CABOT

FUMED METAL OXIDES

SpectrAl® 100 Untreated Fumed Alumina

SpectrAl 100 fumed alumina has a high surface area and high purity. While fumed alumina can be used in similar applications to both treated and untreated fumed silica, its optical, thermal, electrical and charge characteristics differentiate it from Cabot's other products.

SpectrAl 100 fumed alumina is 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 fumed alumina is suitable for powder coatings applications. It can help enable superior fluidization and free flow and help reduce blocking during storage. In tribo-coating applications, SpectrAl 100 fumed alumina can improve tribo-charging while also promoting fluidization and free-flow.

Performance Comparison Among Cabot Products in Powder Coatings:

PRODUCT	PRODUCT FEATURES		BENEFITS IN POWDER COATINGS				
					SUITABLE APPLICATIONS:		
	ELECTROSTATIC CHARGE	SURFACE MODIFICATION	FLUIDIZATION FREE FLOW	ANTIBLOCKING	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 Treated Fumed Silicas	Negative	Yes (hydrophilic)	Excellent	Excellent	Excellent	No	Yes

Lighting

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

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SpectrAl 100 fumed alumina is used in three components of fluorescent lamps:

- In the barrier layer (a coating on a glass tube) fumed alumina helps prevent migration of sodium into the phosphor during production of the lamp and migration of mercury into the glass tube during usage. By helping to prevent migration of mercury into the glass, which causes graying and reduces efficiency, fumed alumina can increase the 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 UV light reflectance and good visible light transmittance, can enhance the performance of the reflector layer.
- In the phosphor layer, the positive surface charge of fumed alumina acts to help bind the phosphor particles together and to the glass substrate, which are both negatively charged. As Cabot's highest surface area fumed alumina, SpectrAl 100 fumed alumina offers the strongest adherence to both phosphor and substrate out of the Cabot product portfolio.

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

Material Safety Data Sheet:
A Material Safety Data Sheet for this product can be downloaded from our website, www.cabotcorp.com

CABOT

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