

CHAPA MUMETAL/NICKEL

Suministramos en el mercado nacional chapa MuMetal/Nickel en sus diversos formatos como fleje, hojas, rectángulos, toroidales, chapa troquelada en EI/UI destinada para la fabricación de transformadores.

La chapa MuMetal es una aleación sin orientar de nickel/hierro/molibdeno, que aporta una saturación aproximada de 0.75 T, además de una permeabilidad inicial muy alta, así como una máxima permeabilidad con pérdidas mínimas de histéresis. Baja fuerza coercitiva

Mumetal cumple con las normativas ASTM-A-753 alloy 4, IEC 60404-8-6, DIN 17745 y DIN 17405.

Como propiedades importantes, cabe resaltar su alta permeabilidad magnética que la hace muy eficaz en la detección de campos magnéticos estáticos o de baja frecuencia, que no puede ser atenuada por otros métodos.

Su uso en la fabricación de energía eléctrica u otros, se basa en proteger equipos de los campos magnéticos, y cuando actúa de envolvente, para evitar que afecten a circuitos cercanos.

También es utilizada para apantallamientos.

TYPICAL CHEMICAL COMPOSITION (WEIGHT %)				
Ni	Mo	Fe	Mn	Si
80	5.0	15.0	0.3 – 0.5	0.1 – 0.4

DC MAGNETIC PROPERTIES* (typical values of a final annealed ring sample)	
Saturation Induction (Bs)	7,500 G [0.75 T]
Coercivity (Hc)	.005 Oe [.4 A/m]
Permeability at .005 Oe [.4 A/m]	470,000

PHYSICAL PROPERTIES* (typical values)	
Density	.316 lb/in ³ [8.74 g/cm ³]
Curie Temperature	788°F [420°C]
Electrical Resistivity	0.6 x 10 ⁻⁶ Ohm m
Thermal Expansion	12 µm.m-1.°C-1
Thermal Conductivity	19 W.m-1.°C
Specific Heat	460 J.Kg-1.°C
Melting Temperature	2642°F [1450°C]

MECHANICAL PROPERTIES* (typical values on stress annealed product)	
Hardness (HV)	160
Tensile strength (MPa)	650
Yield strength (MPa)	280
Elongation in 2" (%)	35

*Note: All product data given in this data sheet are typical values based on the experience of the melt source. They are not part of material specification and do not guarantee particular characteristics.



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

info@prodinferrite.com www.prodinferrite.com

Alloys	Trade Mark	UNS/DIN	ASTM			Chemistry					
			Plate	Pipe	Bar	C	Cr	Ni	Fe	Mo	Others
Permalloy	HyMu800(PC)	N14080				0.01		80	Bal.	5	
		Thickness	0.05t / 0.07t / 0.1t / 0.15t / 0.2t / 0.35t / 0.5t / 1.0t								
	HiPerm49(PB)	K94840				0.02		48	Bal.		
		Thickness	0.2t / 0.35t / 0.5t / 1.0t								
	Invar36(PD)	K93603				0.02		36	Bal.		
		Thickness									
Expansion	Alloy 42	K94100									
	Alloy 52	N14052									
Alloy200	Nickel 200	N02200	B162	8161/163	B160	0.05		99.4			
		Thickness	0.05t / 0.07t / 0.1t / 0.15t / 0.2t / 0.35t / 0.5t / 1.0t								
Alloy201	Nickel201	N02201	B162	8163/163	B160	0.02		99.4			
		Thickness	0.05t / 0.07t / 0.1t / 0.15t / 0.2t / 0.35t / 0.5t / 1.0t								



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

info@prodinferrite.com www.prodinferrite.com

Nickel Lamination

■ Dimension Table ■ Drawing

Unit: mm

PATTERNS		A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE	Drawing	
EI	14	14.00	8.75	3.50	1.75	3.50	7.00	1.75	1.75	14.00			0.20 / 0.35	PB / PC		
EI	16	16.00	12.00	4.00	2.00	4.00	10.00	2.00	2.00	16.00			0.20 / 0.35	PB / PC		
EI	19	19.00	12.50	4.75	2.375	4.75	10.00	2.50	2.50	19.00			0.20 / 0.35	PB / PC		
EI	186	19.08	8.75	4.77	2.385	4.77	6.35	2.40	2.40	19.08			0.20 / 0.35	PB / PC		
EI	187	19.08	13.51	4.77	2.385	4.77	11.11	2.40	2.40	19.08			0.20 / 0.35	PB / PC		
EI	24	24.00	15.00	6.00	3.00	6.00	12.00	3.00	3.00	24.00			0.20 / 0.35	PB / PC		
EI	25.4	25.40	16.10	6.40	3.10	6.40	13.10	3.00	3.00	25.40			0.20 / 0.35	PB / PC		
EI	28	28.00	21.50	7.00	3.50	7.00	18.00	3.50	3.50	28.00			0.20 / 0.35	PB / PC		
EI	30	30.00	20.00	10.00	5.00	5.00	15.00	5.00	5.00	30.00			0.20 / 0.35	PB / PC		
EI	35	35.00	24.50	9.60	5.00	7.70	19.50	5.00	5.00	35.00			0.20 / 0.35	PB / PC		
EI	41	41.00	27.00	13.00	6.00	8.00	21.00	6.00	6.00	41.00			0.20 / 0.35	PB / PC		
EI	48	48.00	32.00	16.00	8.00	8.00	24.00	8.00	8.00	48.00			0.20 / 0.35	PB / PC		
EI	66	66.00	44.00	22.00	11.00	11.00	33.00	11.00	11.00	66.00			0.20 / 0.35	PB / PC		
PATTERNS		A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE		Drawing
EL	7.72 (EL 100)	7.72	9.90	2.54	1.32	1.27	8.48	1.42					0.15 / 0.20	PB / PC		
EL	7.94	7.94	9.90	2.54	1.32	1.38	8.48	1.42					0.15 / 0.20	PB / PC		
EL	12.7	12.72	11.11	3.18	1.59	3.18	9.53	1.58					0.20 / 0.35	PB / PC		
EL	14	14.00	10.50	3.50	1.75	3.50	8.75	1.75					0.20 / 0.35	PB / PC		
EL	16	16.00	14.00	4.00	2.00	4.00	12.00	2.00					0.15 / 0.20 / 0.35	PB / PC		
EL	16(LOSS)	16.00	16.00	4.80	2.40	3.20	13.60	2.40					0.15 / 0.20 / 0.35	PB / PC		
EL	19	19.00	15.00	4.75	2.375	4.75	12.50	2.50					0.15 / 0.20 / 0.35	PB / PC		
EL	19(LOSS)	19.00	18.00	4.90	2.40	4.65	14.00	4.00					0.15 / 0.20 / 0.35	PB / PC		
EL	186	19.04	11.13	4.76	2.38	4.76	8.73	2.40					0.20 / 0.35	PB / PC		
EL	187	19.08	15.90	4.77	2.385	4.77	13.50	2.40					0.20 / 0.35	PB / PC		
EL	20	20.00	20.00	6.00	3.00	4.00	17.00	3.00					0.20 / 0.35	PB / PC		
EL	24	24.00	18.00	6.00	3.00	6.00	15.00	3.00					0.20 / 0.35	PB / PC		
EL	24-25	25.40	19.05	6.35	3.175	6.35	15.875	3.175					0.20 / 0.35	PB / PC		
E	186	19.05	9.70	4.77	2.38	4.76	7.30	2.40					0.20 / 0.35	PB / PC		
E	25.4	25.40	12.70	6.35	3.175	6.35	9.525	3.175					0.20 / 0.35	PB / PC		
PATTERNS		A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE	Drawing	
ED	8(8X11)	8.00	11.00	2.40	1.20	1.60	8.30	2.70					0.15 / 0.20	PB / PC		
ED	8(8X14)	8.00	14.00	2.40	1.20	1.60	11.30	2.70					0.15 / 0.20	PB / PC		
ED	12.6	12.60	17.00	3.80	1.90	2.50	12.90	4.10					0.20 / 0.35	PB / PC		
ED	20	20.00	26.00	6.00	3.00	4.00	20.00	6.00					0.20 / 0.35	PB / PC		



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

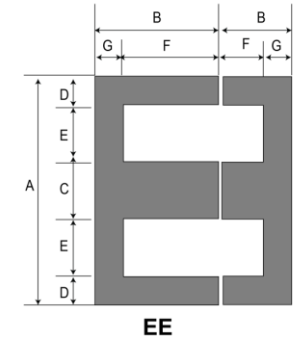
info@prodinferrite.com www.prodinferrite.com

Nickel Lamination

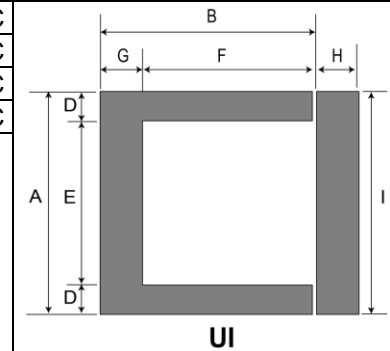
■ Dimension Table ■ Drawing

Unit: mm

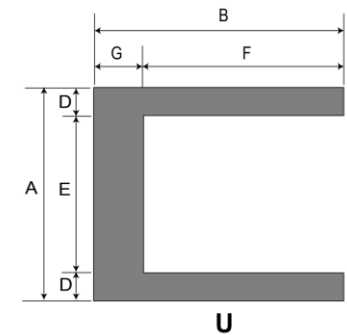
PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
EE 20 A	20.00	14.00	6.00	3.00	4.00	11.00	3.00					0.20 / 0.35	PB / PC
EE 20 B	20.00	6.00	6.00	3.00	4.00	3.00	3.00					0.20 / 0.35	PB / PC
EE 21.4	21.40	11.10	5.80	2.85	4.95	8.10	3.00					0.20 / 0.35	PB / PC
EE 21.4 GAP	21.40	11.10	5.80	2.85	4.95	8.10	3.00			0.04		0.20 / 0.35	PB / PC
EE 24-25 A	25.40	12.70	6.35	3.175	6.35	9.525	3.175					0.20 / 0.35	PB / PC
EE 24-25 B	25.40	6.35	6.35	3.175	6.35	3.175	3.175					0.20 / 0.35	PB / PC
EE 24-25 A GAP	25.40	12.70	6.35	3.175	6.35	9.525	3.175			0.04		0.20 / 0.35	PB / PC
EE 24-25 B GAP	25.40	6.35	6.35	3.175	6.35	3.175	3.175			0.04		0.20 / 0.35	PB / PC
EE 52	52.00	14.75	13.64	6.82	12.36	7.93	6.82					0.20 / 0.35	PB / PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
UI 12.7	12.70	12.70		3.175	6.35	9.525	3.175	3.175	12.70			0.20 / 0.35	PB / PC
UI 19	19.00	12.50		2.50	14.00	10.00	2.50	2.50	19.00			0.20 / 0.35	PB / PC
UI 24	24.00	15.00		3.00	18.00	12.00	3.00	3.00	24.00			0.20 / 0.35	PB / PC
UI 30	30.00	25.00		10.00	10.00	15.00	10.00	10.00	30.00		2.50	0.20 / 0.35	PB / PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
U 8.58	8.58	26.42		2.03	4.52	22.35	4.07						
U 18	18.00	47.92		5.00	8.00	37.92	10.00					0.20 / 0.35	PB / PC
U 18.34	18.34	42.00		3.17	12.00	37.70	4.30					0.20 / 0.35	PB / PC



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

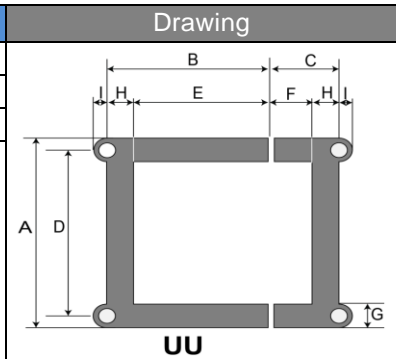
info@prodinferrite.com www.prodinferrite.com

Nickel Lamination

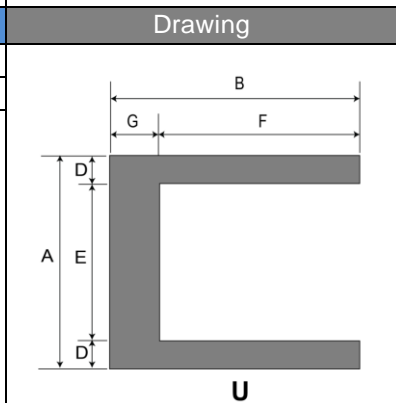
■ Dimension Table ■ Drawing

Unit: mm

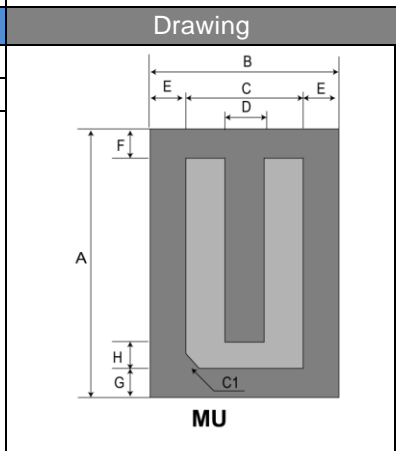
PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
UU 2	44.00	26.00	8.50	40.00	22.00	4.50	4.00	4.00	2.00			0.20 / 0.35	PB / PC
UU 4	75.20	48.00	21.20	69.60	42.20	15.60	5.60	5.60	2.80			0.20 / 0.35	PB / PC
UU 6	111.20	72.20	27.60	104.00	65.00	20.40	7.20	7.20	3.60			0.20 / 0.35	PB / PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
DU 18	15.88	34.93		4.76	6.36	25.40	9.53					0.20 / 0.35	PB / PC
DU 2023	19.05	30.17		4.7625	9.530	20.64	9.53					0.20 / 0.35	PB / PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
MU 36	36.00	13.20	9.10	3.00	2.05	3.00	2.00	3.30				0.20 / 0.35	PB / PC
MU 39	39.00	13.20	9.10	3.00	2.05	3.00	2.00	3.30				0.20 / 0.35	PB / PC



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

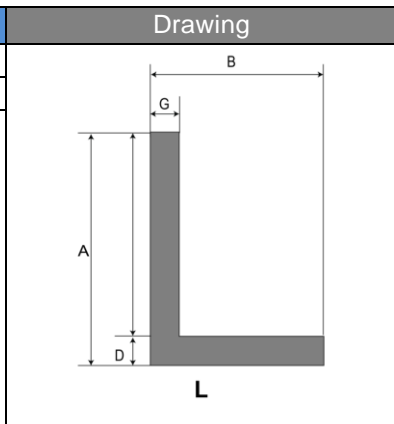
info@prodinferrite.com www.prodinferrite.com

Nickel Lamination

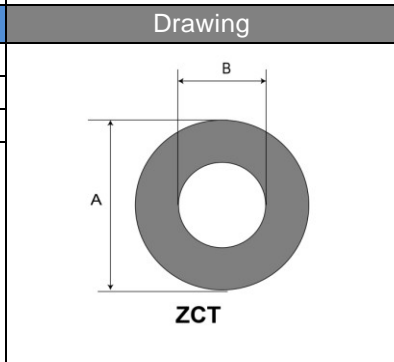
■ Dimension Table ■ Drawing

Unit: mm

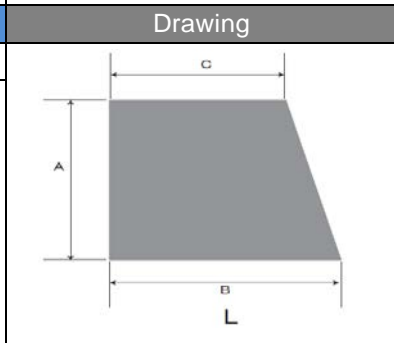
PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
L 28	28.00	17.875		3.00			3.13					0.20 / 0.35	PB / PC
L 132	132.00	144.00		12.00			12.00					0.20 / 0.35	PB / PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
ZCT Ø 10.3	10.30	7.70										0.35	PC
ZCT Ø 12.2	12.20	8.80										0.35	PC
ZCT Ø 13.35	13.35	9.85										0.35	PC



PATTERNS	A	B	C	D	E	F	G	H	I	GAP	ØK	T	GRADE
L 28	60.00	40.00	32.50									0.10	PC



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

info@prodinferrite.com www.prodinferrite.com

TOROIDALES

Magnetic Specification

Out side Diameter(mm)	Width(mm)	Industrial Uses
90 – 2100	5 – 305	High and Medium Voltage Transformer
5 – 120	2 – 15	Low and Medium voltage Transformer

Permalloy Strip Materials

Material	Thickness (mm)
Permalloy with 78 – 80% Nickel	0.05
	0.07
	0.10
	0.15
	0.20
	0.20
	0.35
permalloy with 45 – 50% Nickel	0.35

AC Magnetic Specification

Permeability	PC NI(80%) 0.07T	PC NI(80%) 0.1T	PC NI(80%) 0.15T	PC NI(80%)
Test Frequency (Hz)	60			
40 Gauss (4mT)	90,000 Min.	80,000 Min.	55,000 Min.	55,000 Min
200 Gauss (20mT)	110,000 Min.	95,000 Min.	75,000 Min.	75,000 Min
2,000 Gauss(0.2T)	200,000 Min.	160,000 Min.	115,000 Min.	115,000 Min
0.4 A/m	100,000 Min.	100,000 Min.	60,000 Min.	60,000 Min

DC Magnetic Specification

Material Type	Thickness (mm)	DC Magnetic Characteristics			
		Initial Permeability(μ_i) At 0.4A/m	Maximum Permeability(μ_{max})	Coercive Force(A/m)	Maximum Flux Density(B10)
PC (Ni 78 – 80%)	0.07	100,000 Min.	300,000Min.	1.0Max.	0.69 T Min.
	0.1	100,000 Min.	300,000Min.	1.0Max.	0.69 T Min.
	0.2	200,000 Min.	400,000Min.	1.0Max.	0.69 T Min.
	0.35	200,000 Min.	400,000Min.	1.0Max.	0.69 T Min.
	0.35	200,000 Min.	400,000Min.	1.0Max.	0.69 T Min.
PB (Ni 47 – 49%)	0.35	10,000 Min.	100,000Min.	4.8Max.	1.45 Min.



Prodin Ferrite S.L.

Calle A, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

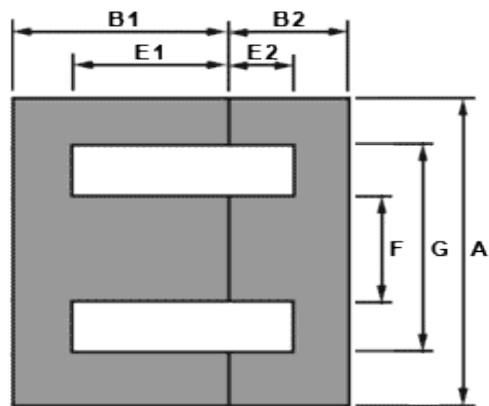
Tel.: +34 93 672 46 10

info@prodinferrite.com www.prodinferrite.com

EK STACKS

This type of laminated magnetic core is a stack of sheet metal, maintained by bonding allowing a compact core to be achieved for quick and economic assembly

a mm	b1 mm	b2 mm	b3 mm	e1 mm	e2 mm	e3 mm	f mm	g mm	hp mm			
									0.1	0.2	0.35	
EK 12.6	12.6	8.6	4	12.6	6.7	2.1	8.8	3.8	8.8	3.8	3.8	-
EK 16	16	11	5	16	8.6	2.6	11.2	4.8	11.2	4.8	4.8	-
EK 20	20	14	6	20	11	3	14	6	14	6	6	6
EK 25	25	17	8	25	13.2	4.2	17.4	7.6	17.4	7.6	7.6	7.6
EK 25L	25	17	17	34	13.2	13.2	26.4	7.6	17.4	7.6	7.6	7.6
EK 32	32	22	10	32	17.2	5.2	22.4	9.6	22.4	9.6	9.6	9.6
EK 32L	32	22	22	44	17.2	17.2	34.4	9.6	22.4	9.6	9.6	9.6
EK 40	40	28	12	40	22	6	28	12	28	12	12	12
EK 40L	40	28	28	56	22	22	44	12	28	12	12	



Prodin Ferrite S.L.

CalleA, 27, 08620 Sant Vicenç dels Horts, Barcelona (Spain)

Tel.: +34 93 672 46 10

info@prodinferrite.com www.prodinferrite.com