

# Carbon Fibre, Graphite or Expanded Graphite?

## Differences Between the 3 Materials

Carbon Fibre	Graphite	Expanded Graphite
<ul style="list-style-type: none"> <li>• High Tensile Strength (5 times stronger than steel)</li> <li>• Very Light</li> <li>• Inert and unreactive</li> <li>• Expensive</li> </ul>	<ul style="list-style-type: none"> <li>• Inert and unreactive</li> <li>• Solid Lubricant</li> <li>• Good conductor of heat and electricity</li> <li>• Brittle, breaks apart easily (E.g. Used as pencil lead)</li> </ul>	<ul style="list-style-type: none"> <li>• Low Density</li> <li>• Highly compressible</li> <li>• Incombustible</li> <li>• Able to operate in all pH range (1 to 14)</li> <li>• High operating temperature range</li> <li>• Good Corrosion Resistance</li> <li>• High Heat Dissipation</li> </ul>

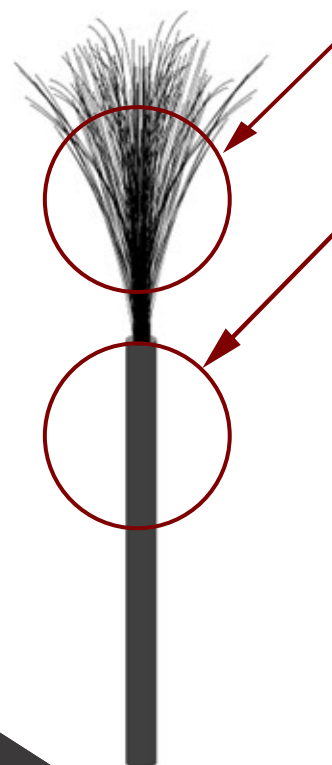
## Conventional Carbon Fibre Graphite Packing

- Carbon fibre is the carrier material.
- Graphite is applied on to the carrier material through:
  1. **Colloidal Graphite Dispersion**
    - Liquid suspension of graphitic carbon in either water or various organic solvents.
    - Dispersions permit application of a uniform and fine distribution of graphite on the surface of the target material.
  2. **Graphite Particles with Additives And Lubricants**
    - Carrier material is incorporated with additives; like corrosion inhibitors, lubricants and blocking agents; before graphite flakes are dusted on the carrier material.

*All added additives and suspension fluids will eventually dry up!*

*The desired properties of the additives will be lost and the packing will dry up and fail.*

## SLADE Patented Carbon Fibre Reinforced Expanded Graphite Packing



### Carrier Fibre:

- High Strength Structural Carbon Fibre Mono Filament.

### Expanded Graphite Tape:

- Uses 99.26% Purity Nuclear Grade Expanded Graphite Tape.
- SLADE Patented Pultrusion Process that completely wrapped the Expanded Graphite around the Carbon Fibres.



### 4 Key Secrets of Why SLADE Expanded Graphite Works:

- **Highly Compressible:** When compressed properly, the expanded graphite will form a homogenous mass that tightly grips, fills and forms the profile along its sealing faces.
- **High Heat Dissipation:** It conducts heat very quickly and eliminates the need for cooling.
- **Self Lubricating:** Excellent self lubricating property ensuring low coefficient of friction eliminating need of flushing.
- **No Additives:** Only SLADE can offer this! Only SLADE has this technology! No Additives, Nothing to Dry Up. SLADE Packings will not experience shrinkage of volume that leads to sudden failure of packings.