

ArcelorMittal Save 27-15 Electrical Steel

Category : Metal , Ferrous Metal , Alloy Steel

Material Notes:

Properties: The iCARE™ Save 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: Save grades enable you to reduce the iron losses from the stators of synchronous machines. They are particularly useful for reducing iron losses in high-speed hybrid and electric traction machines, and generators which extend the range of electric vehicles.
Applications: Save grades are most effective at reducing iron losses from machine parts which are subject to high base frequencies and additional harmonics. Save thus helps to improve machine efficiency, which leads to an increase in power density. Power density can be tuned to create a lighter, smaller machine, or a more powerful machine for a given weight. Driving range is extended as Save reduces machine weight and costs and saves battery energy.
Recommendations for use: Save grades can be used immediately after lamination punching. The punching effect can be eliminated by performing a stress relief annealing. This optimises their performance in applications with fine teeth, and enables a substantial part of the lower frequency area to be exploited. A C5-type coating is recommended. Save 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-Save-27-15-Electrical-Steel.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 7.60 g/cc | 0.275 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|---------------|-------------------|-------------|
| Hardness, Vickers | 200 - 230 | 200 - 230 | L direction |
| | 200 - 230 | 200 - 230 | T direction |
| Tensile Strength, Ultimate | 520 - 560 MPa | 75400 - 81200 psi | L direction |
| | 535 - 575 MPa | 77600 - 83400 psi | T direction |
| Tensile Strength, Yield | 410 - 450 MPa | 59500 - 65300 psi | L direction |
| | 425 - 465 MPa | 61600 - 67400 psi | T direction |
| Elongation at Break | 12 - 25 % | 12 - 25 % | L direction |
| | 12 - 25 % | 12 - 25 % | 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 | |
| | <= 37.0 W/kg | <= 16.8 W/lb | at 1T, Indicative |

| Magnetic Properties | @Frequency 700 Hz Metric | @Frequency 700 Hz English | Comments |
|-------------------------------|-----------------------------|------------------------------|-----------------|
| Descriptive Properties | | Value | Comments |
| Anisotropy | | >15% | 400 Hz at 1T |
| Polarization | | >1.49 T | at 2,500 A/m |
| | | >1.6 T | at 5,000 A/m |
| | | >1.7 T | at 10,000 A/m |

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