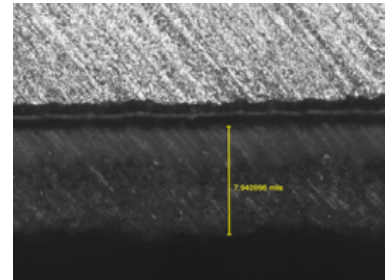


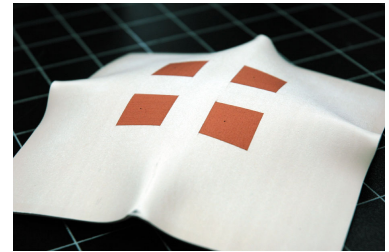
Kinetic Metallization of High Performance Polymers



Material:	Teflon® PTFE	Ultem® Polyetherimide	Nylon® Polyamides
Mixtures:	Al ₂ O ₃	BaTiO ₃	Fused Silica Quartz



Boeing Micrograph of 8-mil thick Ultem®/Alumina Dielectric on 2-mil Thick TEDLAR Bonded to Rexolite Substrate



High-Performance Paint Alternative

Most high performance paints suffer from several environmental and worker safety shortcomings, including evolution of volatile organic compounds (VOC), flammability, and worker exposure limit.

Inovati has developed high performance polymer KM Protective Coatings (KMPC) that can replace said paints. The coatings are deposited onto planar and complex shaped surfaces using the Kinetic Metallization (KM) process. Powdered feedstock is deposited directly as fully dense coatings with no solvents, binders, or other volatile organic compounds. This leads to improved turn-around through the removal of drying time associated with paint processes.

The properties of thermoplastic polymer materials, such as Ultem® PEI or Teflon® PTFE, can be enhanced through additions of ceramic or metallic particles. This enables the potential to tune the wear, conductive, or dielectric properties of the coating. These environmentally benign coatings offer extreme corrosion protection of the underlying surface.

Use of the KM - Production Coating System (KM-PCS) and a translation or multi-axis robot enables automated deposition of material at high throughput. The KM - Mobile Coating System (KM-MCS) enables field repair of damaged coatings.

KM Protective Coating

- Wear resistant
- Corrosion resistant
- High and low temperature compatibility
- 100% Density
- Field repairable

KMPC Benefits

- Low temperature
- Low cost
- Environmentally safe
- Worker safety
- No soundproofing
- No grit blasting
- No explosive gas or chemicals
- No VOCs