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### **FIRE RETARDANT GRADE VERMICULITE**

This is a product produced by the careful separation and purification of natural Vermiculite. The particles are further processed to separate them into a narrow particle size range. The vermiculite is used in fire rated composites, building materials, and as an intumescent fire retardant in polymers.

#### **Chemical Analysis:**

|                                                   |       |
|---------------------------------------------------|-------|
| As delivered, before exposure to high temperature |       |
| Crystalline and Bound Water                       | 7-13% |
| Analysis after calcination                        |       |
| SiO <sub>2</sub>                                  | 44%   |
| Al <sub>2</sub> O <sub>3</sub>                    | 19%   |
| Fe <sub>2</sub> O <sub>3</sub>                    | 9%    |
| MgO                                               | 27%   |

#### **Physical Analysis:**

|                                       |                              |
|---------------------------------------|------------------------------|
| Combustion Temp                       | Will not burn                |
| pH                                    | 6. to 8.                     |
| Cation Exchange Capacity              | 50-100 M.eq/100g (typically) |
| Color                                 | Brown or Dark Gold           |
| Particle Shape                        | Sheet Platelets              |
| Hardness, Mohs                        | 1 to 2, very soft            |
| Density                               | 50 to 70 lbs/ft <sup>3</sup> |
| Aspect Ratio                          | 20 to 40 :1                  |
| Expansion Ratio                       | 10:1                         |
| Expansion Temperature                 | 1200 to 1800 degrees F       |
| Melting Temperature                   | Over 2,200 degrees F         |
| Particle Size Distribution (typical): |                              |
| +30 US mesh                           | 0 to 1.5%                    |
| 30/50                                 | 0 to 20                      |
| 50/100                                | 30 to 76                     |
| -100                                  | 24 to 7                      |

Packing: 50 lb. bags or supersacks

Origin: USA