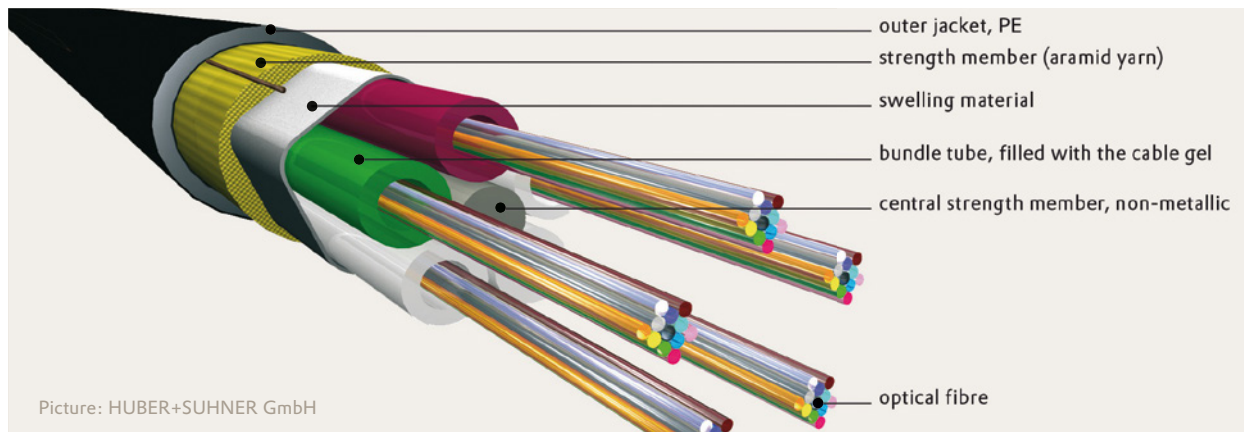


# AEROSIL® Fumed Silica

## Cable Gel Applications



Use of AEROSIL® fumed silica for cable gels gives excellent performance when it comes to shear-thinning, providing quick recovery and the gel does not require heat to be applied.

AEROSIL® fumed silica improves properties of oil-based filling compounds for wire and cables to protect fibers (e. g. optical fibers) as it...

- supports to **isolate** sensitive optical fibers **from external forces**.
- **protects** the fibers **from moisture**.
- **provides thickening** to help the gel to **stay** where it is **placed**.
- helps to form a **seal** to keep out contaminants like **dust, dirt** and **water**.
- is non-conductive/ does not negatively influence **di-electrical properties**.



### AEROSIL® fumed silica recommendation by base oil and required properties

Base Oil	Hydrophobicity	Viscosity		Oil Separation		Cone Penetration	
		Good	Best	Good	Best	Good	Best
Polybutene	Hydrophilic	AEROSIL® 200	AEROSIL® 300	AEROSIL® 200	AEROSIL® 300	AEROSIL® 200	AEROSIL® 300
	Hydrophobic	AEROSIL® R 974 +	AEROSIL® R 202 (R 208) +++	AEROSIL® R 974 +	AEROSIL® R 202 (R 208) +++	AEROSIL® R 974 +	AEROSIL® R 202 (R 208) +++
Polypropylene Glycol	Hydrophilic	Hydrophilic types does not show any thickening effect					
	Hydrophobic	AEROSIL® R 106 ++	AEROSIL® R 202 (R 208) +++	AEROSIL® R 106 ++	AEROSIL® R 202 (R 208) +++	AEROSIL® R 106 ++	AEROSIL® R 202 (R 208) +++
Polyalpha-olefin (PAO)	Hydrophilic	AEROSIL® 200	AEROSIL® 150	Good with all types	Good with all types	Good with all types	Good with all types
	Hydrophobic	AEROSIL® R 106 ++	AEROSIL® R 974 +	AEROSIL® R 106 ++	AEROSIL® R 974 +	AEROSIL® R 106 ++	AEROSIL® R 974 +
Mineral Oil	Hydrophilic	AEROSIL® 200	AEROSIL® 300	Good with all types	Good with all types	Good with all types	Good with all types
	Hydrophobic	AEROSIL® R 106 ++	AEROSIL® R 974 +	AEROSIL® R 202 +++	AEROSIL® R 974 +	AEROSIL® R 202 +++	AEROSIL® R 974 +
Silicone Oil	Hydrophilic	AEROSIL® 200 HV	AEROSIL® 300	Good with all types	Good with all types	Good with all types	Good with all types
	Hydrophobic	AEROSIL® R 974 +	AEROSIL® R 106 ++	AEROSIL® R 974 +	AEROSIL® R 106 ++	AEROSIL® R 974 +	AEROSIL® R 106 ++

+ = Low Hydrophobicity    ++ = Medium Hydrophobicity    +++ = High Hydrophobicity

- Hydrophilic fumed silica provides optimized thickening effects in non-polar oils.
- Hydrophobic fumed silica provides viscosity control and increased water repellency in semi-polar to polar oils.
- The surface area of the silica and the volume fraction of the silica in the final mass play a role in the long term storage and heat stability.

### Premium product recommendations

- **AEROSIL® R 816**: Provides overall the best effects in most base oil systems and gives outstanding stability
- **AEROSIL® R 805**: Provides excellent performance in oil separation and cone penetration due to high hydrophobicity as well as giving outstanding stability.

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Evonik supports you in selecting the best suited AEROSIL® product and optimizing current formulations through our Application Technology Group.

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