



# Harmonite 40® Product Data Sheet

## Description

Harmonite 40 is a finely divided, organic-encapsulated, inorganic composite powder. 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 is asbestos free.

## Applications

Harmonite 40 is a versatile, multi-functional product that can be used as an economical base compound for building new product formulations. It is also used as a specialty performance additive to enhance existing formulations and replace or reduce consumption of more expensive compounds. Harmonite has been used in various formulations to shorten cure times, increase product strength, increase viscosity, and increase tack. It is ideally suited for use in a broad array of industrial applications in construction, transportation, and road repair/maintenance markets:

- Coatings used for corrosion protection, waterproofing, and sound deadening
- Adhesives and hot melt pressure sensitive adhesives used in window/door/roof flashing tapes, rolled roofing membranes and flooring membrane underlayments
- Sealants & Mastics used to seal roof penetrations and around flashing
- Cold Patch, crack filler, and sealcoat applications

## Chemical Compatibility

Harmonite 40 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 co-polymers, C5/C9 and other resins, various petroleum pitch/bitumen, asphalts, naphthenic distillates and petroleum solvents. It mixes readily, stays suspended in solution and is shown to form stable emulsions.

Typical Chemical Composition		
Organics	25% +/- 3%	Asphaltenes (~42%) Resins (~21%) Aromatics (~22%) Saturates (~15%)
Inorganics	25-45%	Calcium Carbonate
	<7%	Aluminum Oxide
	<4%	Titanium Dioxide
	<2%	Kaolin Clay
	1-3%	Glass fiber
	<1%	Moisture
	Balance	Other inert ingredients

Note – Other inert ingredients include quartz



# Harmonite 40<sup>®</sup>

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Product Characteristics		
Product Form	Finely divided powder	
Color	Black	
Odor	None	
Specific Gravity	2.05	
Bulk Density (average)	46 lbs/ft <sup>3</sup>	
Softening Point	Approx 240°C (composite powder) / Approx. 145°C (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 40 mesh (400 microns) All product is screened to pass -40 mesh
	Particle Count Size Distribution	90% of particles have an equivalent circular diameter <34 microns; 50% of particles <15 microns (Malvern Morphologi G3S image analysis).
	Volumetric Size Distribution	90% <360 microns; 50% <140 micron via (Beckman Coulter laser diffraction analysis)
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 tarped, 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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