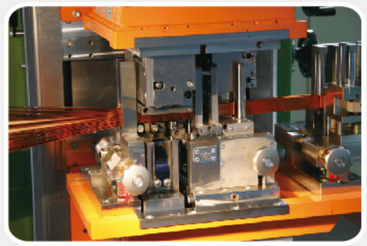
Recommended CTC Wire bobbin specification

mm

Size	Side plate	Barrel	Out width	Inner width	Center hole	Load
1250#	1250	800	650	500	105	2500kg
1600#	1600	1100	670	500	105	3500kg
1600#	1600	1100	870	700	105	4000kg
1800#	1800	1100	810	630	105	4500kg
1800#	1800	1300	1280	1100	105	5000kg



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统力电工

TOLY ELECTRIC

CONTINUOUSLY TRANSPOSED CONDUCTORS

无锡统力电工有限公司

WUXI TOLY ELECTRIC WORKS CO.,LTD.

Continuously Transposed Conductors

Product introduction

Continuously Transposed Conductors (CTC) is the important material for transformer winding. It has the advantage of well using of space, low eddy current loss, high mechanical strength and less time of coil winding. It is mainly used manufacturing winding of various power transformers, reactor and high-capacity distribution transformer.

Toly Electric specializes in copper and Aluminum CTC which have accuracy dimensions, short transposed pitch and proper wrap tightness and without join over length of 3500m.

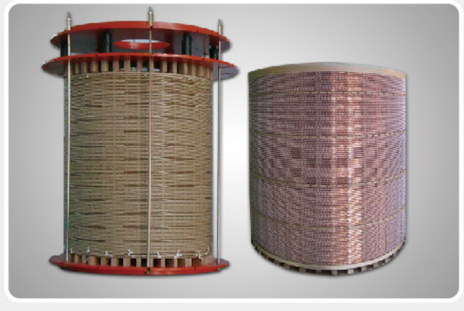
Production type

- Polyvinylacetal enamelled CTC with paper insulation
- Polyvinylacetal enamelled and coated epoxy resin CTC with paper insulation
- Polyvinylacetal enamelled CTC with paper insulation、hardened copper
- Polyvinylacetal enamelled CTC with special binded
- Composite CTC with step
- Composite CTC with screen wire inside
- Polyesterimide enamelled CTC
- Polyvinylacetal enamelled CTC with PET film insulation

All the above production could be manufactured according to specifications provided by customer.

Technical parameters

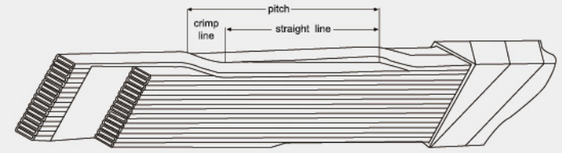
- CTC strips: 5-80 (odd or even)
- Max overall dimension :
  height 120 mm, width 26 mm (tolerance ±0.05 mm)
- Dimension of enamelled wire
  Single conductor:
  Thickness a : 0.90 - 3.15 mm tolerance ± 0.01 mm
  Width b: 2.50 - 13.00 mm tolerance ± 0.01 mm
  Suggested width /thickness of single conductor: 2.0< b/a <9.0
  Suggested thickness of enamel insulation: 0.08 - 0.12 mm
  Thickness of bondable epoxy resin: 0.03 - 0.05 mm



- Transposed pitch: S = D • Л / n
  S— transposed pitch
  D— Min. winding diameter
  N— number of single conductor of CTC

Under normal situation, transposed pitch is 8-12 times of single conductor width. Under special condition, it could be 6 times, minimum pitch is 18 mm.

- Paper insulation type: Butt wrap--- butt gap ≤0.5 mm
  Overlap wrap--- lap width 2– 4 mm
  Interlock wrap--- interlace 50%



- Simple formula to calculate overall dimension of CTC

CTC radial height
Where in: H = 1/2(n+1)A+Ih+Δh
A --- thickness of single enamelled wire
Ih --- radial thickness of enamel layer (both sides)
Δh --- radial total dimension tolerance (including gap between single wire)
n --- number of single conductor of CTC bundles

CTC bundles axial width
Where in: W = 2B+Iw+Δw
B --- width of single enamelled wire
Iw --- axial thickness of enamel layer (both sides)
Δw --- axial total dimension tolerance(including gap between single wire)

Material standard

Conductor

The copper conductor is made from high quality oxygen free copper rod,oxygen content less than 20 ppm and electric conductivity more than 100% after annealing

- Below proof stress Rp0.2 is recommended:

C1 Rp0.2 (>100～180) N/mm² Rp0.2 < 200 N/mm² , electric resistivity < 1/58 Ω·mm²/m
C2 Rp0.2 (>180～220) N/mm² Rp0.2 > 200 N/mm² , electric resistivity <1/57.8 Ω·mm²/m
C3 Rp0.2 (>220～260) N/mm²

The aluminum conductor is made from high quality aluminum rod, the electric conductivity more than 62% after annealing

Wrapping material: high quality insulation material from domestic and foreign market

- Kraft paper (cable paper)
- High density paper
- Thermally up-graded paper
- High extensibility fiber paper
- Nomex paper
- PET film

Customer could appoint the brand, type and size of the insulation material.