



Harmonite® 100 Product Data Sheet

Description

Harmonite 100 is an organic-encapsulated, inorganic composite powder currently available for applications requiring smaller particles and a tighter particle distribution than standard Harmonite. Like other Harmonite powders, the organic phase is rich in polar resins and asphaltenes. The inorganic phase includes a blend of materials including calcium carbonate, aluminum oxide, Kaolin clay, glass fibers, titanium dioxide and other inert ingredients. Harmonite 100 is asbestos free.

Applications

Harmonite 100 is a versatile, multi-functional product that can be used as an economical base compound for building new product formulations or as a specialty additive. It is ideally suited for use in rubber compounding for its plasticizing and other effects that can help reduce power consumption and reduce incorporation time while simultaneously eliminating or reducing consumption of multiple more expensive ingredients. It is also well suited for use in industrial coatings, mastics, adhesives, and sealants.

Chemical Compatibility

Harmonite 100 is compatible with a wide variety of commonly used formulation ingredients including: synthetic rubber compounds like butyl and SBR, as well as SBS & SIS block copolymers, C5/C9 and other resins, various petroleum pitch/bitumen, asphalts, naphthenic distillates and petroleum solvents.

Typical Composition		
Organics	29% +/- 3%	Asphaltenes (~42%) Resins (~21%) Aromatics (~22%) Saturates (~15%)
Inorganics	Balance	Calcium Carbonate Aluminum Oxide Titanium Dioxide Kaolin Clay Glass fiber Moisture Other inert ingredients

Note – Other inert ingredients include silica



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Product Characteristics		
Product Form	Finely divided powder	
Color	Black	
Odor	None	
Specific Gravity	1.9	
Bulk Density (average)	38 lbs/ft ³	
Softening Point	Approx. 145°C / 295°F (extracted organic)	
Flow Characteristics	Flows readily with minimal agitation upon removal from bags or super sacks – exhibits moderate compressibility with little to no cohesive properties during storage and transit. Some settling during shipment is normal and is not detrimental to normal processing. However, placing heavy objects/weight on top of Harmonite can compress it to the point of forming hard clumps that are difficult to process. Do not place heavy weights on top of Harmonite powder. Do not stack pallets of Harmonite.	
Particle Size Analysis (as packaged and sold)	Sieve Analysis	Minus 100 mesh
	Particle Count Size Distribution	90% of particles have an equivalent circular diameter <35 µm; 50% of particles <15 µm, 10% < 7 µm via Malvern Morphologi G3S image analysis.
	Volumetric Size Distribution	90% <145 µm; 50% <58 µm, 10% <24 µm
Particle Size (in solution)	Note: inorganic particles significantly smaller than above referenced data after the organic phase dissolves in solution with other organic ingredients	
Shelf Life	12 months. Should Harmonite be stored outdoors, material should be tarpred, kept dry and not subjected to extreme temperature swings.	
Solubility	Soluble in solvents like mineral spirits, aromatics like xylene, etc. and longer straight chain hydrocarbons. Insoluble in water and common alcohols.	
Reactivity	Polar resins/asphaltenes have been known to exhibit polymeric behavior via hydrogen bonding and van der Waals interactions.	
Application Methods	Brush, roll, trowel or spray depending on end formulation	

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