TuoCore Magnetics

拓芯磁电科技

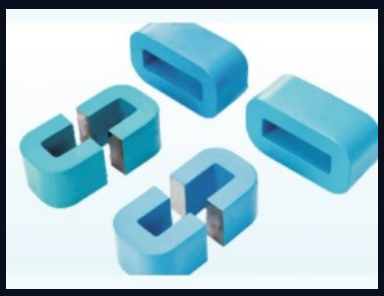
Silicon Steel · Nanocrystalline · Ferrite

Precision Cores, Made to Drawing

Product Catalogue 2026

13 core products · 31 ferrite types · 413 standard models







sales@tuocore.com | +86 134 8219 8834 (WhatsApp) | www.tuocore.com

Custom sizes · Samples on request · Engineering support

ABOUT US

Who We Are

TuoCore Magnetics manufactures magnetic cores for power electronics: silicon steel wound cores, nanocrystalline cores and ferrite cores — standard models from stock tooling, or fully custom to your drawing.

3 Core Families
Silicon steel / nanocrystalline / ferrite

31 Ferrite Types
413 standard models, EE5–EE320

Made to Drawing
Cut and annealed in-house

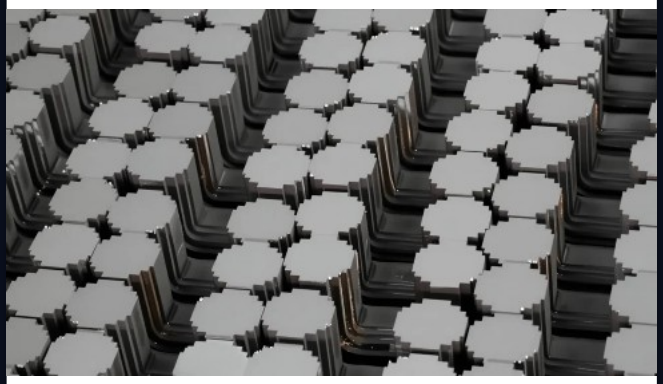
OEM to Drawing
Any profile, new tooling available

Sampling
Samples on request

Global Delivery
Batch traceability, export packing



Toroidal wound cores



Cut & stacked cores

PRODUCT FAMILIES

Three Core Families

01 Silicon Steel Wound Cores

Grain-oriented silicon steel for distribution transformers, reactors and instrument transformers. Toroidal, C-core, stepped JTR, Unicore, three-phase 3D and sensor cores.

OD-Core · CD-Core · JTR · UNICORE · TRI-3D · SENSOR-C

02 Nanocrystalline Cores

Iron-based nanocrystalline (1K107) for current transformers, RCDs, smart meters, inverter welders and common-mode chokes. Epoxy coated or cased.

NC-METER · NC-RCD · NC-WELDER · NC-CMC · NC-CCUT · NC-LMZ · NC-HVCT

03 Ferrite Cores

31 standard types, 413 models — EE5 to EE320, pot cores, UU/UI, toroidal rings. Full-size customisation with ample moulds available.

EE · EI · EER · ETD · EC · EFD · POT · TOROIDAL · UU · UI

Toroidal



OD-Core
Silicon Steel Toroidal Core

Grain-oriented silicon steel toroidal cores for instrument transformers, power transformers and reactors.

Material	Grain-oriented silicon steel 23Q110 / 27Q100 /
OD Range	Per drawing (custom)
ID / Height	As per your drawing
Tolerance	per drawing
Annealing	Stress-relief annealing
Surface	Epoxy coating / bare core



NC-METER
Nanocrystalline Cores for Smart Meters

1K107 Fe-based nanocrystalline cores for built-in current transformers in smart single- and three-phase m

Material	1K107 Fe-based nanocrystalline
Frequency	50 Hz
Bs	1.20 T
Initial permeability	70,000–82,000
Coercivity	≤ 0.7 A/m
Operating temperature	-30 °C to +85 °C

Nanocrystalline-Cores

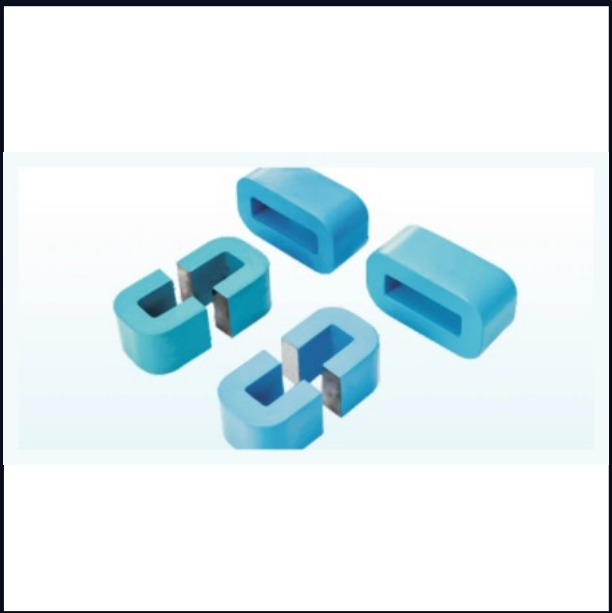


NC-CMC

Common-Mode Choke Cores (Household & Automotive)

Full-band EMI common-mode choke cores; the automotive series meets AEC-Q200.

Material	1K107 Fe-based nanocrystalline
Bs	1.20 T
Curie temperature	570 °C
Operating temperature	-55 °C to +150 °C
Coercivity	≤ 1.2 A/m
Magnetostriction	< 2 ppm



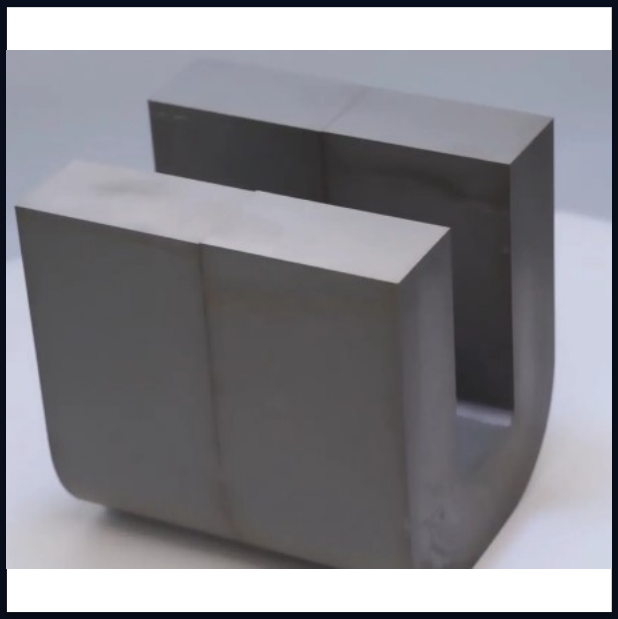
NC-CCUT

Epoxy-Coated C-Type Cut Nanocrystalline Cores

Half-cut, epoxy-coated C-type cores with ≤ 0.02 mm ground gap — assemble the winding first, no threading

Material	1K107 Fe-based nanocrystalline
Structure	Half-cut C-type, coated
Residual gap	≤ 0.02 mm
Dielectric strength	≥ AC 3000 V / 1 min
Operating temperature	-40 °C to +130 °C
Bs	1.20 T

Toroidal



CD-Core

C-Core

Cut cores for single-phase transformers & reactors, easy coil assembly.

Material	Grain-oriented silicon steel 23Q110 / 27Q100
Cut Method	Laser cutting / water-jet cutting
Air Gap	Customizable
Annealing	Stress-relief annealing
Assembly	Easy coil assembly after cutting



NC-RCD

Nanocrystalline Cores for Residual Current Transformers

Closed-ring nanocrystalline cores for AC / A / B type residual current detection, sensitive down to 10 mA

Material	1K107 Fe-based nanocrystalline
Structure	Closed ring (through-hole)
Sensitivity	Down to 10 mA
RCD types	AC / A / B
Batch consistency	≤ ±5%
Applications	RCDs, EV chargers, PV, VFDs

Nanocrystalline-Cores

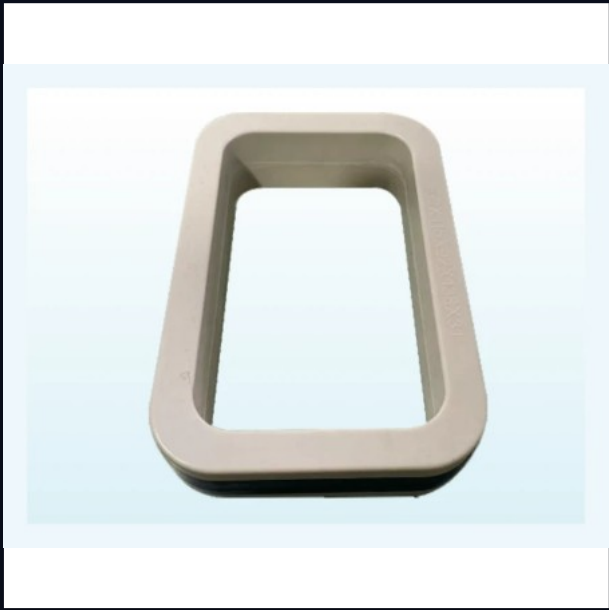


NC-WELDER

Nanocrystalline Cores for Inverter Welders

Cores for 10–50 kHz inverter welder main transformers — a drop-in upgrade over MnZn ferrite with smaller

Material	1K107 Fe-based nanocrystalline
Frequency	10–50 kHz
Bs	1.25 T
Curie temperature	570 °C
Continuous temperature	130 °C
Applications	ZX7 series inverter welders



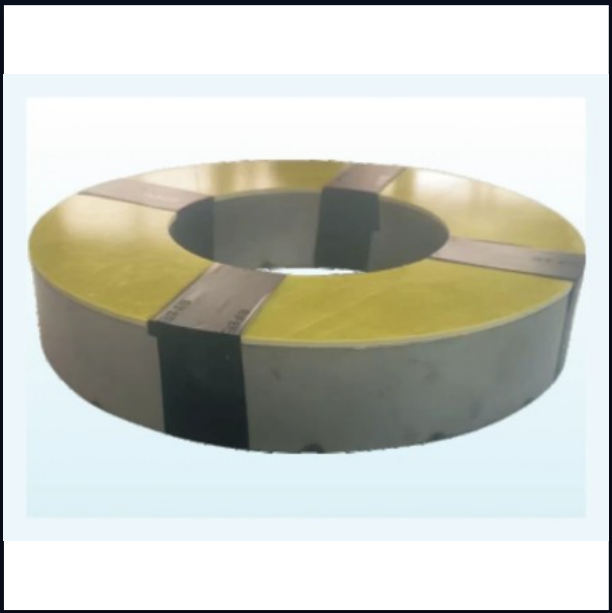
NC-LMZ

Nanocrystalline Cores for LMZ1D–LMZ5D Current Transformers

For State Grid LMZ1D–LMZ5D low-voltage current transformers, compliant with Q/GDW572-2010 and covering

Material	1K107 Fe-based nanocrystalline
Frequency	50 Hz
Bs	1.20 T
Initial permeability	75,000–85,000
Coercivity	≤ 0.8 A/m
Operating temperature	-40 °C to +130 °C

Nanocrystalline-Cores



NC-HVCT

Nanocrystalline Cores for MV/HV Current Transformers

Cores for 10 kV / 35 kV current transformers — low remanence, transverse-field annealed, meeting 0.2S gat

Material	Low-remanence 1K107 nanocrystalline
Voltage class	10 kV / 35 kV
Bs	1.20–1.25 T
Initial permeability	75,000–85,000
Coercivity	≤ 0.8 A/m
Operating temperature	-40 °C to +120 °C



SENSOR-C

Silicon Steel Sensor Core

Precision C-type cut cores for sensors — machined to tight tolerance, low residual magnetism, any size ma

Material	Grain-oriented silicon steel 23Q110 / 27Q100
Dimensions	Any size, made to your drawing
Tolerance	per drawing (ground cut faces)
Residual Magnetism	Low-remanence design
Air Gap	Precision ground as required
Coating	Green / black epoxy coating, or bare core

Toroidal



JTR / C-JTR
Stepped Core (JTR Type)

Multi-step lamination cores, JTR type. Cut version is C-JTR. Optional two-component black paint, custom s

Type	JTR stepped core / C-JTR cut stepped core
Material	Grain-oriented silicon steel 23Q110 / 27Q100 /
Dimensions	Made to your drawing
Steps	2 – 6 steps (customisable)
Coating	Two-component black paint spray (optional) / h
Annealing	Stress-relief annealing



UNICORE
Unicore Core

Unicore type rectangular-window wound cores in grain-oriented silicon steel, secured with green banding t

Type	Unicore rectangular-window wound core
Material	Grain-oriented silicon steel 23Q110 / 27Q100 /
Dimensions	Window, outline and build height made to your
Securing	Green banding tape + adhesive tape
Annealing	Stress-relief annealing (optional)
Lead Time	Sample 7 days, mass production on request

Toroidal



TRI-3D

Three-Phase 3D Wound Core

Three-phase three-column 3D wound core with symmetrical magnetic path and low no-load loss, for oil-immer

Structure	Three-phase, three-column triangular (3D) woun
Material	Grain-oriented silicon steel 23Q110 / 27Q100 /
Application	Oil-immersed / dry-type distribution transform
Dimensions	Window height, centre distance and section mad
Features	Symmetrical magnetic path, low no-load loss, l
Annealing	Stress-relief annealing

FERRITE CORES

31 Types · 413 Standard Models

Ferrite cores are standard-tooling products: most sizes are available from existing moulds, so samples and production lead times are short. Full-size customisation is available for new shapes and dimensions.

31	413	2.5–320 mm	On request
core types	standard models	size range	samples

EE	50 models	5.25 – 320 mm
EI	15 models	12.4 – 70 mm
EER	17 models	7.5 – 53 mm
ETD	9 models	19.6 – 59.8 mm
EC	6 models	35 – 120 mm
EFD	12 models	10.5 – 50 mm
POT	16 models	up to 112 mm
TOROIDAL	90 models	2.54 – 150 mm OD
UU / UI	18 models	19.6 – 126 mm
PM	5 models	49 – 114 mm

Full-size customisation: new moulds can be opened for sizes outside the standard range — send the drawing for a feasibility check and quotation.

FERRITE CORES

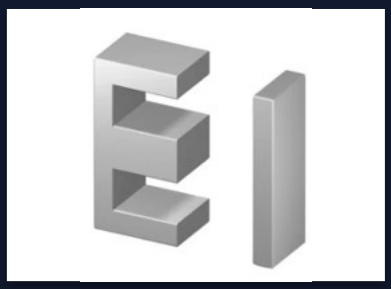
Type Overview



EE

50 standard models

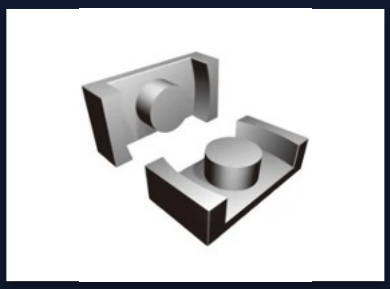
sizes & drawings on request



EI

15 standard models

sizes & drawings on request



EER

17 standard models

sizes & drawings on request



ETD

9 standard models

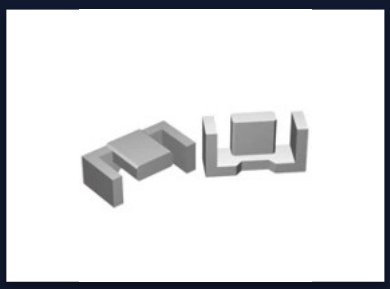
sizes & drawings on request



EC

6 standard models

sizes & drawings on request



EFD

12 standard models

sizes & drawings on request



POT

16 standard models

sizes & drawings on request



TOROIDAL

90 standard models

sizes & drawings on request



UU

7 standard models

sizes & drawings on request

Typical Dimensions (sample)

EE · 50 models

Model	A	B	C	D
EE5	5.25±0.1	2.66±0.07	1.95±0.05	1.98±0.07
EE5.3	5.25±0.1	2.65±0.06	1.95±0.05	1.98±0.08
EE6.3-	6.30-0.25	2.85±0.05	1.95±0.05	1.90±0.05
EE8.3	8.30±0.2	4.00±0.1	3.90±0.1	3.00±0.1

EI · 15 models

Model	A	B	C	D
EI12.5	12.40±0.3	7.40±0.15	4.85±0.2	5.10±0.1
EI16	16.00±0.3	12.25±0.2	4.85±0.2	10.25±0.2
EI19	20.00±0.4	13.55±0.3	5.00±0.2	11.30±0.1
EI20	20.00±0.3	13.55±0.15	5.00±0.2	11.50±0.15

EER · 17 models

Model	A	B	C	D
EER7.5	7.50±0.15	4.00±0.1	2.50±0.1	1.75±0.07
EER9.5	9.35±0.15	4.90±0.1	2.45±0.05	1.68±0.08
EER11-	10.80±0.2	5.90±0.1	2.45±0.05	1.07±0.08
EER14.5-3-7	14.50±0.2	6.70±0.1	2.95±0.05	1.65±0.1

ETD · 9 models

Model	A	B	C	D
ETD19	19.60±0.4	7.40±0.25	13.65±0.2	9.40±0.15
ETD24	24.70±0.6	8.50±0.3	14.95±0.2	10.10±0.1
ETD29	30.60-1.6	9.80-0.6	15.80±0.2	11.00±0.3
ETD34	35.00-1.6	11.1-0.6	17.50-0.4	12.10±0.3

POT · 16 models

Model	D1	D2	D3	D4
P0704	7.24±0.15	5.74Min	3.0Max	1.09±0.05
P0905	9.3-0.3	7.5+0.25	3.9-0.2	2.1±0.1
P1107	11.3-0.4	9.0+0.4	4.7-0.2	2.1±0.1
P1408	14.3-0.5	11.6+0.4	6.0-0.2	3.1±0.1

TOROIDAL · 90 models

Model	ΦD	Φd	H	Ve(mm3)
T2.54*1.2	2.54±0.2	1.27±0.15	1.27±0.15	4.27
T3.05*1.2	3.05±0.25	1.27±0.15	1.27±0.15	6.21
T3.05*1.7	3.05±0.25	1.78±0.2	1.52±0.15	6.83
T3.05*1.78*1.27	3.05±0.25	1.78±0.2	1.27±0.15	5.69

Full size tables (13–90 models per type) are available in the online catalogue at www.tuocore.com/products/ferrite-cores — or request a drawing for any model.

APPLICATIONS

Where Our Cores Work

From high-voltage substations to chargers and power supplies — the right core for each application.



Power & Distribution
Wound cores for transformers



Instrument Transformers
CT / VT, metering, protection



Solar Inverters
Low loss at 16–50 kHz



EV Chargers & OBC
Chokes and transformers



Power Supplies
SMPS, server and industrial



Substations & Reactors
Distribution and grid

ALSO FOR

- Current transformers & RCDs
- Inductors & common-mode chokes
- Inverter welders
- Sensors & residual current devices
- Reactors & chokes
- Smart meters & metering
- EMI filters & line chokes

Not sure which core fits your design?

Send the drawing, or tell us frequency, flux and size — we reply within 24 hours.

sales@tuocore.com · +86 134 8219 8834

MATERIALS & GRADES

Standard Grades We Use

Family	Typical Grades	Thickness	Key Property
Silicon steel CRGO	23Q110 · 27Q100 · 30Q120	0.18–0.30 mm	Transformer cores
Silicon steel CRNGO	35W300 · 50W470 · 65W600	0.35–0.65 mm	Motors, lower cost
Nanocrystalline	1K107 (FeCuNbSiB)	18–30 μm	μ up to 100k+
Amorphous	2605SA1 (FeSiB)	25 μm	High Bs, low cost
Ferrite MnZn	TC40/44/47 ≈ PC40/44/47	—	100 kHz – 1 MHz
Ferrite HF	TC90/95/96/97	—	High-freq, low loss
Ferrite NiZn	High-frequency grade	—	1–500 MHz

Other grades and gauges on request — tell us your loss target and frequency.

MATERIALS & GRADES

Ferrite MnZn Grades

Typical parameters measured on toroidal samples at 25 °C. Higher grades reduce loss at high frequency; tell us your operating point for a recommendation.

Grade	Equiv	μi	Bs	Tc	Application
TC40	≈ PC40	2300	510 mT	>215 °C	General SMPS
TC44	≈ PC44	2400	510 mT	>215 °C	Lower loss at 100 kHz
TC47	≈ PC47	2300	530 mT	>230 °C	High-frequency power
TC90	—	2200	540 mT	>260 °C	High-power, HF
TC95	≈ PC95	3300	530 mT	>215 °C	Wide-temp, low loss
TC96	—	3200	540 mT	>250 °C	Server / EV power
TC97	—	3200	530 mT	>220 °C	High-frequency power

NiZn grades are available for 1–500 MHz suppression. Other grades and custom mixes on request.

MANUFACTURING

How Your Cores Are Made

01 Winding

Strip is wound to the required shape and size on precision winders.

02 Cutting & Grinding

Cores are cut to length and faces ground for controlled air gaps.

03 Annealing

Stress-relief annealing restores magnetic properties after cutting.

04 Coating & Assembly

Epoxy coating, taping or PBT casing, then final inspection.

05 Testing

Core loss, permeability, dimensions and coating thickness are verified.

06 Packing & Shipping

Batch traceability, foam-lined export packing, on-time delivery.

HOW TO ORDER

Send Us Your Drawing

1

Send a drawing or specifications

PDF / DXF / DWG / STEP. Minimum: OD, ID, height, material grade, quantity.

2

Engineering review

We check manufacturability and recommend materials. Reply within 24 hours.

3

Quotation & samples

Pricing, MOQ and lead time. Samples can be arranged on request.

4

Mass production

Batch inspection reports with each shipment.

Just send the drawing (PDF / DXF / DWG / STEP) — our engineers will confirm material, coating and tolerances with you.

Let’s Build Your Next Core

Email	sales@tuocore.com
Phone / WhatsApp	+86 134 8219 8834
Website	www.tuocore.com
Catalogue	www.tuocore.com/catalogue

Languages: English · 中文 · Deutsch · Español · Français · 日本語 · Português · Русский

TuoCore Magnetics · 拓芯磁电科技

© 2026 TuoCore Magnetics. Specifications subject to change without notice.