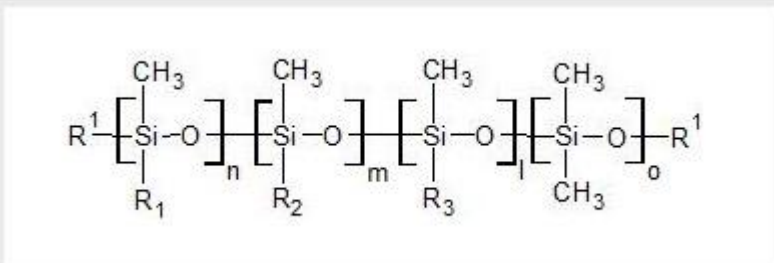


Siloxane Chemistry

A new siloxane polymer enhances adhesion and heat resistance



Siloxane based polymers in industry refer to linear polydimethylsiloxane with special pendent groups. A combination of properties such as their backbone flexibility, low intermolecular interactions, low surface tension and thermal stability provide salient optical properties useful for engineered optical materials.

The lower silicon electronegativity (1.8) yields a highly polarized thereby highly ionic Si-O bond, resulting in a large bond energy, 452kJ/mole which is much higher than a C-C bond. The thermal stability of the siloxane polymer stems from this high bond energy.

The pendent functional groups of the polymers are modified by our patented technology to enhance physical and optical properties for stronger adhesion to glass, lower refractive index and higher reactivity to UV cure systems.

Now UV curable fluoro-siloxane coatings are available for specialty optical fiber applications. HT series will allow new applications of specialty fibers to higher power and/or extreme environment applications.