Vermiculite Canada
Regis Resources Inc.

Vermiculite Concentrate Specification Sheet

Vermiculite Canada produces high quality vermiculite concentrates from its mines and mill in Buckhorn, Ontario Canada. This high purity vermiculite concentrate offers several advantages over other vermiculite products:

- Air winnowed for purity and consistency (no petroleum or reagents utilized in the processing of this product)
- Low Iron content (almost half that of other vermiculite) produces a light coloured expanded product
- Excellent compatibility with concrete based products (due to the unique geology of the deposit)

Meeting or exceeding all industry standards, the vermiculite concentrate:

- Expands many times its size when heated
- Inorganic, non-reactive (except in very strong acids), and non-combustible
- Good cation exchange capability

Vermiculite concentrate is used in many applications including:

- Feedstock for expanded (exfoliated) vermiculite
- As an intumescent ingredient in gaskets, fire stops and construction materials
- Thermal protection for molten steel and glass production
- Animal feed additives
- Pollution control (selectively absorbs certain elements, and can neutralize flu gases)
- Improved down hole drill mud additive
- Added value filler in many applications

Chemical Formula

$(Mg, Ca, K, Fe^{II})_3 (Si, AL, Fe^{III})_4 O_{10} (OH)_2 * 4H_2O$

Typical Chemical Analysis

(elements expressed as oxides)

Element	% by Weight
SiO_2	37.70
MgO	25.20
H_2O	14.30
AL_2O_3	12.40
Fe_2O_3	4.69
K_2O	2.40
TiO_2	.92
CaO	.86
Na_2O	.40
MnO	.05
Cr_2O_3	.02
TOTAL	98.94%

(SKS Lakefield Research, Peterborough, ON)

Physical Characteristics

Property	Typical Value
Colour/Shape	Golden Silver / Flake
Solubility	Insoluble (most liquids)
Reactivity	Non reactive (except in very strong acids)
pH (in water)	6 - 8
Bulk Density	40 – 60 lbs/ft^3 640 – 1,041 kg/m^3
Specific Gravity	2.4 – 2.7
Aspect Ratio	18 - 45
Mohs Hardness	1.2 – 2.0 (nonabrasive)
Surface Area	0.5 – 1.0 m^2/gm
Moisture Content	< 6% (250F, 110C)
Total Loss on Ignition	10 – 35% (2000F, 1100C)
Expansion	~10x (increase in volume)
Expansion Temperature	1100 – 1800 F (580 – 970 C)
Sintering Temperature	2100 – 2200 F (1150 – 1200 C)
Fusion Point	2200 – 2400 F (1200 – 1300 C)
Cation Exchange Capacity	50 – 100 me /100 g

PO BOX 291 (3024 HWY 507 N), BUCKHORN, ON K0L 1JO
PHONE: (705) 657-9449 • FAX: (705) 657-2282

Typical Product Particle Sizes

(% Weight Retained on each screen)

		Size Grade		
US Screen	mm	Grade 3	Grade 4	Grade 5
8	2.30			
12	1.70	0 – 10		
16	1.18	10 – 35		
20	0.85	25 – 40		
30	0.60	20 – 40		0 – 1
40	0.425	2 – 14	24 – 40	
50	0.30	0 – 8	24 – 38	0 – 20
70	0.212	0 – 7	10 – 20	
100	0.15		0 - 15	30 – 76
<100 (Pan)	<0.15			

Vermiculite Canada produces products to typical North American size standards. Custom milling and products are available on special request.

Packaging / Freight Options

Products are packaged in one-ton (2000 lb) totes (spout top and bottom), shipped on pallets. Bulk rail, truck and container shipments are also available. Please contact customer service for quotations and options.

Contact Us

Vermiculite Canada (Regis Resources, Inc.)
PO Box 291 (3024 Hwy 507 N)
Buckhorn, ON K0L 1J0
Office: 705-657-2022
Plantsite: 705-657-9449
Email: info@vermiculitecanada.com
Website: www.vermiculitecanada.com

Environmental, Health & Safety

Complete EH & S information is available on our Material Safety Data sheet (MSDS) available at www.vermiculitecanada.com or by Fax or mail.