AK Steel DI-MAX® M-43 Nonoriented Electrical Steel

Category : Metal , Electronic/Magnetic Alloy

Material Notes:

Nonoriented electrical steels are silicon steels in which magnetic properties are practically the same in any direction of magnetism in the plane of the material. Standard grades from M-15 to M-47 are available with the advantages of special DI-MAX® processing that enhance the magnetic properties. DI-MAX grades have superior permeability at high inductions, low average core loss and good gauge uniformity. In addition, cold finishing plus strip annealing produce a smooth surface and reduce buckles and waves, resulting in excellent flatness and a high stacking factor. AK Steel Nonoriented Electrical Steels are available both Fully Processed and Semi-Processed, depending on grade. Properties of Fully Processed material are developed completely by AK Steel. These materials are ready for use without any additional processing required. However, a low-temperature heat treatment may be employed by the user to eliminate stresses introduced by fabrication of the material into cores. AK Steel Fully Processed Nonoriented Electrical Steels meet all the requirements of ASTM Specification A 677. Semi-Processed steels are finished to final thickness and physical form by AK Steel, but are not fully annealed to develop final magnetic quality. With these materials, achievement of magnetic properties becomes the responsibility of the user. AK Steel Semi-Processed Nonoriented Electrical Steels meet all requirements of ASTM A 683. DI-MAX M-43 is Fully Processed and Semi-Processed Applications for M-43: Small Motors and Generators (10 KVA), Small Transformers (

Order this product through the following link:
http://www.lookpolymers.com/polymer_AK-Steel-DI-MAX-M-43-Nonoriented-Electrical-Steel.php

Physical Properties	Metric	English	Comments
Density	7.70 g/cc	0.278 lb/in³	Semi-Processed

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	64	64	Semi-Processed
Tensile Strength, Ultimate	483 MPa	70000 psi	Semi-Processed
Tensile Strength, Yield	345 MPa	50000 psi	Semi-Processed
Elongation at Break	32 %	32 %	in 2", Semi-Processed

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000430 ohm-cm	0.0000430 ohm-cm	Fully Processed and Semi-Processed

Magnetic Properties	Metric	English	Comments
Core Loss	3.42 W/kg @Magnetic Field 1.50 T, Frequency 60.0 Hz	1.55 W/lb @Magnetic Field 1.50 T, Frequency 60.0 Hz	0.0185" (26 gauge), Semi-Processed; ASTM A677
	4.30 W/kg	1.95 W/lb	0.014" (29 gauge), Fully Processed;

Magnetic Properties	Metric	English	Comments
	@Magnetic Field 1.50 T, Frequency 60.0 Hz	@Magnetic Field 1.50 T, Frequency 60.0 Hz	ASTM A677
	4.41 W/kg @Magnetic Field 1.50 T, Frequency 60.0 Hz	2.00 W/lb @Magnetic Field 1.50 T, Frequency 60.0 Hz	0.025" (24 gauge), Semi-Processed; ASTM A677
	4.63 W/kg @Magnetic Field 1.50 T, Frequency 60.0 Hz	2.10 W/lb @Magnetic Field 1.50 T, Frequency 60.0 Hz	0.0185" (26 gauge), Fully Processed; ASTM A677
	5.51 W/kg @Magnetic Field 1.50 T, Frequency 60.0 Hz	2.50 W/lb @Magnetic Field 1.50 T, Frequency 60.0 Hz	0.025" (24 gauge), Fully Processed; ASTM A677

Descriptive Properties	Value	Comments
Coercive Force (Oe)	0.30	B_{max} =10kG, Semi-Processed
	0.57	B_{max} =10kG, Fully Processed
Hysteresis loss (J/lb/cycle)	0.0054	B_{max} =10kG, Semi-Processed
	0.0092	B_{max} =10kG, Fully Processed
Maximum Permeability	15000	Semi-Processed
	6500	Fully Processed
Saturation Induction Kilogausses	20.5	Fully Processed
	20.5	Semi-Processed

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China