APEX®

Air Floated Clay Filler

TECHNICAL DATA SHEET

Huntingburg, IN #083

FEATURES & BENEFITS

APEX® air floated clay fillers fulfill a variety of coloring, reinforcement and processing functions in the manufacture of molded and extruded rubber. With good optical properties and consistently uniform particle size distributions, APEX is a cost effective and functional addition to natural rubber, polyisoprene, styrene-butadiene, nitrile and ethylene-propylenediene rubber compounds.

APEX can be loaded to relatively high levels, and still produce highly pliable compounds with good durometer values. APEX grades build hardness slowly, and at a rate which is inversely proportional to their mean particle size. However, unlike fine particle hard clays, APEX will not absorb accelerators or adversely affect the cure rate. This is especially important in precision parts where shrinkage and extrusion properties need to balance against mechanical strength, hardness and resistance to tear. The high loading and low shrinkage characteristics of APEX are valued in the wide range of rubber products, including footwear, wire and cable jacketing, hose, mill rods, commercial and residential roll matting, soft and novelty rubber goods and polyester gunks.

All APEX grades are mined, processed and sized under rigid Covia QIP℠ statistical quality assurance programs. The result is consistent chemistry with uniform particle size distribution and color for predictable performance in high production environments.

PARTICAL SIZE ANALYSIS

Typical Mean Values. These Do Not Represent a Specification.

	Mesh Size		APEX® Grades				
	ASTM	MICRONS	23	21	19	17	13
Typical mean % retained on individual sieves	50	300	8.7	0.1	—	—	—
	70	212	12.1	8.2	0.7	—	—
	100	150	18.4	15.1	1.6	0.1	—
	200	75	27.3	31.6	14.0	2.2	—
	325	45	35.5	46.7	29.7	13.2	0.1
	400	38	39.9	49.9	35.5	18.6	0.7
Subsieve Analysis % Passing		<20.0	97.0	97.0	97.0	91.0	90.0
		<10.0	87.0	87.0	87.0	79.0	75.0
		<5.0	70.0	70.0	70.0	62.0	51.0
		<2.0	45.0	47.0	47.0	40.0	37.0
		<1.0	34.0	33.0	35.0	30.0	21.0
		<0.5	23.0	23.0	25.0	21.0	19.0

PHYSICAL PROPERTIES

Typical Mean Values. These Do Not Represent a Specification.

APEX® Air Floated Clay Fillers		23	21	19	17	13
Median Particle Size (μ)	SEDIGRAPH	2.30	2.33	2.32	3.04	2.58
Surface Area (m^2/g)	ASTM D-1193	21.0	20.0	19.0	18.0	16.0
Oil Absorption (g/100g)	ASTM D-281	18.0	22.0	29.0	29.0	31.0
Brightness (GEB)	TAPPI	41.0	41.0	41.0	41.0	43.0
pH (in solution)	AFS 113-87-S	6-8	6-8	6-8	6-8	6-8

COVIA

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CHEMICAL ANALYSIS

Typical Mean Values. These Do Not Represent a Specification.

	Typical Mean Percent by Weight on Oxide Basis	
	23-13	23R-13R
Silicon Dioxide (SiO_2)	57.0	64.0
Aluminum Oxide (Al_2O_3)	27.6	17.1
Titanium Dioxide (TiO_2)	1.0	0.9
Iron Oxide (Fe_2O_3)	2.9	8.0
Calcium Oxide (CaO)	0.2	0.3
Magnesium Oxide (MgO)	0.7	1.0
Potassium Oxide (K_2O)	2.5	2.7
Sodium Oxide (Na_2O)	0.5	0.7
Loss on Ignition (LOI)	8.0	5.0
Carbon (%C)	0.5	0.1

SHIPPING/ORDERING INFORMATION

- Shipping Point: Huntingburg, IN
- Originating Carrier: Norfolk Southern
- Availability: Bulk, IBC, 50 lb Bag
  Truck

CUSTOMER SERVICE

US & Canada: 1-800-243-9004

Fax: 1-800-243-9005

Worldwide: 1-203-442-2500

Fax: 1-203-972-1378

3 Summit Park Drive, Suite 700, Independence, OH 44131 | CoviaCorp.com

GRADE NUMBERS INDICATE RELATIVE VALUES OR RESULTS. THEY ARE NOT A SPECIFICATION OR WARRANTY OF PERFORMANCE.

HEALTH HAZARD WARNING: Long term exposure can cause pneumoconiosis. This material contains crystalline silica which can cause pneumoconiosis. Pneumoconiosis is a respiratory disease, which can result in delayed, disabling and sometimes fatal lung injury. IARC and NTP have determined that crystalline silica can cause lung cancer in humans. Risk of injury is dependent on the duration and level of exposure. Avoid creating dust when handling, using or storing. Use only with adequate ventilation to keep exposure below recommended exposure limits. Follow OSHA or other relevant safety and health standards for “Particulates not otherwise classified” (PNOC) and for the form of crystalline silica called Quartz. Current safety data sheet, containing safety information, is available and should be consulted before usage.

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Kaolin/Silica Containing

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