

— PLANNING BRIEF

THE DOUBLE SQUEEZE

Two clocks are running on hard chrome — the regulation that ends it, and the supply squeeze on its replacement. A planning brief with the full dated timeline, a backward planner, and the audit worksheet to run this quarter.

SUMMARY

What a coating buyer needs to know this quarter

- 01 The EU is moving hexavalent chromium from permits to an outright REACH restriction; final consultation closed August 17, 2026, with the opinion now moving toward adoption and an 18-month transition proposed.
- 02 The US has no single ban — it has a cascade: DFARS tungsten sourcing rules Jan 1, 2027; California decorative chrome ends Jan 1, 2027; the Army targets elimination by the early 2030s; California functional chrome ends 2039.
- 03 The standard replacement (HVOF tungsten carbide) has repriced too — Western WC powder now runs roughly 3–4× the 2024 era (~\$80–110/kg) — approximate, dated August 2026, on APT feedstock up ~6× year over year under China's export controls — the escape route got expensive exactly as the deadlines got real.
- 04 Requalification takes 12–24 months. Teams that start when a deadline becomes official have already missed it.

RECOMMENDED ACTION

Run the one-page Chrome Exposure Audit (last page) this quarter; start coupon-level qualification data on the top-priority parts this year.

CLOCK ONE — THE REGULATION

Hard chrome's runway is being set by ECHA, DFARS, CARB and the US Army, on dates already published.

CLOCK TWO — THE SUPPLY SQUEEZE

The validated replacement runs on tungsten and cobalt, both repriced by export policy rather than by demand.

The full timeline — every dated obligation in one table

DATE	WHAT HAPPENS	WHO IT HITS / WHAT TO DO
Aug 17, 2026	EU: final consultation on the SEAC draft opinion for the Cr(VI) restriction closed	Anyone selling into EU supply chains. The comment period has ended; the opinion now moves toward adoption
Late 2026–2027 (est.)	EU: restriction adoption expected; proposed 18-month transition begins at adoption	Sets the hard runway. 18 months minus a 12–24 month qualification cycle = start now
Nov 10, 2026	China's export-control suspension terms lapse (tungsten licensing itself never paused)	Powder buyers: the two-tier price regime gets renegotiated — watch for relief or escalation
Jan 1, 2027	US: DFARS 252.225-7052 tungsten restrictions expand to mining/refining stages for China/Russia/Iran/North Korea origin; commercial-item exemptions narrow ($\geq 50\%$ W by weight)	Defense primes and their coaters: powder origin becomes a flow-down contract question
Jan 1, 2027	California: decorative hexavalent chrome plating ends (CARB ATCM; compliance pathway to 2030 with enclosure requirements)	Decorative platers and their customers; the first US hard stop
Early 2030s	US Army stated goal: eliminate hexavalent chromium plating (FY27 appropriations carry a dedicated Hard Chrome Alternative Coating Qualification line)	Army programs and depots: qualification funding exists NOW — align to it
2032 / 2036	California: CARB technology reviews that can adjust the functional-plating date	Functional platers: the 2039 date is contingent — reviews can move it
Jan 1, 2039	California: functional hexavalent chrome plating ends	The long tail — but qualification for replacements will have consolidated years earlier
Continuous	OSHA Cr(VI) regime (29 CFR 1910.1026): monitoring, surveillance, controls	Every US chrome operation: the permanent cost floor that makes waiting expensive

Steal this table for your internal deck — that's what it's for. Sources at the end.

CLOCK ONE

The regulation (what actually changed)

For a decade the EU permitted Cr(VI) under time-limited authorisations. The system broke on volume — compliance-industry reporting put the European Commission’s decision step at an average of 14.5 months against a three-month clock — and a court decision struck down a major authorisation. The structural response: ECHA moved to restrict chromium trioxide and other Cr(VI) compounds outright under REACH Annex XVII. The SEAC committee’s draft opinion completed final public consultation on August 17, 2026; the proposal carries a proposed 18-month transition once adopted. No final compliance date exists yet — but the shape is set. And demand isn’t waiting for the date: GE Aerospace is investing up to \$300M in Singapore through 2029 including a REACH-compliant coatings facility; landing-gear programs across major fleets already run HVOF. The practical risk was never a sudden ban — it is quiet removal from approved-supplier lists as primes update specs.

CLOCK TWO

The supply squeeze on the replacement

The validated exit from hard chrome for wear duty is HVOF tungsten carbide — DoD/HCAT-rated equal or superior, with independent testing (TWI) showing 4–5x chrome’s abrasion resistance. Its feedstock is now the most squeezed industrial input in the market: China (~79% of mine supply) has held tungsten under export licensing since February 2025; export APT is up ~575–631% year-over-year while China’s domestic price fell back — Western buyers pay 2–3x for the same material. Cobalt, the binder, tripled after DRC quotas. Buyers are on record: NOV reports carbide costs up ~400% since 2025; Kennametal expects ~35% combined surcharges this quarter. This is not primarily a tariff story (the newest US tariffs explicitly exclude carbide powder) — it is a supply-security story, and supply security is what your qualification choices should now price in.

~79% of world tungsten mine supply sits in China	2–3x what Western buyers pay versus China’s domestic price	4–5x chrome’s abrasion resistance, HVOF WC (TWI testing)	12–24 months to requalify a coating, start to approval
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The backward planner — when you actually have to start

IF YOUR DEADLINE IS...	QUALIFICATION LEAD TIME	LATEST SAFE START	WHICH MEANS...
DFARS origin rules — Jan 1, 2027	3–9 mo (sourcing swap + verification)	Q1–Q3 2026	If your powder is China-origin and you touch defense work: you are already late — start the origin conversation this month
EU restriction + 18-mo transition (adoption est. 2027)	12–24 mo (full requalification)	2026	Start coupon-level data THIS YEAR to choose chemistry on merit, not under duress
Customer spec change (the deadline you don't control)	12–24 mo	Unknowable — before it happens	This is the real risk: primes update approved-supplier lists without press releases. The audit below is your early-warning system
California functional — 2039 (reviews 2032/2036)	12–24 mo	By ~2036	Long runway — but replacement capacity and qualification slots will consolidate long before

SECTION 04 — WORKSHEET

The Chrome Exposure Audit — run this in one meeting

The single most useful hour your team can spend this quarter. One row per coated component family — yours or your suppliers'. The priority column fills itself.

Scoring: any row with (a) chrome or unknown-origin tungsten, (b) a 2027-linked deadline, and (c) a 12+ month requalification is a red row — start qualification data now. Rows where the wear mode doesn't actually demand tungsten are your cost rows — candidates for chromium-carbide or iron-based chemistry at a fraction of the feedstock exposure. Everything else can wait, on purpose, with a date attached.

SITE

DATE _____

PRIORITY KEY ■ Red row — start qualification data now ■ Cost row — re-spec candidate ■ Wait, with a date attached

Where Spraywerx fits

Spraywerx builds internal-diameter HVOF systems (ID-Nova, Mini-Nova) and supplies the chemistry ladder this brief describes — tungsten carbide where it earns its keep, chromium carbide, iron-based carboborides, and nickel alloys where they win. Our North Vancouver prototyping facility turns red rows into data: paid engagements (\$5,000/day; the 15-minute scoping call is free) that produce hardness, porosity, adhesion, and cost-per-part results on your actual components — whatever the data says. If it says stay where you are, we'll tell you that.



Mini-Nova HVOF over a cylinder bore. Photo: National Research Council Canada.

SOURCES

1. ECHA restriction proposal + SEAC consultation (Jun 17–Aug 17, 2026); CETS notice (Jun 2026); Assent compliance reporting (Mar 2025)
2. DFARS 252.225-7052 (acquisition.gov)
3. CARB Chrome Plating ATCM amendments (May 25, 2023; 17 CCR §93102)
4. US Army AMCOM statements; H. Rept. 119-715 (FY27) qualification funding line
5. OSHA 29 CFR 1910.1026
6. USGS MCS 2026
7. Fastmarkets (Jun 2026); CTIA (Jul 2026)
8. Benchmark/INN DRC cobalt reporting
9. NOV Q1 2026 call (Apr 28, 2026); Kennametal Q3 FY2026 call (May 6, 2026)
10. GE Aerospace Singapore announcement (Feb 2026)
11. TWI (2002); DoD HCAT reports

Full numbered citation register maintained by Spraywerx; available on request.

SPRAYWERX
TECHNOLOGIES

Patent-pending ID-HVOF technology for internal diameters down to 2.5" (63.5 mm). Thermal spray and laser cladding systems, powders, and coating development.

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