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

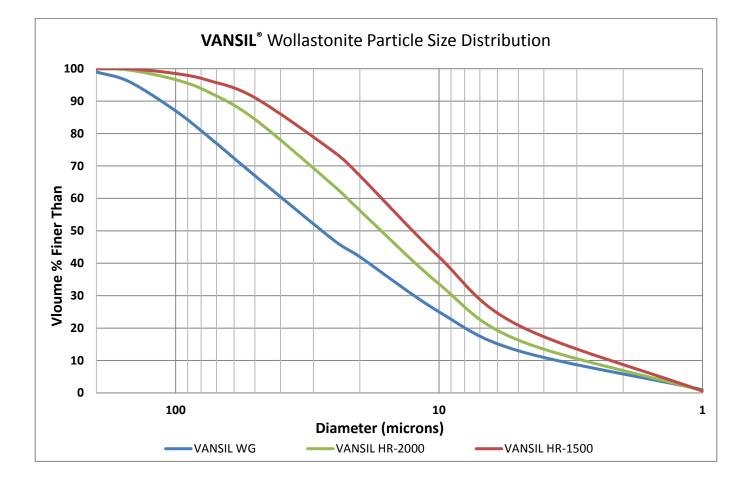
The wollastonite in the ore used to produce **VANSIL** products is naturally high aspect ratio, containing long wollastonite needles. To produce **VANSIL HR-1500**, **VANSIL HR-2000** and **VANSIL WG**, the ore is milled in such a way that the fine, needle-like particles are preserved and recovered.

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.

VANSIL [®] WG	VANSIL HR-2000	VANSIL HR-1500
15:1	12:1	14:1
90	65	60
15-20%	<3%	<1%
30-35%	<20%	5-7%
31	25	24
45	39	37
86-88	90-93	90-93
2.9	2.9	2.9
4	4	3
28	17	13
117	65	50
146	88	68
	15:1 90 15-20% 30-35% 31 45 86-88 2.9 4 28 117	$\begin{array}{cccccccccccccccccccccccccccccccccccc$





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%

VANSIL is a registered trademark of Vanderbilt Minerals, LLC.

Rev1/3/2019

Before using, read, understand and comply with the information and precautions in the Safety Data Sheets, label and other product literature. The information presented herein, while not guaranteed, was prepared by technical personnel and, to the best of our knowledge and belief, is true and accurate as of the date hereof. No warranty, representation or guarantee, express or implied, is made regarding accuracy, performance, stability, reliability or use. This information is not intended to be all-inclusive, because the manner and conditions of use, handling, storage and other factors may involve other or additional safety or performance considerations. The user is responsible for determining the suitability of any material for a specific purpose and for adopting such safety precautions as may be required. Vanderbilt Minerals, LLC does not warrant the results to be obtained in using any material, and disclaims all liability with respect to the use, handling or further processing of any such material. No suggestion for use is intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patent, trademark or copyright or to violate any federal, state or local law or regulation.