

VANSIL® Wollastonite

Functional Fillers for Plastics

VANSIL Wollastonite is a high brightness natural calcium silicate mineral used as a functional filler and reinforcing agent in thermoplastics, thermosets, engineering alloys and elastomers. The high aspect ratio, needle-like shape of **VANSIL** wollastonite particles enhances mechanical strength and stiffness properties while improving surface quality, toughness and durability. **VANSIL** also contributes to improved dimensional stability by reducing susceptibility to shrinkage and heat distortion. **VANSIL** has low resin demand, improves melt rheology, and contributes to reduced mold cycle time. In addition to its functionality as the sole reinforcing agent it is also used to complement glass fiber in providing strength, impact resistance, and dimensional stability

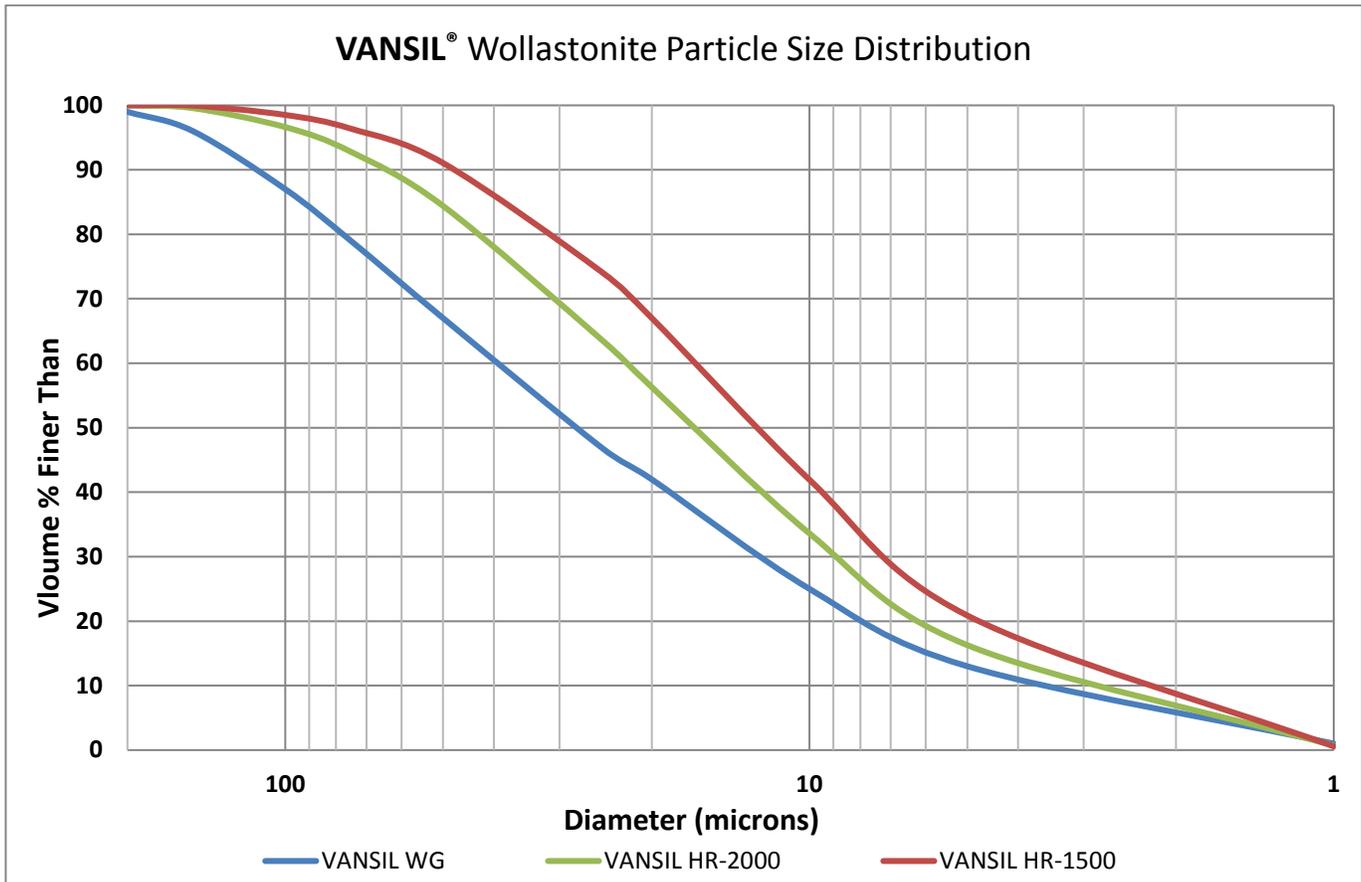
The wollastonite in the ore used to produce **VANSIL** products is naturally high aspect ratio, containing long wollastonite needles. To produce **VANSIL HR-1500**, **VANSIL HR-2000** and **VANSIL WG**, the ore is milled in such a way that the fine, needle-like particles are preserved and recovered.

VANSIL HR-1500 and **VANSIL HR-2000** wollastonite are fine-milled high aspect ratio grades used when a smooth finish as well as improved mechanical properties are required.

VANSIL WG is a high aspect ratio, coarser long needle grade. It is used principally as a reinforcing agent to enhance mechanical strength and thermal and abrasion resistance in thermosets, particularly phenolic friction products.

Typical Properties:

	VANSIL® WG	VANSIL HR-2000	VANSIL HR-1500
Average Aspect Ratio	15:1	12:1	14:1
Average Needle Length, µm	90	65	60
200 mesh retention, %	15-20%	<3%	<1%
325 mesh retention, %	30-35%	<20%	5-7%
Bulk Density, loose, lbs./ft ³	31	25	24
Bulk Density, tapped, lbs./ft ³	45	39	37
G. E. Brightness	86-88	90-93	90-93
Density, g/cm ³	2.9	2.9	2.9
Particle Size (Horiba LA-300)			
D10, µm	4	4	3
D50, µm	28	17	13
D90, µm	117	65	50
D95, µm	146	88	68



Typical Chemical Analysis (calculated as oxides):

Calcium Oxide (CaO)	44.9%
Silicon Dioxide (SiO ₂)	51.3%
Aluminum Oxide (Al ₂ O ₃)	0.9%
Magnesium Oxide (MgO)	1.6%
Iron Oxide (Fe ₂ O ₃)	<0.2%
Sodium Oxide (Na ₂ O)	<0.1%
Manganese Oxide (MnO)	<0.1%
Ignition Loss (1000°C)	1.1%

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Rev1/3/2019