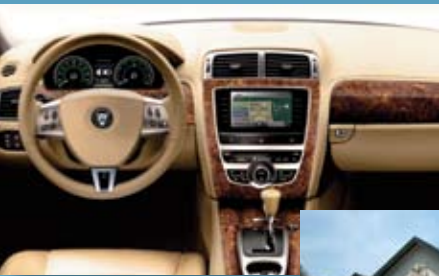


NYCO[®] Wollastonite



A Value-added Functional Mineral

- ACICULAR STRUCTURE • HIGH pH
- THERMALLY STABLE • LOW COEFFICIENT OF EXPANSION
- AUXILIARY CORROSION INHIBITOR • CHEMICAL SURFACE MODIFICATIONS

AN A TO Z GUIDE



For over 50 years, NYCO has been the world's leader in the processing and chemical modification of wollastonite. Due to the mineral's unique chemistry and acicular structure, wollastonite is a performance additive and reinforcement in many consumer and industrial products. NYCO continues to lead the way in adapting and perfecting our premium quality wollastonite for an ever growing number of applications.

Wollastonite (Calcium Metasilicate or CaSiO_3)

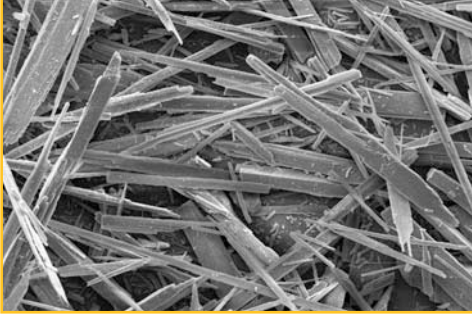
- Wollastonite is a naturally occurring, white, non-metallic mineral with an acicular (needle-like) structure.
- Due to the mineral's acicular structure, products have improved physical properties and durability.
- It's high melting point gives excellent thermal stability properties.
- Wollastonite's high brightness is an advantage especially in coatings, ceramics and other applications.
- The high pH and low solubility of wollastonite aid paint stability.
- Wollastonite is a non-hazardous mineral that has been scientifically shown to have low bio-persistence.

| TYPICAL PROPERTIES | VALUE |
|-------------------------------------|----------------------|
| APPEARANCE | WHITE |
| MORPHOLOGY | ACICULAR |
| MOLECULAR WEIGHT | 116 |
| SPECIFIC GRAVITY | 2.9 |
| REFRACTIVE INDEX | 1.63 |
| pH (10% SLURRY) | 9.9 |
| WATER SOLUBILITY (g/100cc) | 0.0095 |
| DENSITY (lbs./cu.ft.) | 181 |
| BULKING VALUE (gal./lbs.) | 0.0413 |
| MOHS HARDNESS | 4.5 |
| COEFFICIENT OF EXPANSION (mm/mm/°C) | 6.5×10^{-6} |
| MELTING POINT (°C) - theoretical | 1540 |
| MELTING POINT (°C) - by ASTM D1857 | 1410 |

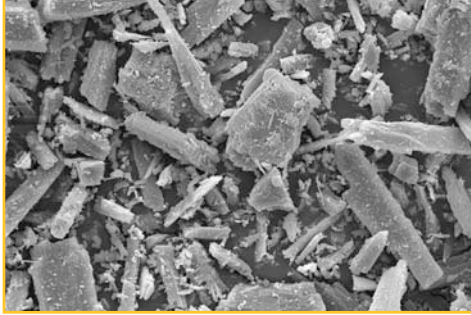
| CHEMICAL COMPOSITION | | | |
|--------------------------------|-------------------------------|------------------------------|----------------------------|
| COMPONENT | MEXICO (MD) TYPICAL VALUE (%) | MEXICO (M) TYPICAL VALUE (%) | NEW YORK TYPICAL VALUE (%) |
| CaO | 45.72 | 44.94 | 46.36 |
| SiO ₂ | 46.52 | 52.94 | 51.60 |
| Fe ₂ O ₃ | 0.25 | 0.28 | 0.77 |
| Al ₂ O ₃ | 0.25 | 0.30 | 0.40 |
| MnO | 0.02 | 0.04 | 0.15 |
| MgO | 0.71 | 0.75 | 0.15 |
| TiO ₂ | 0.05 | 0.05 | 0.05 |
| K ₂ O | 0.20 | 0.23 | 0.02 |
| Wt. Loss (1000°C) | 6.30 | 0.47 | 0.50 |

WOLLASTONITE... ONE MINERAL,

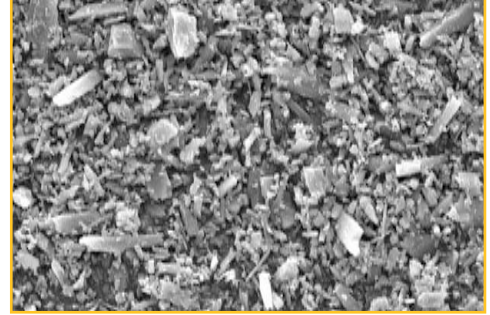
HIGH ASPECT RATIO GRADE – NYAD G® 100X



POWDER GRADE - NYAD® 400 500X



FINE PARTICLE SIZE GRADE – NYAD® 5000 1000X



HIGH ASPECT RATIO

The high aspect ratio grades are produced by special attrition milling and air classifying. These products are specifically produced to maintain the integrity of their particle size and aspect ratios which typically range from 5:1 to 15:1.

PLASTICS/ELASTOMERS

- Front and rear fenders
- Front and rear fascias
- Wheel flare
- Rocker panels and covers
- Body side moldings
- Fan shroud

- Engine cover
- Bed liners and flooring products
- Interior hard trim
- Air in-take manifold
- HVAC Panel
- Distributor cap
- Instrument panel
- Commutators
- Coil tops
- Automotive rear spoiler
- Gelcoats
- Circuit boards
- Electrical connectors
- Cast urethane and epoxies
- Switch boxes
- Gaskets

- Cultured marble
- Wood composites
- Decking composites
- Electronic housings

PAINTS & COATINGS

- Roof coatings
- Textured coatings
- Block fillers
- Floor patching
- Swimming pool coatings
- High heat resistant powder coatings

CONSTRUCTION

- Calcium silicate board
- Fire resistant board
- Roof tiles
- Ceiling tiles
- Corrugated Roofs
- Concrete/cement
- Sanitary Pipes
- Plastic railroad ties
- Grouts
- Stucco
- Exterior Insulation Finishing Systems (EIFS)
- Mortar Mixes
- Caulking
- Underlayments
- Patching compounds
- Decking composites

- Plaster compounds
- Concrete countertops

CERAMICS

- Sanitaryware

FRICITION

- Brake pads and linings
- Disc pads
- Truck blocks
- Clutch facings
- Friction materials

METALLURGICAL

- Tire cord steel
- Slag conditioners
- Fluxes

POWDER

The powder grades are produced on ball or pebble mills and ground to mesh size specifications. These grades consist of a 200 mesh, 325 mesh and a 400 mesh with aspect ratios typically ranging from 3:1 to 5:1.

PLASTICS/ELASTOMERS

- Brake pistons
- Potting compounds
- Traffic markers
- Elastomers
- Adhesives
- Sealants

PAINTS & COATINGS

- Architectural coatings
- Block fillers
- Powder coatings (Functional)
- Anti-skid coatings
- Traffic paint

CERAMICS

- Floor and wall tiles
- Glazes
- Englobes
- Frits
- Refractories
- Electrical porcelain
- Dinnerware
- Artware

METALLURGICAL

- Fluxes
- Mold and tundish powders

FINE PARTICLE SIZE

The fine particle size grades are produced by milling and air classifying to a top and medium size specification. These grades are available as a 1250 and 5000 mesh product and have a typical aspect ratio of 3:1.

PLASTICS/ELASTOMERS

- Paintable/Plateable wheel covers
- Roof racks
- Automotive door handles
- Shower handles
- Power tool housings

- Head lamp bezels
- Automotive mirror housings
- Seals
- O-rings
- Adhesives
- Thin film

PAINTS & COATINGS

- Industrial and marine coatings
- Powder coatings (Decorative)
- Pipe coatings
- Architectural coatings
- Aerosol coatings

- Special purpose coatings
- Automotive refinishes
- OEM coatings

CONDUCTIVE/ANTI-STATIC

ELEKTRA-STAT® is a chemically modified, reinforcing wollastonite with carbon black that provides improved

physical performance along with conductive/antistatic properties in a variety of polymer composites.

- Laboratory flooring, matting and work surfaces
- Electrostatic painted applications

- Electronic housings
- Computer chip packaging
- Fuel contact applications
- Conductive metal replacement

- Wire and cable shielding
- EMI Shielding

A WORLD OF APPLICATIONS



One Mineral, A World Of Applications

- State-of-the-art processing operations
- World-class chemical modification technology
- Industry leader
- World-wide distribution network
- Customer-focused global technical support
- Premium quality wollastonite

Wollastonite is a naturally occurring mineral, is non-hazardous, and is not regulated by shipping agencies. Based upon toxicological studies, there is no evidence of any significant health risks to workers.

NORTH AMERICAN OPERATION

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Fax: 518-963-1110

ISO 9001/14001 CERTIFIED

LATIN AMERICAN OPERATION

Hermosillo, Sonora, Mexico
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Fax: 52-662-289-1090

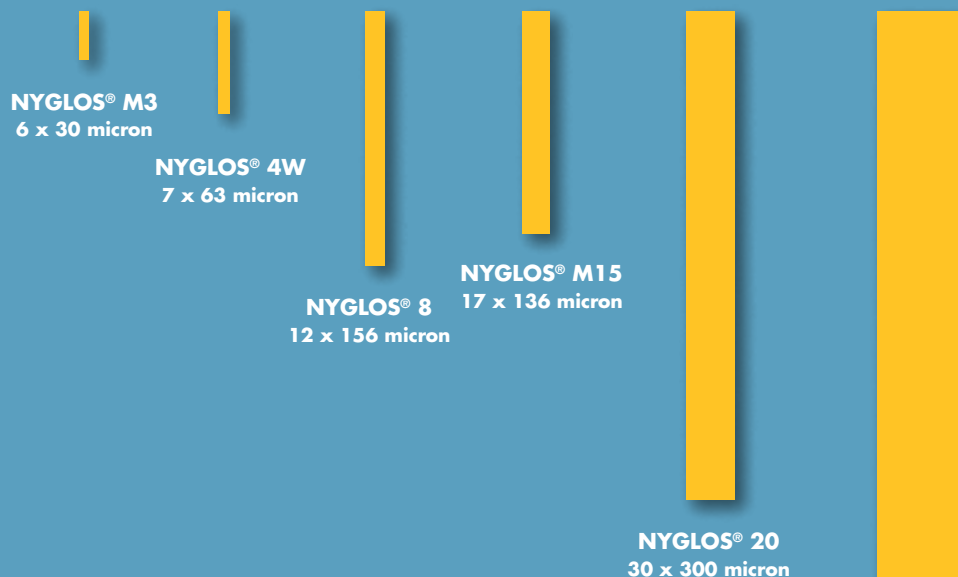
ISO 9001/14001 CERTIFIED

For any further information,
please contact:

info@nycominerals.com

Relative Particle Size

High Aspect Ratio Grades



NYAD® Powder Grades

