



## Iron Based Amorphous Alloy -AMOR

**Magnetic Metals AMOR-9101:** The composition is 80% Iron -with balance Boron, Silicon and Carbon. (**Metglas Alloy 2605 SA1**). This alloy is essentially a high flux, square loop with reasonably low core loss at high frequencies, it is perfect for a wide range of applications, including Saturable reactors, DC inductors (chokes), Pulse transformers. This material is better performing and more economical to substitute for 50% Nickels (1 and 1/2 mil thick) and 3% G.O.S.S (1 mil thick).

### MAGNETIC PROPERTIES

Flux Density (Kgauss)	= 14.2 - 16.0
Squareness (Br/Bm)	= > .85
Coercive force, (Hc -Oersted)	= 0.2
Resistivity (micro-Ohm -cm)	= 130
Curie temperature	= 395 °C
Density (gm/cc)	= 7.2
Material thickness (inch)	= .001"
Stacking Factor	= .75

**NAMLITE COATING:** To reduce Eddy currents at high frequency, the thinner gages of material are selected and the isolation between laminations (coating) become important. For high frequencies applications (> 50Khz), Namlite coating is applied to Amnor material to reduce the eddy current losses.

### Comparison of a toroidal core with and without Namlite coating:

#### Permeability:

@ 100Gauss, 10Khz:

Regular without Namlite coating	= 15,000
With Namlite coating	= 10,000

@ 100Gauss, 100Khz:

Regular without Namlite coating	= 6,000
With Namlite coating	= 8,000

#### Core Loss:

@ 1KGauss, 10Khz:

Regular without Namlite coating	= 1.5W/LB
With Namlite coating	= 2.0W/LB

@ 1KGauss, 100Khz:

Regular without Namlite coating	= 50W/LB
With Namlite coating	= 35W/LB

#### Part numbers for AMOR -9101 cores:

Toroidal core: xxxx-P- 9101

Cut Core: MMG-xxxx

**NOTE:** Magnetic Metals is processing Amor 9101 material for square loop with Namlite coating for high frequency applications. For round loop, high Permeability applications, customers should use Nanocrystalline mat'l (NANO 9001)