

Parylene Coatings

All Parylene coatings are created using a monomer deposition process in a vacuum chamber. The monomer condenses and polymerises on the surface and forms a conformal and uniform coating which follows the surface topology.

| | Parylene N | Parylene C | Parylene D | Silicone |
|--|------------------|-------------|---------------|--------------|
| Density (g/cm ³) | 1.11 | 1.29 | 1.42 | 1.1 - 1.3 |
| Friction Coefficient Static / Dynamic | 0.25 / 0.25 | 0.29 / 0.29 | 0.33 / 0.31 | – |
| Absorption of Water %/day | 0.01 | 0.06 | Less than 0.1 | 0.1 |
| Moisture transmission rel. to Silicone | 0.25 | 0.06 | 0.04 | 1 |
| Dielectric V/μm | 280 | 230 | 220 | – |
| Thermal Properties Perm. / Short Time °C | 90 / 120 | 125 / 200 | 160 / 300 | – |
| Hardness Rockwell | R85 | R80 | R80 | Shore A40-45 |
| Refractive Index | 1.661 | 1.639 | 1.669 | 1.43 |
| Processing Temperature | Room temperature | | | |



Parylene N

This is an outstanding coating for silicone and other elastomers. Most commonly it is used to coat printed circuit boards. This is the lowest cost coating which meets most application requirements.

This grade of Parylene has a very low dielectric strength making it suitable for electronic devices. It also has excellent penetration into small spaces and gaps.



Parylene C

Our standard and most widely used Parylene coating. This is one of the most robust variants.

It has excellent properties when protecting against moisture and gas penetration. The additional chlorine molecule in each monomer adds hydrophobic properties and is used in many applications including LEDs, Medical & Automotive.



Parylene D

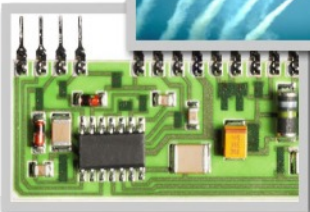
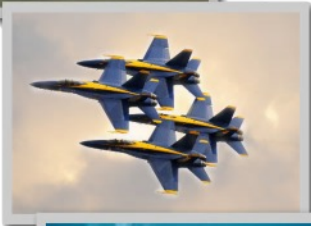
A high thermal stability coating for demanding applications which is extremely hydrophobic.

Often used in PCB applications for Automotive, Electronics, Aerospace and Defence applications.

Aviation & Aerospace

Aviation applications are extremely demanding. Heat and cold combined with low and high pressures during takeoff and landing are challenging to electronics and flight control systems.

Parylene coating from TiXX serve as an enduring protection. With TiXX Parylene Coatings your avionic systems become safer and more resistant to corrosion and damage.



Aviation and Aerospace applications have to endure difficult conditions

- Exposure to moisture, chemicals/solvents
- Sub-zero temperatures
- Most extreme environments
- Water condensation

Parylene is often the best solution

- Parylene conforms to MIL-I-46058C and IPC-CC-830 for aerospace and military electronics applications
- Excellent dielectric and chemical barrier
- Thermally stable up to 300°C
- Optically transparent
- Completely conformal coating process
- Corrosion-resistant

Parylene is an optically transparent polymer that is applied as a monomer in its gaseous phase in a vacuum at room temperature and is completely pore free. With this procedure tricky surfaces and structures e.g. sharp edges, undercuts and small gaps can be coated evenly. In one process operation thicknesses from 1µm to 50µm can be applied.