Local Insight, Global Impact

SN SERIES PRODUCTS - SN-100D

Transparent Electro-conductive Materials
SN Series / spherical type

SN-100P/SN-100D

SN products are designed for usage in fields where both high transparency and electroconductivity are required. SN products consist of SnO_2/Sb and whose particle size is about 0.02μm. SN products can also be used for heat ray shielding due to their excellent absorbability of near infrared rays. Depending on your applications, powder type SN-100P and its water dispersion SN-100D are available. Water dispersion type, SN-100D, has very high stability since ATO is highly hydrophilic. Upon your requirement, special products whose secondary particle size is modified or with a selected neutralizer are also available.

Uses

- Anti-electrostatic Coatings (Film,Plastics,Glass, etc.).
- Heat Ray Shielding Coatings (Film, Glass, etc.).
- Others (Recording paper, Toner, etc.).

■Table 1 Basic Properties of SN Series

	SN-100P (Powder)	SN-100D (Water dispersion)
Composition	Sb-doped SnO_2	Sb-doped SnO_2
Particle size(μm)	0.01~0.03 1)	0.085~0.120 2)
Powder resistance(Ωcm) 3)	1~5	5~30 4)
Specific gravity	6.6	6.6 4)
Specific surface area(m²/g) 5)	65~80	70~100 4)
pH	2.5~3.5	5.0~7.0
Concentration(%)	———	30

1)Primary particle size. 2)Secondary particle size. 3)9.8MPa compressed powder. 4)Data obtained from dried powder. 5) BET method.

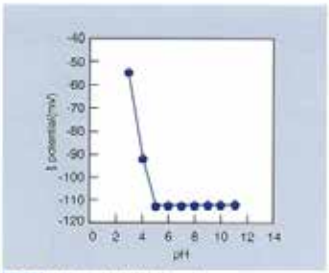


Fig.1 ζ potential of SN-100P vs. pH.

SN-100P shows much larger ζpotential (negative potential) around neutral region than other metal oxides do.

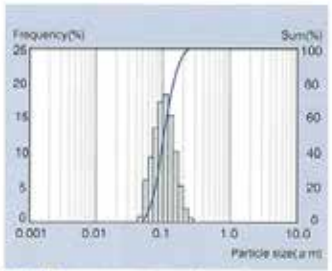


Fig.2 Particle size distribution of SN-100D.

SN-100D shows very narrow particle size distribution.

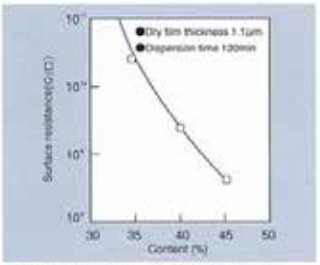


Fig.3 Relationship between surface resistance and content in air drying type acrylic resin.

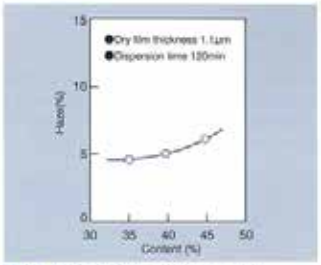


Fig.4 Relationship between haze and content in air drying type acrylic resin.

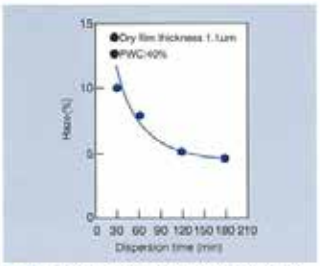


Fig.5 Relationship between haze and dispersion time in air drying type acrylic resin.

Sufficient dispersion is necessary to obtain high transparency.

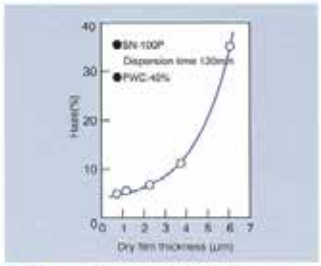


Fig.6 Relationship between haze and film thickness in air drying type acrylic resin.

The thinner film, the higher transparency.

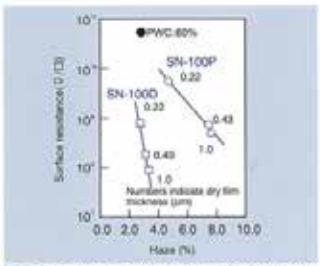


Fig.7 Relationship between haze and surface resistance in UV curable resin.

SN-100D provides superior conductivity and transparency in water-soluble resin.

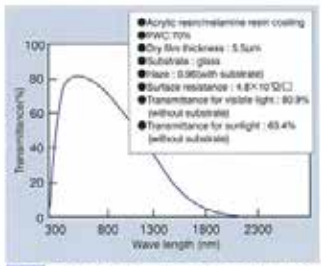


Fig.8 Relationship between wave length and transparency.

Excellent shielding capability of SN-100P for the near infrared rays is obtained.

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