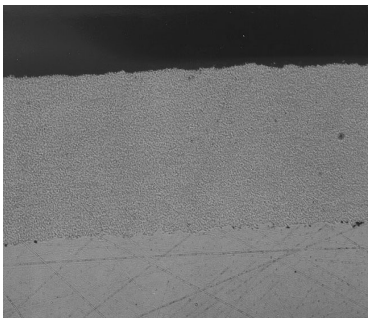
Tungsten Carbide Coatings
For Hard Chrome Replacement

Service Information

Curtiss-Wright Surface Technologies (CWST) High Velocity Oxygen Fuel (HVOF) tungsten carbide coatings can replace hard (electrolytic) chrome plate in demanding applications, such as aerospace landing gear, actuators and jet engine bearing applications.



Tungsten carbide coating

Landing gear

CWST HVOF tungsten carbide coatings are proven in demanding applications:

- Approved PWA military engines.
- Used in the Joint Strike Fighter.
- Various landing gear and actuator applications.
- Off angle spray applications. Coatings are applied to inside diameters up to 2.5 X the diameter size. For example, a cylinder ID 2 inches in diameter can be coated 5 inches deep.

Clear Advantages

CWST HVOF tungsten carbide coatings deliver superior value as compared to hard chrome plate.

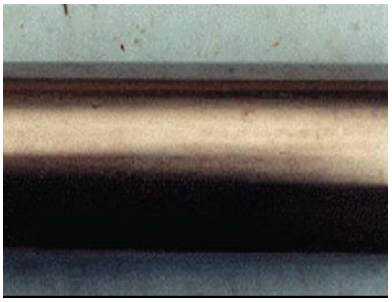
- Superior wear prevention performance.
- Superior corrosion protection performance.
- More environmentally friendly.
- Improved life performance over time.
- Can be more cost-effective.

Curtiss-Wright Surface Technologies (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.

Coating Characteristics		
Description	**HVOF tungsten carbide coating**	**Hard chrome plate**
Macrohardness (Rc)	> 70	60-70
Microhardness (DPH 300)	> 1050	750-850
Bond strength	> 10,000 *	~ 6,000
Porosity	< 1%	Inherently cracked
Coating thickness (in)	> .003	< .005
Surface finish (Ra)	< 4	< 4

*Results exceed strength limit of epoxy needed for tensile test

Performance Characteristics		
Description	**HVOF tungsten carbide coating**	**Hard chrome plate**
Corrosion Test – ASTM B117 (hours)	720	55
Surface temperature limits (F)	1025	750



HVOF tungsten carbide coating

Hard chrome plate

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