Technical Data Sheet

www.silfluosilicone.com

Silfluo LS-O110

Waterborne Amino Silane Oligomer (VOC-Free)

Description:

Silfluo LS-O110 is a highly advanced, eco-friendly organosilane adhesion promoter, chemically identified as an aqueous 3-aminopropylsilane hydrolysate (amino-functional siloxane oligomer).

Unlike conventional monomeric aminosilanes that release highly volatile and flammable alcohols (VOCs) upon hydrolysis, LS-O110 is completely pre-hydrolyzed and supplied as a stable, water-based oligomeric solution. This unique formulation makes it the absolute material of choice for formulators transitioning to zero-VOC, environmentally compliant waterborne systems. Furthermore, its pre-condensed oligomeric structure allows it to form exceptionally dense, robust crosslinking networks at the organic-inorganic interface, delivering unmatched adhesion for water-based coatings, fiberglass sizings, and advanced mineral binders.

Performance equivalent to industry standards: Evonik Dynasylan HYDROSIL 115.

Typical Physical Properties

Silfluo Code:	LS-O110
Chemical Name:	Amino Silane Oligomer
Synonyms	Aqueous 3-aminopropylsilane hydrolysate; Aminofunctional alkoxysilanes
Appearance:	Colorless transparent liquid
Solid Content (%):	20-24
Density (25°C, g/cm³)	1.06
Refractive Index (n25/D)	1.3690-1.3795
Flash Point:	80°C Closed Cup
Chemical Structure:	

Features

1. Zero-VOC & Eco-Compliant: Fully pre-hydrolyzed in an aqueous medium, it completely eliminates the emission of hazardous alcoholic byproducts (like methanol or ethanol) during formulation and curing, ensuring strict compliance with modern environmental and indoor air quality standards.
2. Seamless Waterborne Integration: Exhibits absolute miscibility with water and premium compatibility with a wide array of aqueous polymer dispersions (such as waterborne acrylics, epoxies, and polyurethanes) without inducing phase separation or requiring co-solvents.
3. Advanced Oligomeric Network: The pre-condensed oligomeric backbone generates a significantly thicker, more densely crosslinked siloxane barrier at the substrate interface compared to standard monomers, drastically enhancing wet-adhesion and moisture resistance.

Applications:

Silfluo LS-O110 is engineered specifically for high-performance, environmentally friendly aqueous systems:

1. Waterborne Paints & Coatings: Serves as a critical, VOC-free adhesion promoter and primer in high-end waterborne epoxies, acrylics, and PU coatings. It profoundly improves the coating film's scratch resistance and unprimed adhesion to difficult metallic and glass substrates.
2. Fiberglass Sizing & Composites: Extensively utilized as the primary coupling agent in aqueous sizing baths for glass fibers and woven glass fabrics. It maximizes the interfacial shear strength and hydrolytic stability of the final reinforced composite laminate.
3. Mineral Insulation & Abrasives: Formulated into water-based phenolic resin binders used for manufacturing mineral wool insulation and bonded abrasives, significantly upgrading their mechanical integrity and resistance to severe humidity.
4. Eco-Friendly Foundry Resins: Incorporated as a highly efficient performance additive in cold-curing phenolic and furan foundry binder systems, improving the tensile strength of the sand core while reducing toxic emissions on the foundry floor.
5. Water-Based Sealants & Adhesives: Acts as a premium internal crosslinker and filler-treatment agent in advanced aqueous sealants, enhancing the dispersion of mineral pigments and boosting overall joint elasticity.

Packing

In 25kg pail, 200kg drum and 1000kg IBC.

Safety and Storage

Keep in a cool, strictly dry, and well-ventilated environment, aggressively avoiding direct sunlight, heat, and open flames. Although water-based, the product contains active amino groups and exhibits mild alkalinity; keep strictly away from strong acids and oxidizing agents. Do not freeze. The shelf life is a minimum of 12 months from the date of manufacture when stored at temperatures between 5°C and 25°C in tightly sealed, original unopened containers. Storage beyond the shelf life does not necessarily mean the product is unusable; however, the properties required for the intended use must be thoroughly checked for quality assurance reasons prior to formulation.