

CAB-O-SIL® ULTRABOND™ Fumed Silica

Product Highlights



CAB-O-SIL ULTRABOND fumed silica is our highest performing surface treated fumed silica. Compared to other polydimethylsiloxane (PDMS) treated silicas, CAB-O-SIL ULTRABOND fumed silica improves adhesives systems by reducing the viscosity in the application without compromising sag resistance.

CAB-O-SIL ULTRABOND fumed silica is best suited for epoxy adhesives with loading levels greater than 5% and those that require high sag resistance and excellent storage stability.

Key Applications

- ◆ Structural adhesives for epoxy formulations in a wide range of industries:
 - ◆ Automotive
 - ◆ Aerospace
 - ◆ Construction
 - ◆ Electronics
 - ◆ Flooring
 - ◆ Wind bonding paste

Performance Features

In epoxy resins, CAB-O-SIL ULTRABOND fumed silica provides excellent sag resistance and storage stability compared to other PDMS treated silicas. Figure 1 shows the sag resistance in epoxy resin, as assessed by a Yield Stress measurement, upon manufacture, and after 28 days of accelerated aging at 60 °C. The epoxy resins containing CAB-O-SIL ULTRABOND fumed silica were shown to provide higher Yield Stress both initially and after aging than epoxies made with competitive PDMS treated silicas.

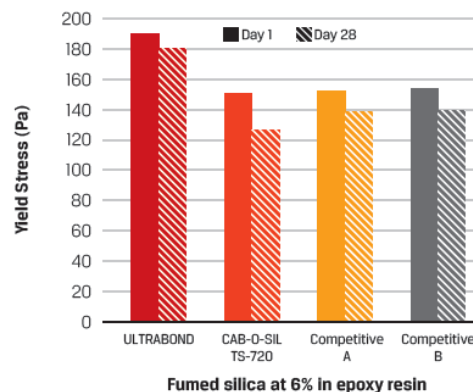


Figure 1: Sag resistance of Hexion EPON 828 epoxy resin containing PDMS-treated fumed silicas after 28 days of accelerated aging at 60 °C

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As shown in figure 2, instead of the typical fumed silica loading of 8% in epoxy based bonding paste, CAB-O-SIL ULTRABOND fumed silica loading can be reduced by 10 – 15% versus competitive products, while still maintaining similar sag resistance performance. This can effectively reduce the processing time, allowing bonding paste producers to decrease their respective manufacturing costs while increasing their manufacturing capacity.

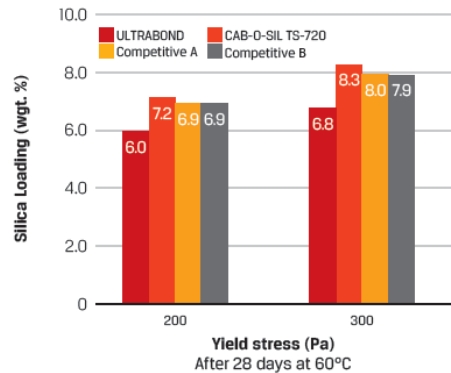


Figure 2: Fumed silica required to achieve a yield stress in epoxy resin

Product Form & Logistics

- ◆ Product Form: Powder
- ◆ Regional availability: Global
- ◆ Bag Packaging Options: 150 kg bags
- ◆ Bulk Packaging Options: Multiple

For information on product-specific storage conditions, please refer to the applicable Safety Data Sheet (SDS) available from your Cabot representative.



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