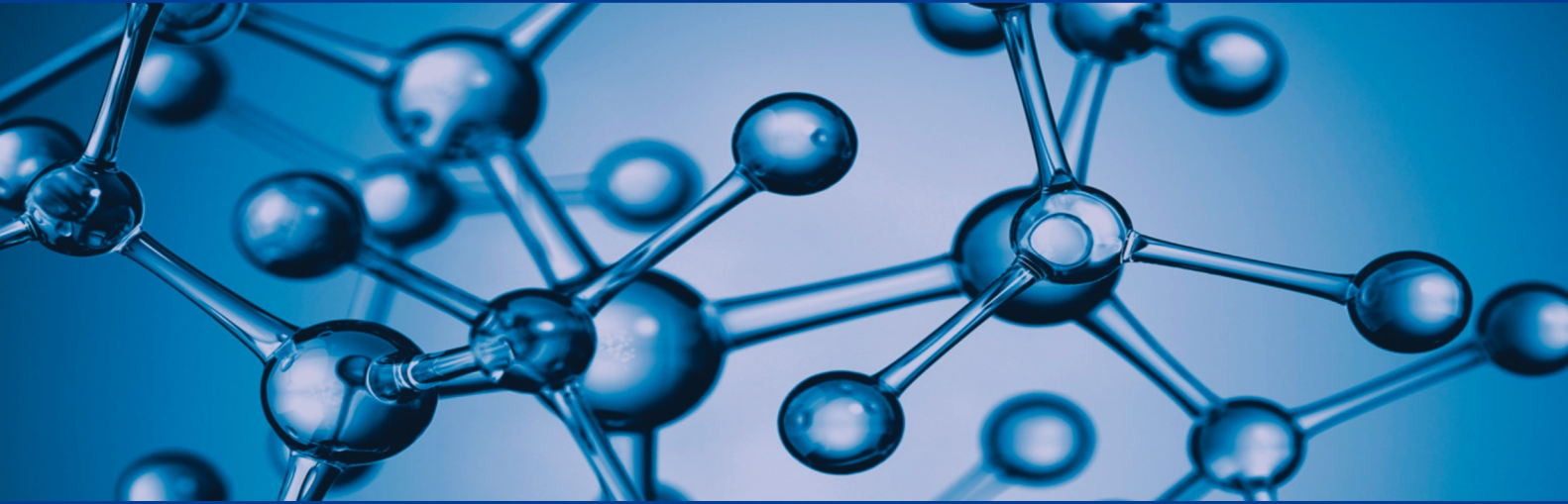


**INDIA'S ONLY COMPANY MANUFACTURING
NANO CRYSTALLINE RIBBON**



**Vikarsh Nano Technology
& Alloys Pvt. Ltd.**



www.vikarshnano.com





**Vikarsh Nano Technology
& Alloys Pvt. Ltd.**

Nano crystalline ribbons are fruit of complex engineering techniques. Basically a suitable alloy is made with sophisticated metallurgy followed by rapid quenching with metal spinning technology with cooling rate more than one million degree centigrade.



NANO CRYSTALLINE MATERIAL PROPERTIES

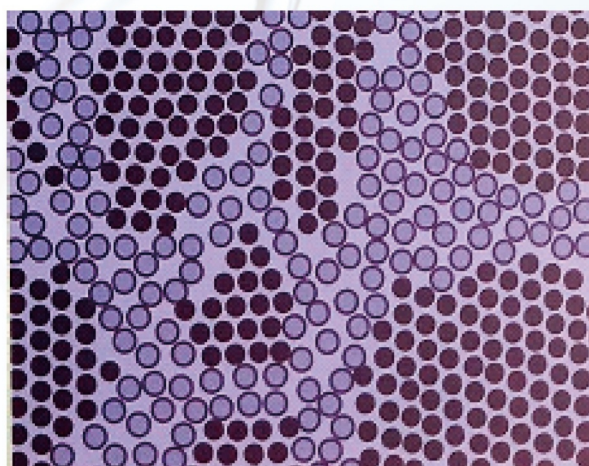
UPTO 1200 MM O.D.



Properties and Features fo Nanocrystalline

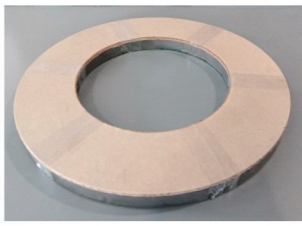
Density	: 7.24 / 7.3 gms / cc
Average Filing Factor	: 80%
Permeability (min.)	: 1,50,000
Saturation Induction	: 1.25 T
Curie Temperature	: 560 deg C
Max Operating Temperature	: 150 deg C

TYPICAL NANO CRYSTALLINE STRUCTURE



COMPARISON OF DIFFERENT MAGNETIC MATERIALS :

PROPERTY	NANOCRYSTALLINE CORES	PERMALLOY CORES	SI-STEEL CORES	FERRITE
Saturate induction (T)	1.25	0.76	2.03	1.5~1.7
Initial permeability (0.8mA/cm)	40,000~80,000	> 80,000	1,000	≤ 15000
Maximum permeability	>250,000	> 200,000	40,000	20000
Density (g/cm ³)	7.25	8.85	7.65	4.8
Curie temperature (°C)	560	400	740	≤ 200
Thickness (mm)	0.025 ~0.035	0.1	0.3	-
Stacking factor	≥ 0.75	0.9	0.95	-



Advantages of Nano Crystalline alloy cores :

Lower material density : Leads to light weight and size as compare to permalloy cores.

High Permeability : Minimized current measuring errors in CTs and works efficiently even at high frequencies.

Excellent Thermal Stability : Working temperature - 55~130°C

Extremely Low Corecivity

Low Energy Losses

NANO CRYSTALLINE CORE SPECS

ID : min.40 mm min.

OD : max.1200 mm max.

HT : As per customer specs

Wall thickness : Min. 10 mm

available in various shapes and geometries

(oval, rectangular etc.)

Gapped / cut cores options are available

CORE HOUSING

Since nanocrystalline material is very thin and brittle cores cant be supplied in bare form but need good encapsulation which is available in following options :

- Stainless steel casing with PCB top cover (with electrical insulation tape/fiber glass tape/DMD tape)
- Epoxy hardened core with crape paper
- Moulded casing (Plastic/DMC- Options available for fixed sizes & bulk requirement) (with electrical insulation tape / fiber glass tape)

For final core dimensions thickness of canopy should be considered, following is the general formula for same

Final ID : ID of bare core -7 mm

Final OD : Od of bare core + 7 mm

Final HT : HT of bare core +6 mm

(Applicable for 1 mm thick stainless steel upto maximum OD 350 mm)

Above 350 mm -1.5 mm s.s. casing is applicable

* We can also supply 0.2S class copper wound metering cores upto 765 KV class as per customer specification

NANO BH CURVE -1 / 2 / 3 SPECIFICATIONS

OD (MM)	HT (MM)	$e = (OD-ID) / 2$ (MM)	CURVE
$50 \leq OD < 100$	≤ 30	$8 \leq e \leq 30$	NANO-1
$100 \leq OD < 250$	≥ 10	$15 \leq e \leq 60$	NANO-1
		$10 \leq e < 15$	NANO-2
$250 \leq OD < 360$	≥ 10	$15 \leq e \leq 60$	NANO-1
		$10 \leq e < 15$	NANO-2
$360 \leq OD < 450$	≥ 10	$15 \leq e \leq 60$	NANO-2
		$10 \leq e < 15$	NANO-3
$450 \leq OD < 650$	≥ 20	$20 \leq e \leq 60$	NANO-3

GUARANTEED B-H VALUES FOR NANO RING CORES

GAUSS	100	500	1000	2000	3000	4000	5000	7000
REFERENCE CURVE	Maximum Limiting mA/cm							
NANO-1	1	3.35	4.85	6.75	8.5	9.3	10.6	18.5
NANO-2	1.1	3.5	5	7.1	8.6	9.75	11.3	20.1
NANO-3	1.4	4.6	6.8	9.7	11.5	13.65	16.3	25



Vikarsh Nano Technology & Alloys Pvt. Ltd.

Office: Office No. 2, Uttkar Heights, 572, Shaniwar Peth, Kelkar Road, Opp. Kesari Wada, Pune - 411030, Maharashtra, INDIA.

Ph No: +91 - 20 - 24452797 / 24468999

Works : Gat No. 273 & 274, A/P. Dhangarwadi, (Shirwal) NH-4, Tal. Khandala, Dist. Satara- 412 801, Maharashtra, INDIA.

email : vikarshnano@gmail.com

www.vikarsh.com