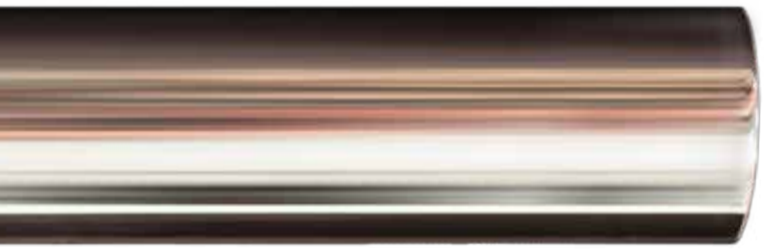
ExoShield™ Coatings | Fully dense, hard and tough

ExoShield™ coatings are fully dense, hard and tough, providing best-in-class corrosion and wear protection with exceptional finishablility to less than 0.01 µm/0.05 µin Ra values.



ExoShield™ coatings are made by our advanced high velocity ExoGard™ process.

Fully dense corrosion protection

ExoShield coatings are fully dense, providing superior corrosion protection at high temperatures. No sealant is required and ExoShield tungsten carbide coatings are usable up to 535°C/995°F. The coatings are ideal for valves and other applications that require a gas-tight solution.

Outstanding wear protection

ExoShield coatings offer best-in-class wear protection due to virtually no porosity, and low binder contents. The coatings also contain low oxide levels, yielding higher strain tolerance as compared to traditional HVOF coatings. The coatings are ideal for sliding contact applications.

Exceptional finishibility

ExoShield coatings can achieve mirror finishes like hard chrome while retaining the smoothness and gloss for long periods due to the coatings' fine carbide structure and density.

Environmentally compliant

ExoShield coatings are REACH-compliant and suitable alternatives to replace hard chrome when better performance properties are required.

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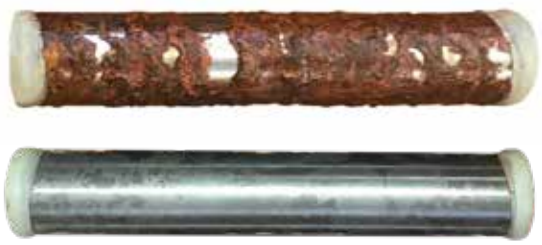
ExoShield Coating Properties vs. Hard Chrome

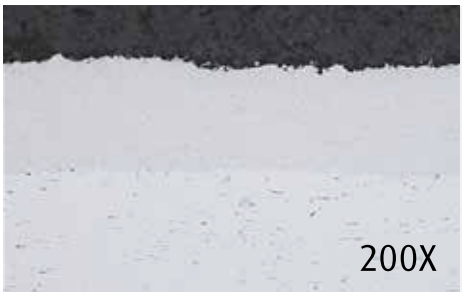
Coating Name	Chemistry	Average Hardness (HV 0.3)	Strain to Fracture (%)	Sand Abrasion (mm^3/1k rev) ASTM G65	Erosion 30° (µm/gm)	Erosion 90° (µm/gm)	Comments
ExoShield LW-306	Tungsten carbide – Co rich matrix	1300	0.48	0.5	10	60	Fully dense
ExoShield LW-307	Tungsten carbide – Co rich matrix	1500	0.44	0.4	6	28	Hard
Hard Chrome		900	0.14	7.1	14	57	Hydraulic rod grade

Salt Fog Corrosion Testing, ASTM B117

Coating	Thickness	Result after 1000 hrs
Hard Chrome	~30 µm	Failed: corrosion appeared after 72 hours
ExoShield 306	~60 um	Passed: no corrosion



Hard chrome vs. ExoShield salt fog test results after 1000 hours



ExoShield coating cross-section showing dense microstructure

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