

Fumed Silica (Aerosil)

Applications

- Coating & Painting
- Thin film & UPR
- HTV & RTV Silicon Rubber
- Adhesives & sealants
- Printing ink
- Cosmetics
- Silicon Elastomers

Properties

- Reinforcing filler for elastomers
- Rheology control and thixotropic agent
- Free flow and anti-caking aid for powders
- High transparency

Properties	Unit	Typical Value	Testing Standard
Specific surface area	60%	200±20	GB/T 20020
pH in 4% dispersion		3.9 ~ 4.5	GB/T 20020
Loss on drying (2 Hour at 105 °C)	%	≤ 2.0	GB/T 20020
Loss on ignition (2 Hour at 1000° based on material dried for 2 Hours at 105 °C)	%	≤ 2.0	GB/T 20020
Sieve residue (45 µm)	Mg/kg	≤ 250	GB/T 20020
Silica content (based on ignited material)	%	≥ 99.8	GB/T 20020
Temped density (based on material dried for 2 hours at 105 °C)	g/md ³	30 ~ 60	GB/T 20020



Titanium Dioxide

Description

Titanium Dioxide is Zirconia and Alumina treated rutile titanium dioxide pigment. It is proved to have excellent outdoor durability and super gloss in paint & coating, ink and plastic industries.

APPLICATIONS

Titanium Dioxide is recommended as a premium pigment for a variety of high quality powder coatings, water-born and solvent-born industrial and decorative coating, ink and plastics.

Properties	Method
Crystal Form	Rutile
TiO ₂ Content(%) min	93
pH Value	6.5~8.5
Density(g/cm ³)	4.0
Oil Absorption (g/100g) max	22
Specific Resistance(Ω m) min	150
Average Particle Size(μ m)	0.23
Surface Treatment	Zirconia & Alumina, Organic



Bentone

Description

BENTONE is an organic derivative of a special smectite. This rheological additive is designed for low to intermediate polarity organic systems.

Properties	Method
Composition	organic derivative of a special smectite
Color	light cream
Form	finely divided powder
Moisture	max. 3%
Density	1.7 g/cm ³

Applications

Adhesives
Anti-corrosive paints
Automotive finishes
Bituminous compositions
Buffing compounds
Coil coating systems
Dip coatings
Finishes for household appliances
Greases
High-build systems
Industrial finishes
Interior and exterior house paints including do-it yourself
Knifing fillers
Mould release agents
Paint stripper pastes
Plastisols
Primers, undercoats, fillers
Printing inks
Putty and caulking compounds
Refinishes for household appliances
Road marking paints
Underbody sealants and sound-absorbing
Compounds
Wood preservatives and finishing systems
Waxes
Wood preservatives and finishing systems

Advantages of BENTONE in various systems:

Alkyd

No hard pigment settling, no sag, no syneresis in thixotropic paints, no flooding, prevents excessive penetration

Bitumen

Good thixotropy, no melt, no flow at elevated temperatures, no embrittlement in cold water



Chlorinated Rubber

No pigment or filler settling, no stringing of the paint, good chemical stability of the coating due to homogeneous surface and higher thickness

Epoxy Ester

No pigment settling or sag of the paint

Polyacrylic

No film cracking, higher film thickness are possible

Incorporation

General

Incorporation of BENTON in organic systems, e. g. paints, requires high shear dispersion equipment and the addition of a chemical (polar) activator. BENTONE is activated in two steps:

1. Dispersion (mechanical breakdown of agglomerates)
2. Gelation (development of the gel structure) There are three basic ways to incorporate

BENTONE:

1. as a dry powder for in-situ gelation
2. as a pregel of commonly used concentration (5-10% by weight)
3. as a pregel of higher concentration (10-15% by weight) adjusted to lower viscosity by addition of a wetting agent

1) Addition of BENTON as a dry powder for insitu gelation:

No masterbatching process step is required with this method.

The BENTONE powder is added directly to the resin (diluted if need be) and is dispersed in it for 5min. After this) the pigments are added and dispersed. Then the chemical activator is added. If plastic flow of the mill base is desired,the activator can be added before the pigment. If a wetting agent is to be used, it should be added after the chemical activator

2) Addition of BENTONE as a pregel:

The solvent is charged to the mixing tank. BENTONE powder is added and dispersed at high shear force. Then a chemical activator (most suitably methanol or propylene carbonate, see below) is introduced for gelation.

For incorporation (e. g. into a paint), begin with the binder solution and stir the pregel into it. Add the pigments and disperse.

3) Addition as a pregel containing surfactant:

This method is recommended when a pregel of high concentration is required or for postcorrection of the flow properties of a paint. This pregel is prepared in the same way as described under 2. It is advisable to add the surfactant to the solvent prior to introducing and dispersing BENTONE.

Suitable dispersion equipment

High speed disc impellers (Cowlers Dissolver), Ultra-Turrax, pearl-, sand-, ball- and three-roll mills.

Chemical (polar) activators are recommended to ensure full activation, i. e. optimum efficiency of BENTONE.

Suitable chemical activators	% based on weight of dry BENTONE
Methanol/H ₂ O (95/5)	33 %
Propylene carbonate	33%
Propylene carbonate/ H ₂ O (95/5)	33%
Ethanol/ H ₂ O (95/5)	50%
Acetone/ H ₂ O (95/5)	60%



Pigment



Product Description

Properties	Typical Values
Colour Index Name	Pigment Yellow
Colour Index No.	77600
CAS number	1344-37-2
Chemical name	Lead Chromate / Middle Chrome

Physical Properties

Parameter	Values	Method
Parameter	Values	Method
Specific gravity	5.4 gm/cm ³	IS 33 1992
Oil absorption	20 g/100g (±5 gm)	IS 33 1992
pH of aqueous extract	6 - 8	IS 33 1992
Moisture content	Max. 1.0 %	IS 33 1992
Residue on sieve (45 µm)	Max. 0.5%	IS 33 1992
Water soluble salts	Max. 1.0%	IS 33 1992
Conductivity	Max. 500 µS	IS 33 1992
Soluble Pb - content	Max. 5.0 %	ISO 3711



Fastness Properties

Parameter	Values	Method
Heat Stability (5 min)	220°C - 240°C	VX/FP/002
Acid resistance (1 - 5)	4	IS 2932
Alkali resistance (1 - 5)	1	IS 2932
Light Fastness (1 - 8)		
Full shade	6-7	IS 33 1992
Weather Fastness (1 - 5)		
Full shade	3	ISO 11341
Resistance to Sulphur dioxide(1 - 5)	2	ISO-3231

Applications

- Alkyd / Stoving
- Industrial
- Automotive / Refinish / Road Marking
- Powder Coating



Glass Beads

Description

Glass beads are made of hardened spherical glass and are available in size 1*1180 micron. This sparkling glasses are used to create reflecting markings for pavement stripings and roads. Glass Beads enhance visibility, especially in low-light conditions and nighttime driving, even in harsh weather conditions.

Chemical composition

Analysis Item	unit	Method	Limit	Test Result
Lead (Pb)	ppm	1	200	25
Cadmium	ppm	1	200	N.D.
Mercury	ppm	1	200	N.D.
Hexavalant Chromium (Cr+6)	ppm	1	200	N.D.
As	ppm	1	200	34
Sb	ppm	1	200	N.D.

