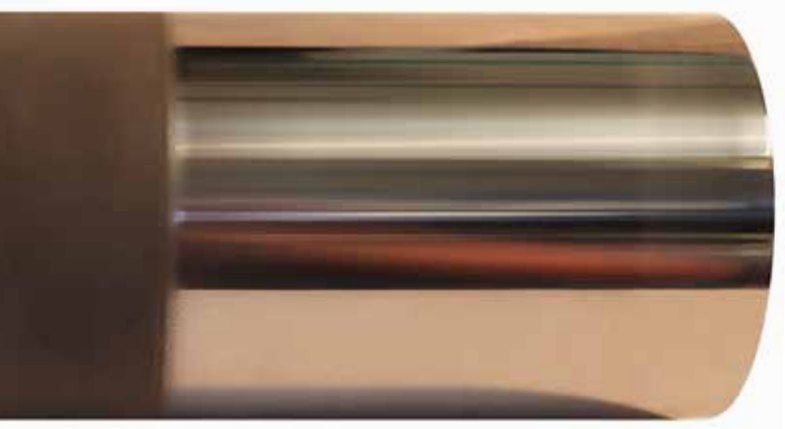
ExoPro™ Coatings | Tough, thin and smooth

ExoPro™ coatings are cost-competitive as compared to traditional HVOF and HVAF coatings, environmentally compliant as an alternative to hard chrome, perform better than hard chrome, and are tougher than standard HVOF/HVAF coatings.



ExoPro™ are made by our advanced high velocity ExoGard™ process.

Cost competitive

The coating is deposited with a very low surface roughness as compared to traditional high velocity oxygen fuel (HVOF) and high velocity air fuel (HVAF) systems. This feature lowers the processing costs for finished parts.

Environmentally compliant

ExoPro coatings are REACH-compliant, suitable alternatives to replace hard chrome with no hydrogen embrittlement concerns.

Alternative to hard chrome

After multiple tests, ExoPro coatings have proven to perform better than hard chrome in corrosion and wear tests. ExoPro coatings do not have hard chrome's micro-cracking features, thus extending corrosion protection. Carbides have traditionally provided better wear protection versus hard chrome as shown in the performance data section (back).

Tougher

ExoPro coatings are tougher than standard HVOF/HVAF coatings, and they have a higher strain tolerance due to the ExoGard advanced HVOF process.

ExoPro™ Coatings | Tough, thin and smooth

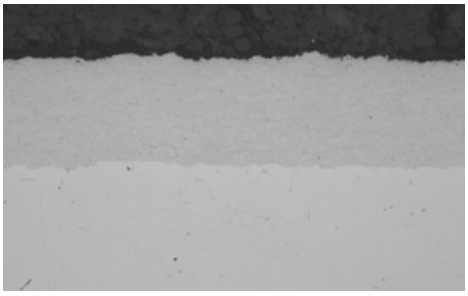
ExoPro Coating Properties vs. Hard Chrome

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
ExoPro LW-304	Tungsten carbide – Co rich matrix	1225	0.46	0.5	12	66	Hard, ductile
ExoPro LW-308	Complex carbides – Ni rich matrix	1250	0.67	0.6	12	55	Hard, ductile
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
ExoPro LW-304	~60 µm	Passed: no corrosion
ExoPro LW-308	~38 µm	Passed: no corrosion

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



ExoPro coating cross-section showing dense microstructure

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