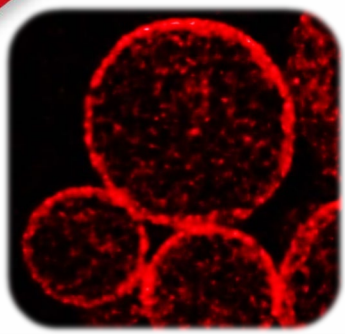
Under Development



Surface treatment technology

Insulated Surface Treatment
(Insulating coated metal powder)

FEATURES

Using TODA KOGYO's proprietary developed surface treatment technology, we have succeeded in treatment of high-resistance insulation surface on soft magnetic metal powders. They are suitable as materials for electronic components required high breakdown voltage, since their dispersibility with resins can also be improved.

CHARACTERISTICS

1 High resistivity
Powders with high resistivity over $1.0\times10^{10}\Omega\cdot$cm are obtained by our treatment technology.

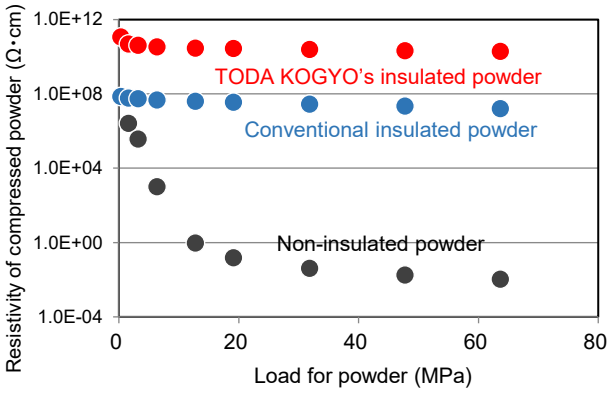
2 Improvement of dispersibility with resin
We can design surface treatments suitable for resins used in electronic components.

3 Customization
We can treat according to soft magnetic metal powders of various compositions and sizes.

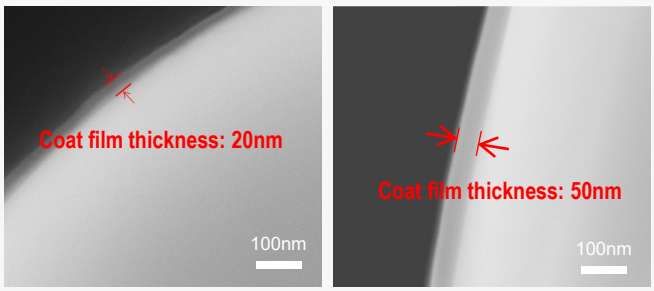
SPECIFICATIONS

【Types of surface treatment】

Soft magnetic metal powder(To be treated)		Insulation treatment layer	
Kinds	Average particle size	Kinds	Coat film thickness
FeSiAl, FeSiCr, Fe, Fe-Ni, Fe-B, CIP, etc.	Tens of nm – hundreds of μm	P-base, Si-base, etc.	Several nm – hundreds of nm



【Relationship between pressure load and resistivity of insulating surface treatment powder】
(Comparison of FeSiCr-based powder insulated with a coating film thickness of 50 nm)



【SEM image of insulated metal powder surface】

APPLICATIONS

- Thermosetting compounds for semiconductor encapsulants
- Metal composite inductors

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