

SpectrAl® 100

SpectrAl 100 is a high surface area fumed alumina. Fumed alumina has similar morphology and many similar properties and functions as fumed silica. It differs from fumed silica in optical, thermal, electrical and charge characteristics.

All untreated fumed aluminas are characterized by:

- High purity
- Aggregated structure
- Submicron particle size
- Low bulk density
- Mixture of theta, delta, gamma and amorphous alumina
- Positive surface charge

Application Information:

Powder Coatings

SpectrAl 100 provides superior fluidization and free-flow for powder coatings as well as reducing blocking during storage. In tribo-coating applications, SpectrAl 100 improves tribo-charging while also providing fluidization and free-flow.

Performance Comparison in Powder Coatings:

Product	Product Features		Benefits in Powder Coatings				
	Electrostatic Charge	Surface Modification	Fluidization Free Flow	Antiblocking	Recommended for:		
					Humidity Stability	Tribocharge Spraying	Corona Spraying
SpectrAl 100 Fumed Alumina	Positive	No (hydrophilic)	Good	Good	Good	Yes	Yes
CAB-O-SIL M-5 Untreated Fumed Silica	Negative	No (hydrophilic)	Good	Good	Fair	No	Yes
CAB-O-SIL CT-1221 & CAB-O-SIL CT-1111G Treated Fumed Silicas	Negative	Yes (hydrophobic)	Excellent	Excellent	Excellent	No	Yes

Lighting

Use of fumed alumina in fluorescent lamps can significantly improve the performance and service life of the lamps. Fumed alumina is an ideal choice for this application as it is transparent in visible light spectrum, has high ultraviolet light reflectance and chemical stability at high temperatures.



SpectrAl fumed aluminas are used in three components of fluorescent lamps:

- In the barrier layer, a coating on glass tube, fumed alumina prevents migration of sodium into the phosphor during production of lamp and prevents migration of mercury into the glass tube during usage. By preventing migration of mercury into the glass which causes graying and reduces efficiency, fumed alumina increases service life of fluorescent lamps.

- The reflector layer functions to reflect back into the phosphor any UV light not initially captured thereby maximizing the effectiveness of the phosphor. Fumed alumina which has high ultraviolet light reflectance and good visible light transmittance enhances the performance of the lamp.

- In the phosphor layer, the positive surface charge of fumed alumina acts to bind the phosphor particles together and to the glass substrate which are both negatively charged.

As the highest surface area fumed alumina, SpectrAl 100 offers the best adherence to both phosphor and substrate.

Packaging Options:

SpectrAl 100 is packaged in 10 kg multi-wall Kraft paper bags and available in 16 x 10 kg (net weight 160 kg) poly-shrouded units.

Product Sales Specifications:

Sales specifications for this product may be obtained by contacting a sales or technical service manager at the Cabot Corporation office in your region.

Material Safety Data Sheet:

A Material Safety Data Sheet for this product may be obtained by contacting the Cabot Corporation office in your region or can be downloaded from our website:

www.cabot-corp.com

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