MANTA

**Technical Data Sheet**

Version: 1.0

# Manta A112T

Technical-Grade Diamino-Functional Silane (85%)

## Description

Manta A112T is a technical-grade diamino-functional silane based on N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, with a minimum diaminosilane active content of 85%. It features two reactive amino groups and three hydrolyzable methoxysilyl groups.
Manta A112T ensures faster dispersion and more uniform distribution within polymer matrices and surface-treatment baths. It acts as an exceptional molecular bridge, bonding organic resins (epoxies, urethanes, phenolics) to inorganic substrates (glass, metals, minerals).
Performance equivalent to Evonik Dynasylan DAMO-T.

## Typical Physical Properties

| | |
|---|---|
| Manta Code: | A112T |
| Chemical Name: | (2-Aminoethyl)-3-aminopropyltrimethoxysilane (Technical Grade)<br>N-beta-(Aminoethyl)-gamma-aminopropyltrimethoxysilane mixture |
| CAS No.: | 1760-24-3 (Main Component) |
| Appearance: | Colorless to Light Yellow Transparent Liquid |
| Active Content (Diaminosilane): | 85% min. |
| Ash Content (SiO2): | 27-29% |
| Amine Value: | 13-15 |
| Density (25°C, g/cm$^3$): | Approx. 1.030 |
| Refractive Index(n25/D): | 1.4300-1.4800 |

## Features

1. Enhanced Dispersibility: The 85% concentration lowers the product's viscosity, allowing for easier handling, more accurate dosing, and faster integration into high-viscosity resins.
2. Dual-Amine Power: Contains primary and secondary amines, providing stronger chemical bonding to organic polymers than mono-amino silanes.
3. Excellent Cost-Efficiency: Provides a high-performance adhesion solution optimized for large-scale industrial use in foundry and coating sectors.
4. Improved Wet Adhesion: Significantly boosts the resistance of cured systems to water, humidity, and chemical exposure.

## Applications

Manta A112T is a high-performance, multi-functional additive designed for a broad spectrum of industrial applications where superior adhesion and rapid resin integration are critical:

**1. Foundry Resins (Cold-Box & Hot-Box)**

As an additive to various foundry resins (such as Phenolic, Furan, and Urethane systems), Manta A112T significantly boosts the mechanical strength of the sand core. Its optimized viscosity allows for uniform distribution during high-speed mixing, leading to higher humidity resistance and improved surface finish of the castings.

**2. Glass Fiber & Mineral-Filled Composites**

Functions as a high-efficiency sizing agent or finish constituent for glass fibers, glass fabrics, and mineral wool. It provides an excellent molecular bridge between the inorganic surface and the polymer matrix (Epoxy, Phenolic, etc.), significantly improving wet/dry mechanical properties and preventing fiber-matrix de-bonding.

**3. Sealants & Adhesives (RTV & Hybrid)**
Acts as a powerful internal adhesion promoter and primer for RTV silicones, two-part polyurethanes, and MS/SPUR hybrid sealants. It is particularly effective for achieving robust adhesion to difficult-to-bond substrates such as aluminum, stainless steel, and various engineering plastics without the need for additional primers.

**4. Paints & Coatings (Industrial & Heavy-Duty)**
Used as an additive or primer in 2K epoxy and polyurethane coatings. Manta A112T enhances inter-coat adhesion and increases the resistance of the coating film to water, salt spray, and chemical corrosion. Its 85% active format ensures smooth incorporation into solvent-borne and high-solids coating systems.

**5. Mineral-Filled Polymers**
Specifically designed for the pretreatment of inorganic fillers (such as Silica, Wollastonite, Mica, and Talc) or pigments. It improves the dispersibility of fillers within the polymer melt, resulting in composites with higher impact strength, improved processability, and superior electrical properties.

**6. Metal Surface Pre-treatment**
Utilized in the formulation of metal primers and conversion coatings. It creates a dense, hydrophobic siloxane layer on metal surfaces (Steel, Zinc, Aluminum), providing a reactive base that significantly anchors subsequent paint layers and improves long-term anti-corrosion performance.

**7. Resin Modification**
Highly effective for the chemical modification of phenolic, melamine, and epoxy resins. By integrating into the resin backbone, it enhances the thermal stability and moisture resistance of the final cured products used in laminates and friction materials.

## Packaging

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

## Safety and Storage

Keep away from heat and open flame. When stored at or below 25 °C in the original unopened containers, this product has a usable life of 12 months from the date of production.

## Contact Information

Nanjing Manta New Material Co., Ltd
Add: Room 102-247, Building 17, No. 1 Qiliqiao North Road, Nanjing Area of the China (Jiangsu) Pilot Free Trade Zone, Nanjing, China
Factory: Miaoguan Town Industrial Park, Sishui County, Jining City, Shandong Province, China
Mob: +86 18961071292
Mail: inquiry@mantasil.com Web: www.mantasil.com