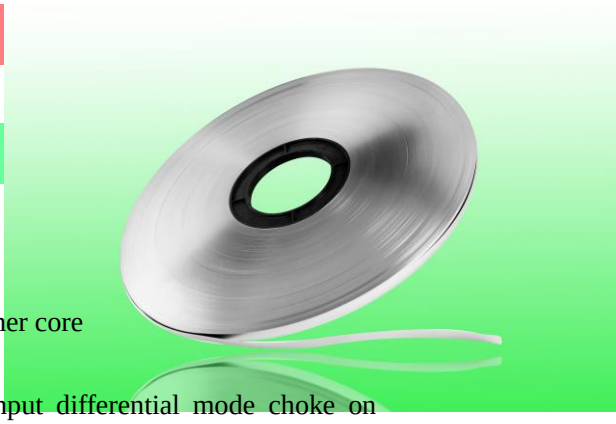
Imported Slitting Amorphous Ribbon and Local Made Amorphous Ribbon



Applications:

- Ø Mainly used for the replacement of silicon steel for transformer core
- Ø Operation frequency at 50Hz to 10KHz
- Ø No gap toroidal core for output smoothing chokes and input differential mode choke on switching power supply
- Ø No gap toroidal cores with noise suppression on automobile audio and navigation systems
- Ø Gapped toroidal cores for PFC on air conditioners and plasma TV
- Ø High frequency cut core for output transformer and inductors on switching power supply and UPS
- Ø No gap toroidal core for IGBT, MOSFETs and GTO pulse transformers
- Ø High power density for speed motor, stator and rotor generator
- Ø High power switching power supply reactor core with the operating frequency up to 50KHz

Features:

- Ø High saturation flux density with size reduction
- Ø High efficiency with low coercive force
- Ø Reduce the temperature rise with low core loss at 1/3 to 1/5 of silicon steel
- Ø Variable permeability to meet various application requirements by heat treatment
- Ø Low excitation current and high temperature stability; can be operated up to 130C

Typical Properties:

Physical property

Saturation Magnetic Induction Bs	1.56T	Hardness Hv	960kg/mm^2
Curie Temperature	410 ^oC	Density ρ	7.18g/cm^3
Crystallization Temperature	535 ^oC	Resistivity	130μΩ-cm
Saturation Magnetostriction Coefficient	27×10^{-6}		

Magnetic property

Product Code	Transverse Magnetic Annealing	Magnetic-free Annealing	Longitudinal Magnetic Annealing
Maximum Permeability	$>2\times10^4$	$>20\times10^4$	$>25\times10^4$
Saturation Magnetic Induction	1.5 T	1.5 T	1.5 T
Residual Magnetic Induction	<0.5 T	1.0 T	1.2 T
Coercive Force	<4A/m	<2.4 A/m	<4A/m
Core Loss (50Hz, 1.4T)	<0.2W/kg	<0.13W/kg	<0.3W/kg
Core Loss (400Hz, 1.2T)	<1.8W/kg	<1.25W/kg	<2W/kg
Core Loss (8kHz, 1.0T)	<80W/kg	<60W/kg	<100W/kg
Rate of Iron Loss (-55 °C~125 °C)	<15%	<15%	<15%
Rate of Iron Loss (120°C×200Hours)	<15%	<15%	<15%

Product Comparison between Fe-based Amorphous Alloy and Cold Rolled Silicon Steel

Performance Index	Fe-based Amorphous Alloy	Silicon Steel
Saturation Magnetic Induction (T)	1.56	2.03
Coercive Force (A/m)	<4	<30
Maximum Permeability	$>25\times10^4$	4×10^4
Core Loss (W/kg)	50Hz, 1.3T, P<0.2	50Hz, 1.7T, P=1.2
Excitation Power (VA/kg)	50Hz, 1.3T,P<0.5	50Hz, 1.7T,P<0.83
Lamination Factor	0.84	0.95
Magnetostriction ($\times10^{-6}$)	27	—
Resistivity (μΩ-cm)	130	45
Density (g/cm^3)	7.18	7.65
Crystallization temperature (℃)	535	—
Curie Temperature (℃)	415	746
Tensile Strength (MPa)	1500	343
Vickers Hardness (HV)	900	181
Thickness (μm)	30	300

Ribbon specification:

Product Number	Ribbons Width, mm	Ribbons Thickness, μm
YN-JF-03	3±0.02	27±5
YN- JF -04	4±0.02	27±5
YN- JF -05	5±0.02	27±5
YN- JF -06	6±0.02	27±5
YN- JF -08	8±0.02	27±5
YN- JF -10	10±0.02	27±5
YN- JF -15	15±0.02	27±5
YN- JF -20	20±0.02	27±5
YN- JF -25	25±0.02	27±5
YN- JF -30	30±0.02	27±5
YN- JF -35	35±0.02	27±5
YN- JF -40	40±0.02	27±5
YN- JF -45	45±0.02	27±5
YN- JF -50	50±0.02	27±5
YN- JF -55	55±0.02	27±5
YN- JF -65	65±0.02	27±5
YN- JF -70	70±0.02	27±5
YN- JF -85	85±0.02	27±5
YN- JF -100	100±0.02	27±5