Thermal Spray Coatings
for Electrical Insulation and Wear

Curtiss-Wright Surface Technologies dielectric coatings are used on high and low voltage applications, for both DC and RF.

Service Information

Our dielectric strengths for ceramic coatings range from 350 to over 800 volts per mil, as a function of thermal spray process and parameters. Basically, for the high end insulation applications the HVOF (high velocity oxygen fuel) process is chosen over the traditional plasma process.

Materials

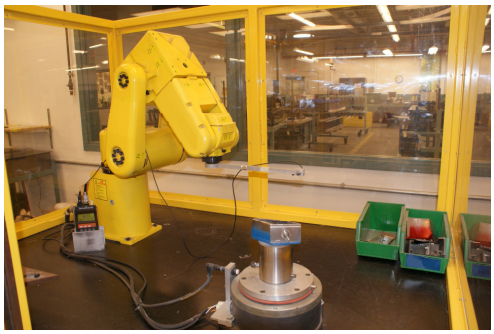
Curtiss-Wright Surface Technology's (CWST) thermal spray dielectric materials are oxide ceramics. These materials include oxides of aluminum and titanium. These are the primary materials used.

Benefits

The inherent benefits of these dielectric coatings include durability, wear and corrosion resistant, and they typically have higher dielectric strengths than polymers.

Applications

- Semiconductor heat sinks
- Electro-surgical instruments
- Sensors
- Probes
- Electrical housings
- Automotive components
- Telecommunications components



Automated testing helps ensure superior process control.

Center for Advanced Coatings

Our Center for Advanced Coatings offers customers superior thermal spray process capabilities. It is designed for applications development, parameter studies, coatings qualification and prototype work.

Our experts work directly with customers to diagnose problems and devise solutions. We can fully quantify coatings by analyzing composition and evaluating structure.

GPX system	Nominal chemistry	Description	Macro hard	Micro hard	Best finish	Bond strength	Max. temp	Dielectric strength
3101PP	Aluminum Oxide	Electrical conductivity or resistivity	RC 62	1,000 DPH_{300}	4 AA	4,000 PSI	1,800 F	600 v/mil
3101HP	Aluminum Oxide	High velocity dense coating	RC 66	1,100	2	5,000	1,800	800 v/mil
3110PP	Aluminum Oxide/ Titanium Oxide	Electrical conductivity or resistivity	RC 62	1,000	4	4,000	1,800	300 v/mil
3110HP	Aluminum Oxide/ Titanium Oxide	High velocity dense coating	RC 66	1,100	2	5,000	1,800	400 v/mil

PP=Plasma HP=HVOF

Curtiss-Wright Surface Technology's (CWST) and the affiliated companies of Metal Improvement Company provide surface treatments for demanding industrial applications including specialty coatings, shot peening, laser peening and heat treating from 68 facilities located in North America, Europe and Asia. Curtiss-Wright Surface Technologies is a wholly-owned subsidiary of the **Curtiss-Wright Corporation** (NYSE: CW), a diversified global provider of highly engineered products and services in the areas of metal treatment, motion control and flow control. The company applies its capabilities in the aerospace, agricultural, automotive, chemical processing, general industrial, marine, medical, military, mining and power generation markets.

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