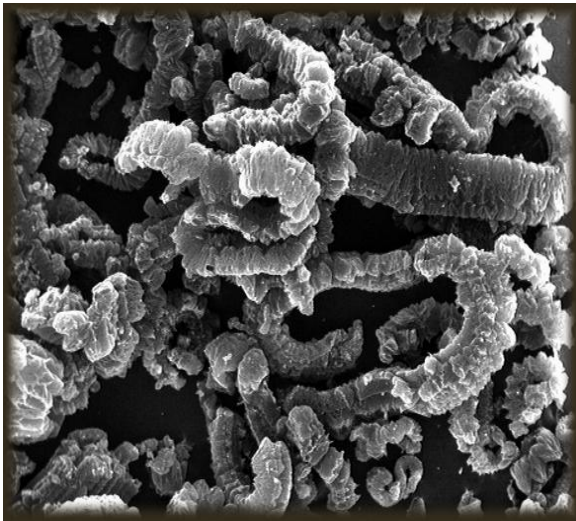




Expandable Graphite



Graphite is a unique material, which has a structure consisting of carbon atoms bonded in hexagonal rings joined at their corners to form large planar arrays. These carbon layers are held together by weak interlayer bonds which cleave easily, giving graphite its superior lubricity. A layered structure combined with weak bonding make graphite an ideal material for intercalation, which is the introduction of atoms or molecules between the layers. Sulfuric is the most common of these intercalates. When heated, intercalated compounds vaporize and create pressure. This causes exfoliation- expansion of the graphite layers. The exfoliation behavior of expandable graphite makes it an excellent additive for use with intumescent fire retardant applications.

Benefits of Expandable Graphite as a Fire Retardant

- ✓ Excellent Char Formation
- ✓ Halogen Free
- ✓ Excludes Air from Fuel
- ✓ Superior Heat Diffusion
- ✓ Cost Effective
- ✓ Thermal Radiation Shielding

Typical Properties

Grade	Nominal Size (µm)	Carbon (%)	Moisture (%)	Sulfur (%)	Expansion Ratio (cc/g)	pH range
3772	> 300	≥ 98	0.9	3.1	300:1	5 - 10
1721	> 300	≥ 98	0.9	3.5	300:1	1 - 6
3721	> 300	≥ 95	0.9	3.5	290:1	5 - 10
1722	> 300	≥ 95	0.9	3.5	290:1	1 - 6
3335	> 300	≥ 85	0.9	3.2	270:1	5 - 10
3577	> 300	≥ 85	0.9	3.4	270:1	1 - 6
3570	> 180	≥ 80	0.8	3.1	230:1	5 - 10
1395	> 180	≥ 80	0.8	3.5	230:1	1 - 6
3558	> 180	≥ 99	0.8	3.1	210:1	5 - 10
3626	> 75	≥ 80	0.6	3.0	160:1	5 - 10
3494	> 75	≥ 80	0.9	2.9	90:1	1 - 6
3538	< 75	≥ 80	1.4	2.6	60:1	5 - 10