



Savroc - Advanced Coating Solutions

Next-Gen Protection for Shock Absorber Rods - Powered by TripleHard®

Savroc develops advanced coatings with superior wear resistance, corrosion protection, and sustainability. TripleHard® is a next-generation trivalent hard chrome technology for shock absorber rods, delivering hard-chrome-class performance in a Cr(III) hard-chrome process.

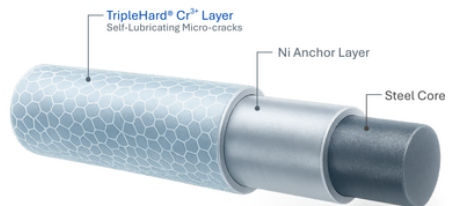
High hardness | Low friction | Cr(III)-based | Low seal leakage | Corrosion resistant

Shock Absorber Rod Coating - TripleHard®

- ✓ **High Hardness** (900-1050 HV) – Protects rods against sliding wear, side loads and stone impact in demanding suspension applications.
- ✓ **Low friction** – Smooth, uniform surface reduces seal wear and stick-slip, keeping damping behavior predictable over long service intervals.
- ✓ **Corrosion protection** – Nickel underlayer + trivalent chrome top layer; NSS 250 h / 500 h / 1000 h with rating 10 (no base metal corrosion).
- ✓ **Lower seal leakage** – In a 250,000-cycle test performed by a global OEM, TripleHard® showed lower seal leakage than the Cr(VI) reference.
- ✓ **Cr(III) hard-chrome process** – many times less chromium in the bath than Cr(VI) plating, which simplifies ventilation, wastewater handling and audits.

PROVEN PERFORMANCE

- ✓ **Wear & Friction Testing:** Ultra-low wear in high-load sliding tests and lower friction.
- ✓ **Excellent corrosion resistance:** rating 10 at 1000 h in neutral salt spray (ISO 9227), depending on the nickel underlayer.
- ✓ **Tested for shock absorber rods:** each customer application is engineered from the customer's drawings and verified during commissioning.



Contact us:

Jussi Räisä
CEO

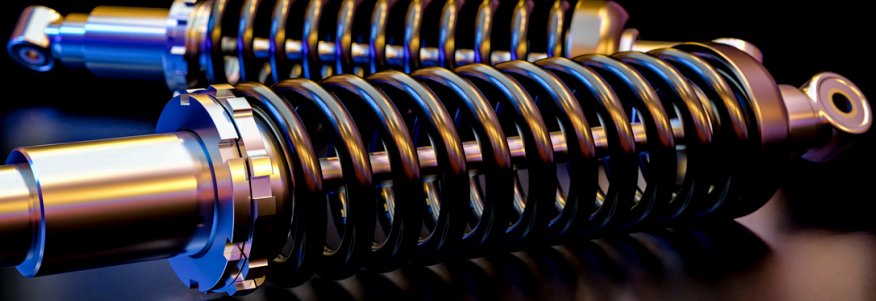
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Schedule a meeting with our experts
or download more materials.

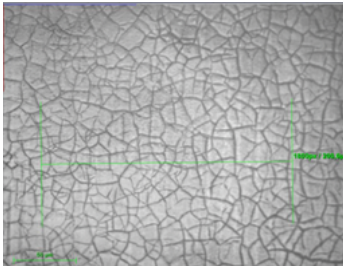
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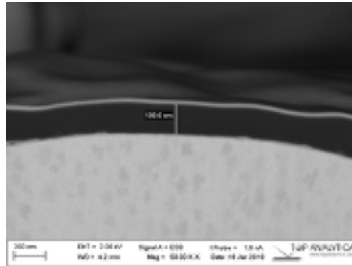


Feature	Cr(VI) Hard Chrome	TripleHard®
Plating speed	~0.5 µm/min	~4 µm/min – fast build-up for high-volume lines
Surface hardness	800–1,000 HV	900–1,050 HV
Friction coefficient	~0.25	~0.15 – smoother rod motion, less seal wear
Corrosion resistance	Micro-cracked structure; moderate salt-spray performance	Nickel + Cr(III) system; rating 10 up to 1,000 h NSS
Adhesion & ductility	Brittle; risk of microcrack flaking under stress	Passes 180° bend and scratch tests with no flaking
Process chemistry	Hexavalent chromium, high EHS burden	Cr(III) hard-chrome process, REACH-compliant
Typical outcome	Higher maintenance, risk of rod rust & seal issues	Longer rod and seal life, smoother damping behavior

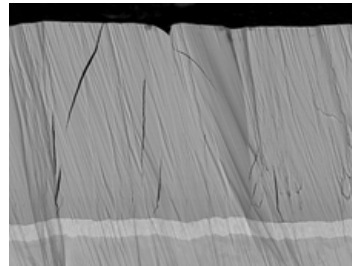
Analytical Evidence



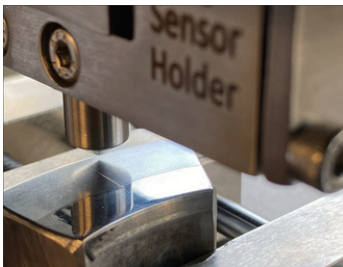
TripleHard® Coating Crack Network



TripleHard® Chromium Oxide Layer



Structure of the TripleHard® Coating



Adhesion and Scratch Test Analysis



Corrosion Resistance: Commercial Cr(VI) Coatings vs. TripleHard®



TripleHard® Shock Absorber Rod

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