: connection to galvanised structures, rainwater and chimney



The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

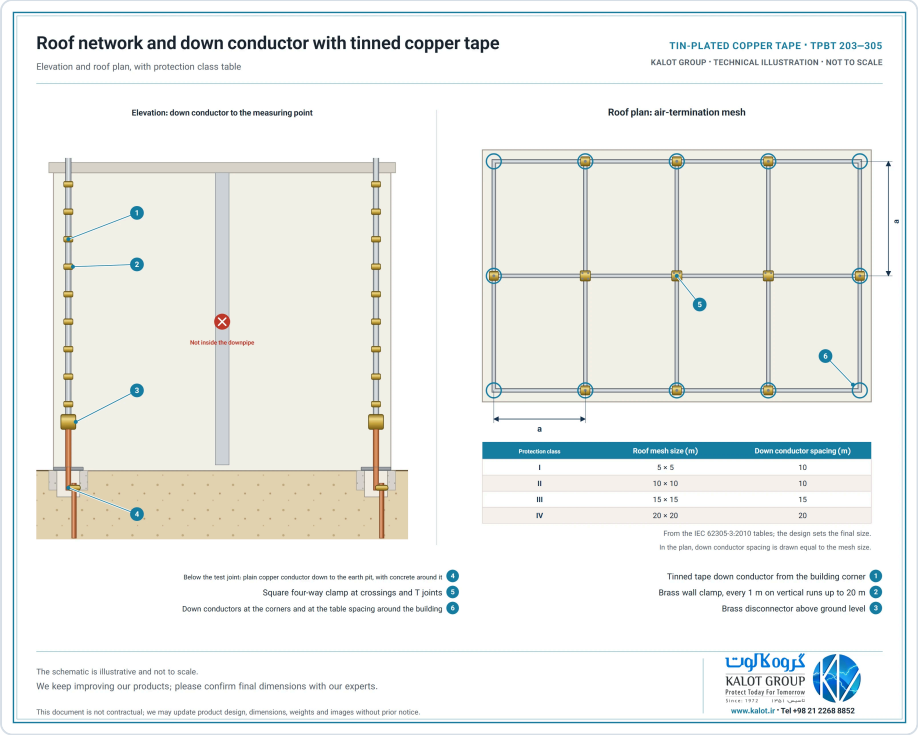
Applications of tinned copper tape

- Connection to galvanised steel structures: bonding galvanised columns, beams, railings, cable trays and towers to the lightning protection system or earthing system, only in air and at least 250 mm above ground level, with the tape-to-metal plate bonding clamp (25 × 3 tape); cover the joint and cut ends with anti-corrosion coating and run the tape below the galvanised part. For this, see Bonding and equipotential bonding.
- Down conductors and roof networks beside galvanised steel and aluminium: where the conductor passes galvanised or aluminium sheet, gutters, railings or parts, or connects to them from below; never run the tape above these parts or on galvanised or aluminium sheet and roofs. On walls, use the two-piece brass wall clamp or the stand-off base BPH 76, and at roof crossings the square four-way clamp. For an overview of the components, see The lightning protection system and its components.
- ESE air terminal down conductor: tinned 30 × 2 tape is common for ESE air terminal down conductors, and 25 × 3 tape is installed with KALOT's complete range of brass clamps; for example with the ESE air terminal ACTIVE 1D+, a lightning strike counter on the most direct down conductor and a brass test joint on every down conductor.
- Building chimneys: a conductor exposed to flue gas needs a continuous coating; AS/NZS 1768 requires this coating to extend at least 500 mm below the top of the chimney and says it must not be scraped at joints. For industrial chimneys, highly corrosive gases and coastal areas, the design sets the conductor material and the sealing of joints.
- Stain-free façades: water running off copper leaves green stains on façades and paving; as long as the tin coating is intact, tinned tape leaves no such stains on light-coloured and stone façades.
- Bonding in electrical rooms and earth bars: connecting structures and equipment to the tinned earth bar with nuts and bolts; each conductor on its own hole, with the bolt diameter no more than one third of the tape width (BS 7430).
- Connection to pipes: bonding metal pipes with the one-piece and two-piece tape-to-pipe bonding clamps (tape up to 26 mm wide), in air; on galvanised pipe, cover the joint with anti-corrosion coating.



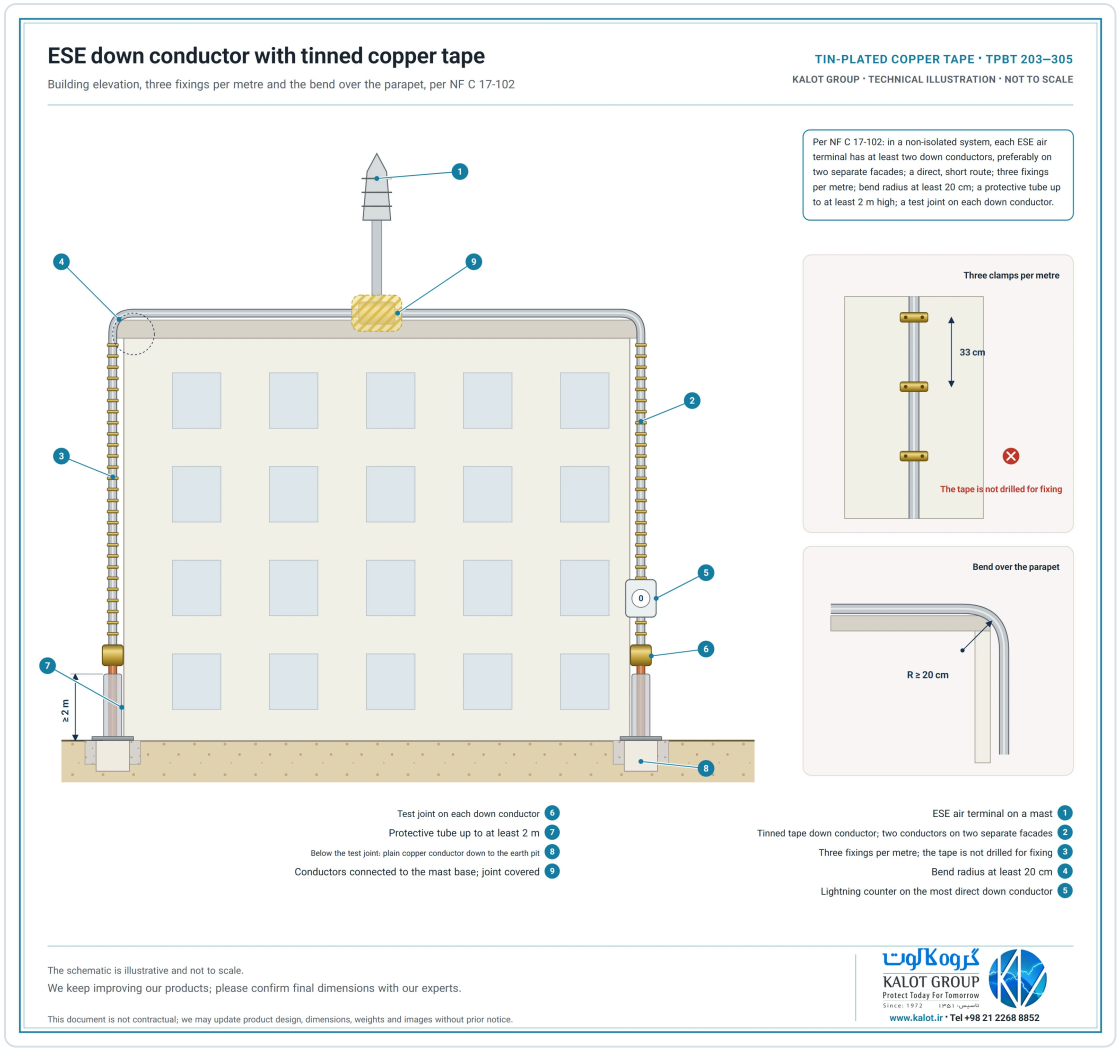
This document is not contractual; we may update product design, dimensions, weights and images without prior notice.

Roof mesh and down conductor schematic



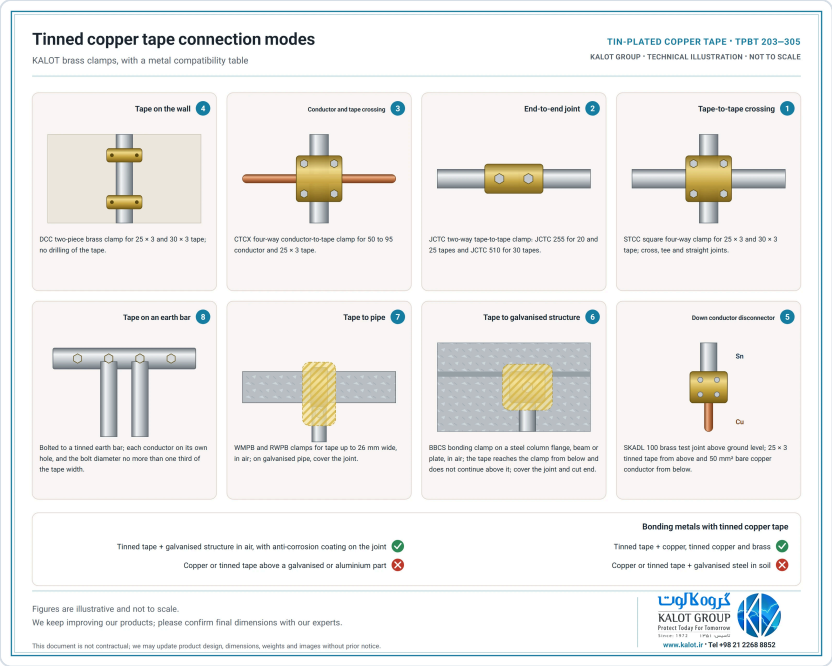
The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

Schematic: ESE air terminal down conductor



The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

Connection modes



The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

Installation steps for tinned copper tape

۱. Mark on the drawing every point where copper meets galvanised steel, zinc, aluminium or flue gas, and select the tape size based on its role and the fault current.

۲. Unroll the tape without letting it twist or fold. Make bends gently, by hand or with a tape bender, and do not hammer the tape, so that the tin coating does not crack.

۳. Wall fixing: fix the tape with the brass wall clamp (25 × 3 and 30 × 3) or the two-piece stainless steel tape-to-wall clamp (30 × 2 and 20 × 3), and do not drill the tape to install it. IEC 62305-3 recommends a fixing interval of 1 m on vertical runs up to 20 m high and on horizontal surfaces, and 0.5 m on horizontal runs on walls and on vertical runs above 20 m; for ESE air terminals, NF C 17-102 requires three clamps per metre.

۴. Join crossings and T junctions with the square four-way clamp, and in-line joints with the two-way tape-to-tape clamp. Do not scrape the tin coating at the clamps.

۵. To connect to galvanised structures, fit the tape-to-metal plate bonding clamp on the column flange or steel plate, in air and at least 250 mm above ground level, and cover the joint with anti-corrosion coating. Run the tape below the galvanised part.

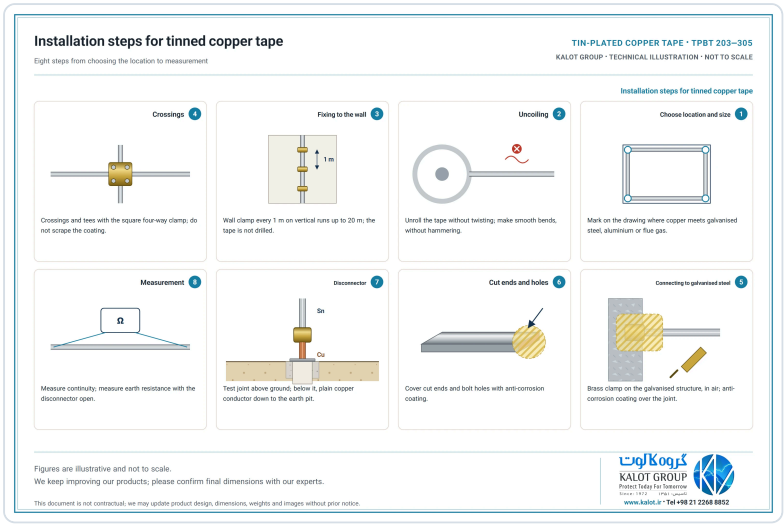
۶. The cut end and the bolt hole position are bare copper; cover them with anti-corrosion coating as well.

۷. On each down conductor, above ground level, fit a brass test joint (for 25 × 3 tape) or a two-way conductor-to-tape clamp (for 30 × 3 tape) that opens only with a tool; from the test joint down to the earth pit, use plain copper conductor.

۸. After installation, measure the continuity of the route and test the earth resistance with the disconnector open. Record the result with the date in the earthing system file.

This document is not contractual; we may update product design, dimensions, weights and images without prior notice.

Steps



The full print-quality version of this drawing (PDF) can be downloaded from the product page at www.kalot.ir.

Tinned, plain copper or stainless steel tape? Choosing by location

Installation location	Our recommendation	Note
Soil, earth ring, foundation concrete	Plain copper tape (BCT)	The tin coating brings no advantage in soil; buried joints by exothermic welding
Down conductors and roof networks on masonry walls and roofs	Plain or tinned 25 × 3 copper tape	Tinned for a facade that must stay free of stains
Connection to galvanised structures, in air	Tinned tape TPBT 253	Brass clamp; anti-corrosion coating over the joint and cut end; tape below the galvanised part
Beside sheets, gutters or aluminium parts	Tinned tape	Tape below the aluminium; avoid connecting to aluminium wherever possible, and if it is unavoidable, above ground and covered
Building chimneys	Tinned tape	Continuous coating to at least 500 mm below the top of the chimney, not scraped at joints (AS/NZS 1768); for industrial chimneys, the design sets the conductor material
ESE air terminal down conductors	TPBT 302 or TPBT 253	Three fixings per metre; a disconnector on each down conductor (NF C 17-102)
Where you do not want copper	Stainless steel tape	Needs a larger cross-section for the same current

The installation rules in this table are taken from IEC 62305-3:2010, BS 7430:2011, Iranian National Standard 4123, NF C 17-102:2011 and AS/NZS 1768 ; the final size is set by the design and the fault current calculation. For conductor materials, see Earth electrode materials.

Selecting tinned copper tape and requesting a price

To request a price for tinned copper tape, send our specialists the size (width × thickness), length, application (connection to a galvanised structure, down conductor, ESE air terminal or bonding), location (near a chimney, industrial or coastal air) and the clamps and accessories you need (wall clamp, four-way clamp, disconnector, structure and pipe clamps, anti-corrosion coating and plain copper conductor to the earth pit). If you also send the project's lightning protection or bonding drawing, our specialists at KALOT Group will give you the list of tape and accessories with the current price.