Parylene

Precision and quality into world class products

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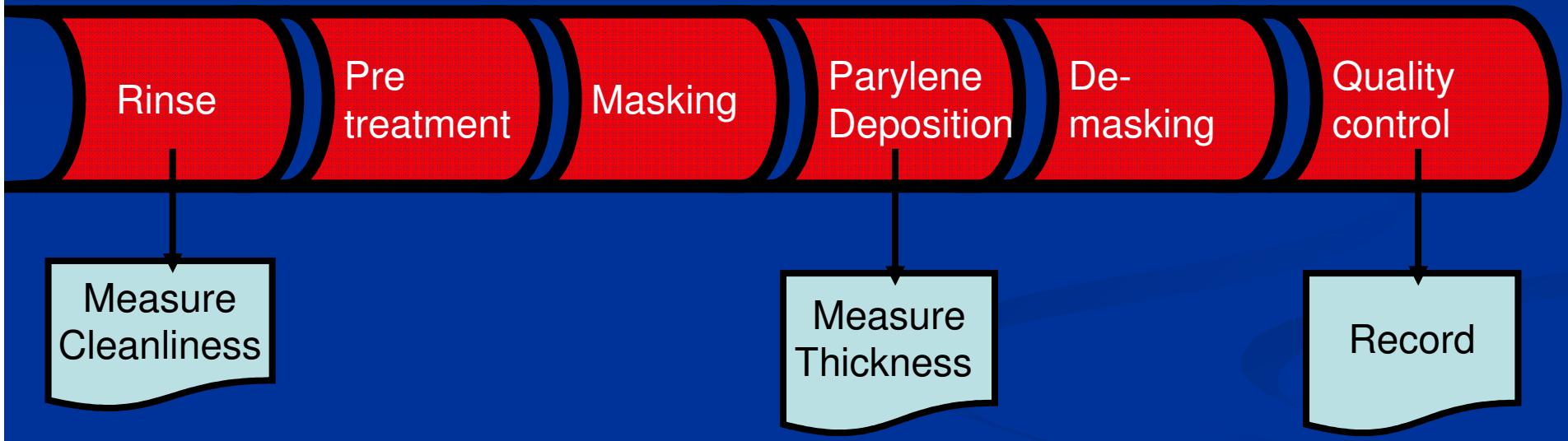
What is Parylene Coating?

Parylene has become the protective coating of choice for challenging electronics, aerospace and medical applications. Conformal coatings are generally liquid in nature, while Parylene is formed on surfaces from a high purity powder known as a dimer with no liquid stage. The resulting film is thin and conformal, has no pinholes, and resists the effects of organic solvents, inorganic reagents and acids. Parylene serves multiple purposes including electrical insulation, moisture and chemical isolation, mechanical protection, enhanced lubricity, and surface consolidation to avert flaking or dusting.

Parylene History

The unique Parylene polymer series was isolated by a research chemist in the late 1940s at the University of Manchester in England. Union Carbide Corporation scientist William Gorham later developed a deposition process to apply the film, and Union Carbide commercialized the material and process.

Parylene process



Parylene technology

Performances of Parylene

We add a few microns of quality to your product !

- Uniformity and homogeneous
- Thin and thickness controlled

Parylene

Resin

Parylene Treatment

comelec

Parylene technology

Parylene N Properties:

Parylene N has the highest dielectric strength of the three versions, and a dielectric constant value independent of frequency. Parylene N is commonly used in high frequency applications.

Parylene C Properties

Parylene C having a useful combination of electrical and physical properties including particularly low moisture and gas permeability.

Parylene D Properties

Parylene D has two chlorine atoms added to the benzene ring. This gives the resulting film greater thermal stability than either Parylene N or C. It has reduced ability to penetrate crevices compared to Parylenes N and C.

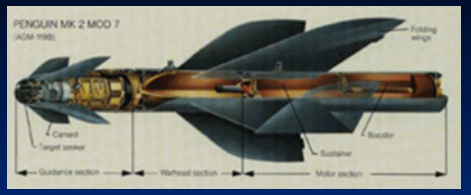
Parylene applications Industrial and Commercial

Parylene seals surfaces against soils, oils, resists abrasion, adds lubricity, does not interfere with substrate elasticity or hardness, adds high dielectric value with minimal dimensional change. Parylene resists high temperatures, hydrocarbons, corrosive gases, moisture. Parylene protects telecommunication devices and assemblies from moisture and corrosive gases, and provides dielectric protection.

- Elastomers/Ferrites
- Coil FormsPressed
- Circuit Boards and Assemblies
- Automated Controls
- Ferrite Cores and Magnets

Polymer Seals and O-Rings
Molded Components
SensorsSilicone Keypads
Connectors

Parylene applications Military and Defense



Parylene meets MIL-I-46058C, Army Regulation 70-71, NAV.INST. 3400.2, and USAF-80-30 regs, resists moisture and tolerates rugged environmental conditions.

- Field Computers
- Electronic Circuits
- Navigation Equipment
- Radar Devices
- Advanced Avionics and Flight Deck Controls
- Munitions and Weapons
- Guidance Systems

Parylene applications
High Risk Electronics

Parylene offers dielectric protection in a thin layer, protects and stabilizes delicate features, works effectively with minimal added mass.

- Circuit Boards
- Sensors
- Integrated Circuits/Hybrids
- MEMs Devices
- Motor Assemblies
- Coil Forms
- Silicon Wafers

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Parylene applications Aviation and Aerospace

Light-weight Parylene functions under rugged vacuum conditions and extreme temperatures, and has been proven in multiple spaceflight applications.

- Flight Deck Controls
- Navigation and Controls
- Optical Devices
- Satellite and Spacecraft Devices
- Deep Space Vision Systems

Parylene applications Medical Technology

Parylene is biocompatible, bio-stable, lubricious, moisture resistant and can be sterilized.

- Needles
- Hearing Aids
- Prosthetic Devices
- Implantable Components
- Catheters
- Electrodes
- Stents
- Epidural Probes
- Cannulae Assemblies