AmoFlux® is a new powder alloy distributed gap material that is ideal for power factor correction (PFC) and output chokes. This alloy starts with amorphous ribbon that is pulverized into powder and then pressed into a toroid. By converting the ribbon into a powder, the resulting AmoFlux cores have the same excellent properties, including soft saturation, as Magnetics’ other powder core materials: Kool Mµ®, MPP, High Flux, and XFlux®. What makes this amorphous powder core material unique is the combination of low core loss and high DC bias. These attributes make AmoFlux an excellent choice for computer, server, and industrial power supplies that require high current inductors with superior efficiency.
**AmoFlux® Core Loss Density**

\[ P_L = \begin{cases} 360 (B^{1.25})(f^{1.14}) & \text{1kHz - 49kHz} \\ 55.6 (B^{2.25})(f^{1.65}) & \text{50kHz - 99kHz} \\ 820 (B^{3.15})(f^{1.05}) & \text{100kHz - 250kHz} \end{cases} \]

**AmoFlux® Permeability vs. DC Bias**

\[
\frac{\mu}{\mu_i} = 0.9931 + (2.295 \times 10^{-3} \text{ H}) \\
- (1.291 \times 10^4 \text{ H}^2) + (7.653 \times 10^7 \text{ H}^3) \\
- (1.361 \times 10^{10} \text{ H}^4)
\]

**AmoFlux® Magnetization Curve**

\[
B = \left[ \frac{(8.252 \times 10^2 + 1.236 \times 10^1 \text{ H} + 2.017 \times 10^2 \text{ H}^2)}{(1 + H + 1.689 \times 10^2 \text{ H}^2)} \right]^{0.5}
\]
AmoFlux® Permeability vs. AC Flux Density

\[
(\Delta \mu/\mu) = -8.828 \times 10^{-4} + 1.482 \times 10^{1} B \\
- (7.394 \times 10^{0} B^2) + (6.467 \times 10^{1} B^3) \\
- (4.074 \times 10^{0} B^4)
\]

AmoFlux® Permeability vs. Frequency

\[
(\Delta \mu/\mu) = 6.011 \times 10^{-5} + (2.605 \times 10^{3} F) \\
- (6.792 \times 10^{2} F^2) + (8.846 \times 10^{4} F^3) \\
- (3.874 \times 10^{3} F^4)
\]

AmoFlux® Permeability vs. Temperature

\[
(\Delta \mu/\mu) = -1.014 \times 10^{2} + (5.222 \times 10^{4} T) \\
- (1.491 \times 10^{6} T^2)
\]
### AmoFlux® Dimensions and Magnetic Data

<table>
<thead>
<tr>
<th>Dimensions (after finish)</th>
<th>Part Number</th>
<th>Permeability</th>
<th>$A_{\pm 8%}$ (nH/T²)</th>
<th>Magnetic Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>OD (mm)</td>
<td>ID (mm)</td>
<td>HT (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>max</td>
<td>min</td>
<td>max</td>
<td></td>
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<tr>
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<td>16.2</td>
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</tbody>
</table>

Magnetics powder cores are able to continuously operate at a temperature of 200°C. This limit is set by the core coating as opposed to the material. With AmoFlux, closer attention needs to be paid to the continuous operating temperature since the limit is set at 155°C. Inductance, bias and core losses were all confirmed to be stable up to 155°C.

### Applications
- High current AC output chokes
- PFC chokes
- Output chokes for industrial supplies
- High frequency flyback transformers

### Markets
- Renewable
- Consumer/UPS
- Industrial
- UPS

New sizes will be added. Go to www.mag-inc.com/products/powder-cores/amoflux-cores for updates.