

ArcelorMittal Torque 20-15 Electrical Steel

Category : Metal , Ferrous Metal , Alloy Steel

Material Notes:

Properties: The iCARE™ Torque product family comes with guaranteed losses at 400Hz and indicative maximum values at 700Hz. These values are representative of the steel's behaviour at high frequencies.
Advantages: Torque grades assist flux generation, allowing the motor to develop more mechanical output. If mechanical output is not an issue, permanent magnet or copper winding can be reduced to save on costs
Applications: Torque grades are suitable for machines which need high torque at low speeds. They provide the fast acceleration required by hybrid and electric vehicles.
Recommendations for use: Torque grades can be used immediately after lamination punching. The effect of punching can be eliminated if a stress relief annealing is applied. This optimises the performance of the Torque grades in applications with fine teeth. It can also provide substantial performance improvements in the lower frequency range. To achieve these effects, a C5 type coating is advised. Torque stacks can be produced using existing assembly techniques such as interlocking or welding.
 Information provided by ArcelorMittal

Order this product through the following link:

http://www.lookpolymers.com/polymer_ArcelorMittal-Torque-20-15-Electrical-Steel.php

Physical Properties	Metric	English	Comments
Density	7.65 g/cc	0.276 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	170 - 200	170 - 200	L direction
	170 - 200	170 - 200	T direction
Tensile Strength, Ultimate	470 - 510 MPa	68200 - 74000 psi	L direction
	490 - 530 MPa	71100 - 76900 psi	T direction
Tensile Strength, Yield	340 - 380 MPa	49300 - 55100 psi	L direction
	360 - 400 MPa	52200 - 58000 psi	T direction
Elongation at Break	13 - 28 %	13 - 28 %	L direction
	13 - 28 %	13 - 28 %	T direction

Magnetic Properties	Metric	English	Comments
Core Loss	<= 15.0 W/kg	<= 6.80 W/lb	at 1T, Guaranteed
	@Frequency 400 Hz	@Frequency 400 Hz	
	<= 34.0 W/kg	<= 15.4 W/lb	at 1T, Indicative
	@Frequency 700 Hz	@Frequency 700 Hz	

Descriptive Properties	Value	Comments
Anisotropy	>15%	400 Hz at 1T
Polarization	>1.55 T	at 2,500 A/m
	>1.65 T	at 5,000 A/m
	>1.76 T	at 10,000 A/m

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