

Data Sheet

AncorLam™

AncorLam™ is a high performance insulated particle material suitable for a variety of soft magnetic applications that require low core losses. Specific applications include ignition system components, electric motor components, solenoids, and inductors

AncorLam™ consists of high purity iron powder with a specialized coating/lubricant system that minimizes hysteresis and eddy current losses over a range of frequencies. This material is provided as a press ready premix for warm die compaction.

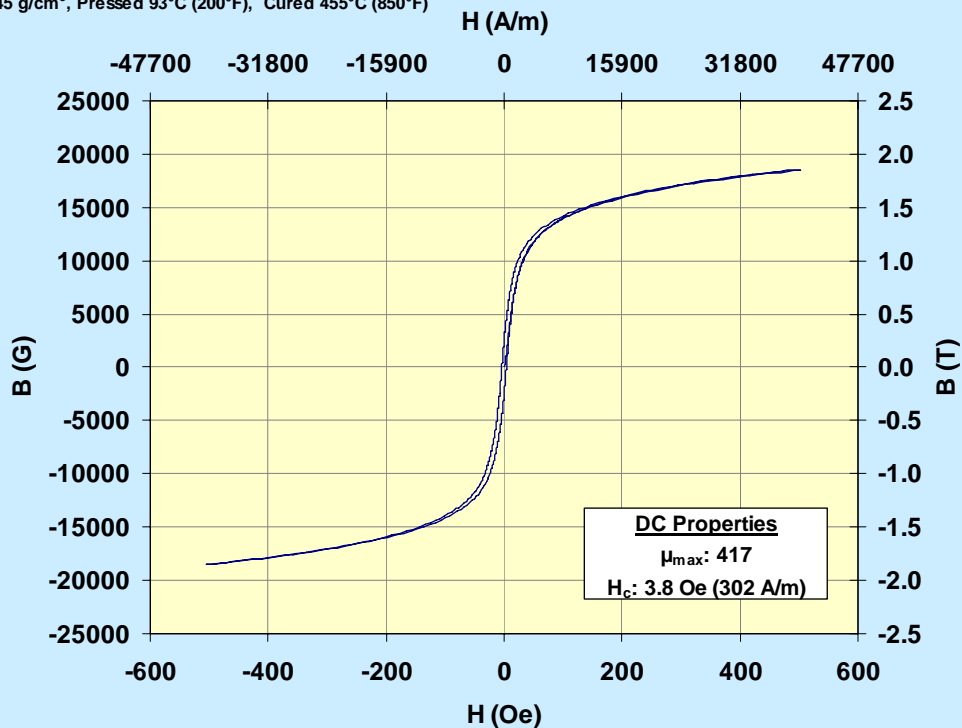
Performance of AncorLam™ at 7.45 g/cm³ at a field strength of 6.4 kA/m (80 Oe) are:

- *High Cured Strength: 69-81 MPa (10,000-11,700 psi)*
- *Induction: 1.4 T (14,000 G)*
- *Saturation Induction: 1.9 T (19,000 G)*
- *Maximum Permeability Approaching 500*
- *Resistivity: 8,000 μ-ohm-cm*
- *AncorLam has a maximum operating temperature of 200°C (400°F)*

DC Hysteresis

AncorLam + 0.3% Lubricant

7.45 g/cm³, Pressed 93°C (200°F), Cured 455°C (850°F)

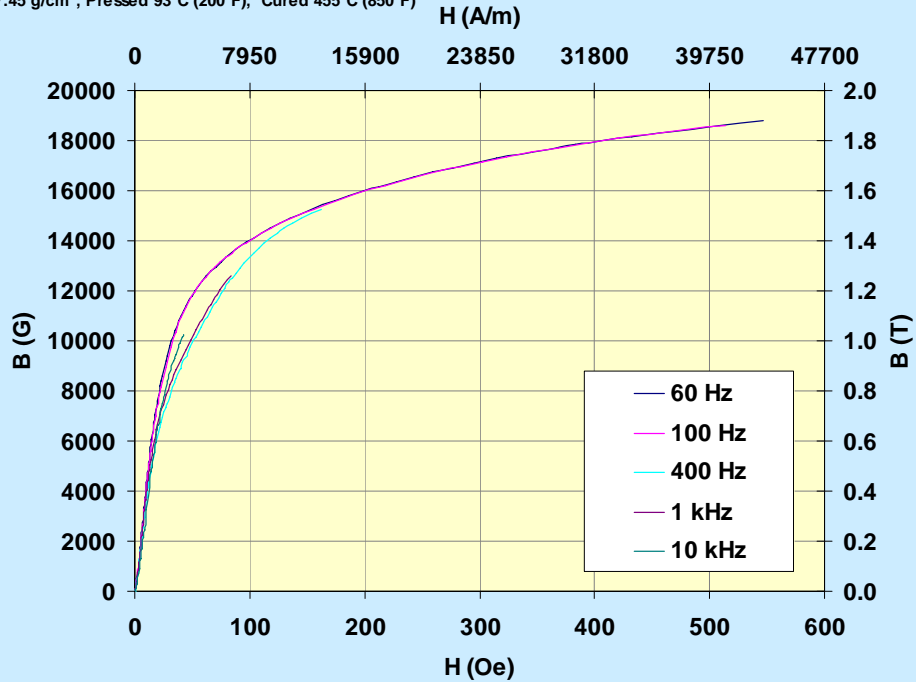


AncorLam™

Typical B-H Curves, AC

AncorLam + 0.3% Lubricant

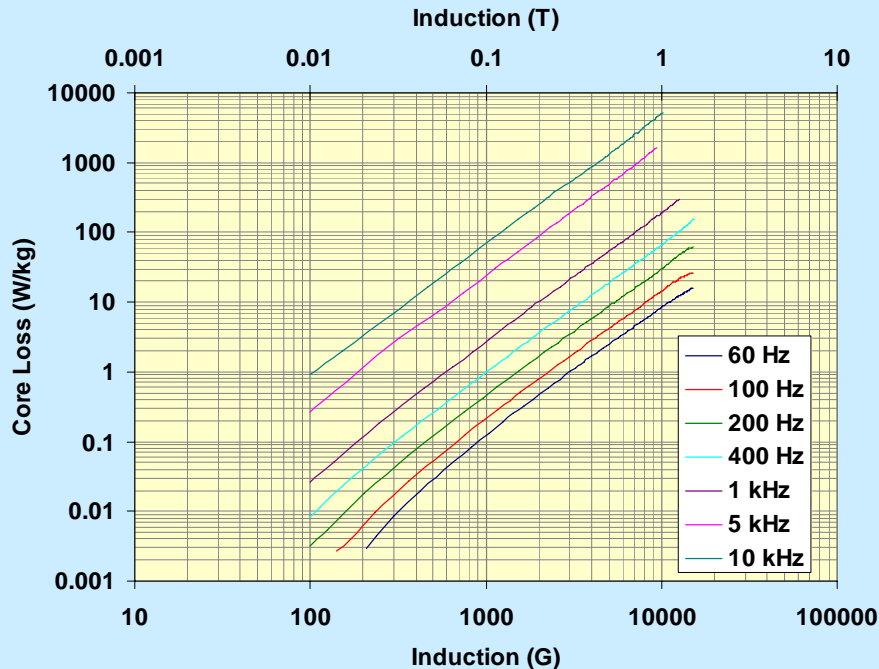
7.45 g/cm³, Pressed 93°C (200°F), Cured 455°C (850°F)



Core Loss, Induction

AncorLam + 0.3% Lubricant

7.45 g/cm³, Pressed 93°C (200°F), Cured 455°C (850°F)

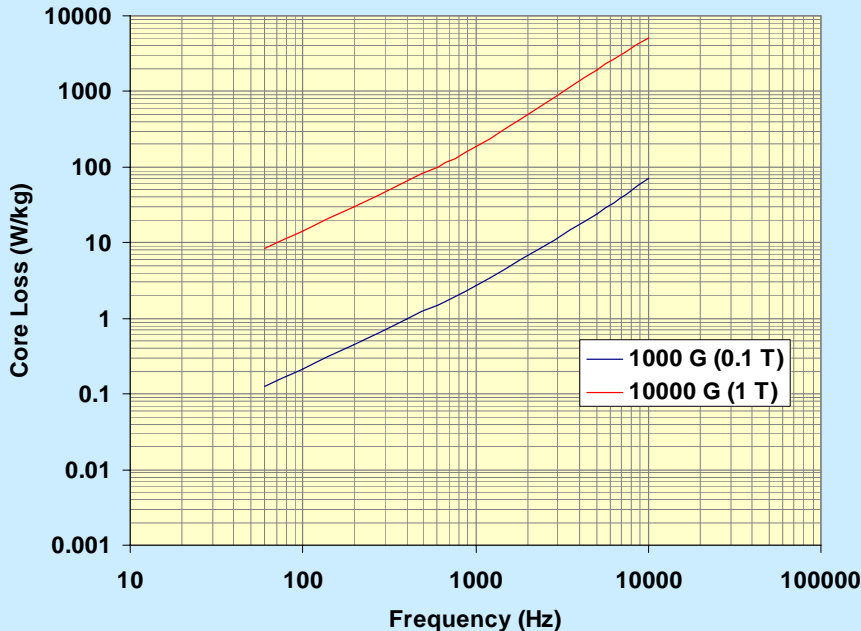


AncorLam™

Core Loss, Frequency

AncorLam + 0.3%Lubricant

7.45 g/cm³, Pressed 93°C (200°F), Cured 455°C (850°F)



Physical Properties

AncorLam + 0.3%Lubricant

Pressed 93°C (200°F), Cured 455°C (850°F)

Compaction Pressure	Cured Density	Cured Strength (TRS)	Cured Dimensional Change
MPa / tsi	g/cm ³	MPa / psi	%
550 / 40	7.08	61 / 8,800	0.04
690 / 50	7.33	74 / 10,700	0.06
830 / 60	7.47	81 / 11,800	0.10

Recommended Process Conditions for AncorLam™

- Compact with a die preheated to 80 -107°C (175-225°F), target temperature is 93°C (200°F)
- Cure compacted parts at 400-455 °C (750-850°F), target temperature is 455°C (850°F)
- AncorLam™ is available as a press ready premix with the option of 0.2%-0.5%lubricant