ExoGreen™ Coatings | Thin, cost-effective replacement for hard chrome plating

ExoGreen™ coatings are thin, environmentally compliant and provide an economical solution that performs equally to hard chrome plating.
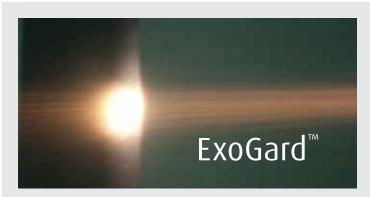

Power section rotor with ExoGreen coating

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

Hazardous waste prevention

ExoGreen coatings are REACH-compliant, providing a sustainable solution to eliminate the use of hard chrome plating and the hazardous waste created by the plating process.

Hydraulic rod coated and finished with ExoGreen coating

Equal performance to hard chrome plating

ExoGreen coatings perform as well in service as hard chrome plating. They have comparable hardness while offering similar and sometimes better wear and corrosion protection, along with no hydrogen embrittlement concerns.

Economical

Since ExoGreen coatings can be applied extremely thin due to the coating's density, the economics are much better as compared to traditional HVOF and HVAF processes.

ExoGreen™ Coatings │ Thin, cost-effective replacement for hard chrome plating

ExoGreen Coating Properties vs. Hard Chrome

Coating Name	Chemistry	Average Hardness (HV 0.3)	Strain to Fracture (%)	Sand Abrasion (mm³/1k rev) ASTM G65	Erosion 30° (µm/gm)	Erosion 90° (µm/gm)	Comments
ExoGreen LW-309	Complex carbides -Ni rich matrix	1090	0.47	1.2	18	91	Hard, very good wear resistance
ExoGreen LW-310	Complex carbides – Co rich matrix	995	0.28	4.2	34	87	Economical
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
ExoGreen LW-309	~60 µm	Passed: no corrosion
ExoGreen LW-310	~45 µm	Passed: no corrosion

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

ExoGreen coating cross-section showing dense microstructure

A Linde company

PRAXAIR
SURFACE TECHNOLOGIES

Linde

Making our world more productive

P-40-4676 2021