

Spherical Submicron Metal Powder



OVERVIEW

TODA KOGYO has been developing submicron-sized Fe-based soft magnetic metal powders with both high sphericity and uniform particle size distribution. By using this powder, it is possible to realize electronic components such as high-performance inductors. They are also suitable for the development of next-generation electronic components, taking advantage of the characteristics in high frequency band.

FEATURES

Uniformly sized fine particles

The particle size can be controlled between 0.2 and 1.0 μm with a uniform particle size distribution.

High sphericity

They have a high sphericity and are ideal as auxiliary particles to fill the gaps of large particles to form a close-packed structure.

Crystal structure control

Since the crystal and amorphous particles can be prepared, suitable crystal structures are supplied for your application.

CHARACTERISTICS

[Typical properties]

Crystal structure	Crystal	Amorphous	
Size	$D_{50} : 0.4\mu\text{m}$	$D_{50} : 1.0\mu\text{m}$	$D_{50} : 0.2\mu\text{m}$
Electron microscope image (SEM)			
Complex permeability [※]	<p>Metal powder content : 60vol%</p>	<p>Metal powder content : 60vol%</p>	<p>Metal powder content : 30vol%</p>

※ The data were measured by a network analyzer on a sheet of silicone resin kneaded with metal powder.

APPLICATIONS

- High performance, high frequency inductors
- High frequency antennas
- Noise suppression materials such as sheet

