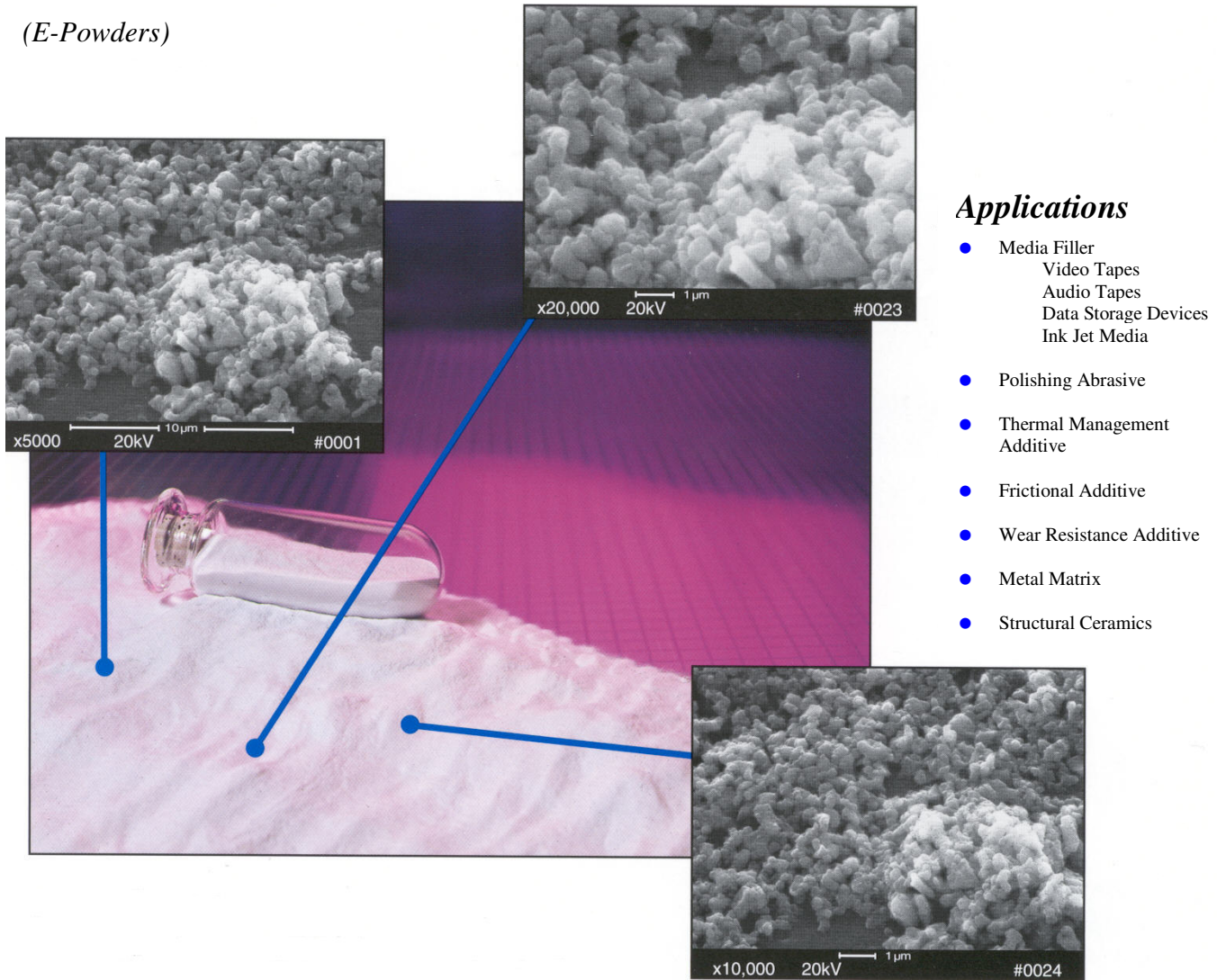


Sub-micron Calcined Alumina Powders

(E-Powders)



Applications

- Media Filler
 - Video Tapes
 - Audio Tapes
 - Data Storage Devices
 - Ink Jet Media
- Polishing Abrasive
- Thermal Management Additive
- Frictional Additive
- Wear Resistance Additive
- Metal Matrix
- Structural Ceramics

Description

Saint-Gobain's Sub-micron E-Powders are calcined aluminum oxide powders (99%+ purity), designed for use as a functional filler to enhance the properties of a product. In Magnetic Media applications, users report a reduced drop-out count due to the gentle, continuous cleaning action to the magnetic heads from the alumina additive in the media's surface layer. In structural ceramics and metal matrix applications, product strength is significantly improved using the sub-micron aluminas. Saint Gobain offers a wide selection of particle distributions and purities to meet the needs of your particular application, or a custom-engineered product can be made if required.

Sub-micron Calcined Alumina Powder

(E-Powders)

Product Specification

D_{5%}, D_{50%}, D_{70%} by Sedigraph 5100. D_{0.1%} by Horiba

Product	D _{0.1%}	D _{5%}	D _{50%}	D _{70%}	Surface Area
E266	n/a	2.00-6.00	0.40-0.90	n/a	n/a
E330	n/a	1.10-1.70	0.40-0.60	0.20-0.50	9-15 m ² /gm
E440	n/a	0.80-1.10	0.30-0.40	0.24-0.34	12-18 m ² /gm
E390	2.50	0.85-1.25	0.38-0.46	0.28-0.35	9-16 m ² /gm
E500	2.00	0.80-1.20	0.35-0.45	0.25-0.35	11-16 m ² /gm
E600	1.20	0.65-0.85	0.28-0.38	0.20-0.30	19-28 m ² /gm

Typical Chemical Characteristics

Product	Al ₂ O ₃	Na ₂ O	Fe ₂ O ₃	SiO ₂	CaO	MgO	TiO ₂
E266	99.7	0.25	0.03	0.01	<0.01	<0.01	<0.01
E330							
E440							
E390	99.8	0.10	0.02	0.03	<0.01	<0.01	<0.01
E500							
E600							

Physical Characteristics

Crystal Form	Monocrystalline Alpha Alumina
Hardness	Knoop-2000, Mohs-9
pH	8.0-9.5
Specific Gravity*	3.95 gm/cc

* Apparent specific Gravity 3.6-3.9 by Gas Pycnometer

Importance of Size Control and Analysis

Particle size distribution is the most important aspect to consider in using an abrasive additive. Size control in the sub-micron range requires sophisticated processing techniques. It has become increasingly important as finer and more precisely sized ingredients are required. Accurate size analysis is also critical to insure that products meet established specifications. Great care must be taken during the size analysis procedure. Particles in the sub-micron size range tend to be attracted to each other, causing agglomeration to occur. Size curves will give misleading results if a sample is not adequately dispersed. The material will appear coarser than it actually is.