



DoD Metal Finishing Workshop – Chromate Alternatives for Metal Treatment and Sealing

May 16, 17, 2007

**Tour of Ogden Air Logistics Center, Hill AFB, afternoon of May 15
[Hilton Garden Inn](#)/[Davis Conference Center](#), Layton, UT**

Sponsored by:

Strategic Environmental R&D Program (SERDP)

Environmental Security Technology Certification Program (ESTCP)

DoD Materials of Evolving Regulatory Interest Team (MERIT)

The new OSHA PEL for Cr^{6+} and growing restrictions on the use of chromates around the world are driving manufacturers and overhaulers to find non-toxic alternatives. The most cost-effective approach is to use commercial off the shelf (COTS) products wherever possible, while working with suppliers to modify products that do not adequately meet DoD's needs. This technical workshop is intended to bring together DoD and industry engineers to identify specific DoD needs, commercial solutions, and engineering data for replacing chromate processes used for overhaul and new weapons systems in vehicles, aircraft and vessels:

- What specific COTS treatments are available to meet DoD needs and requirements
- What data and specifications are available for making engineering decisions
- Where data are insufficient, where the gaps are and how they can best be filled
- Where there are no potential COTS products, what should be done to fill the need.

The meeting is being held near Ogden ALC to allow commercial suppliers to see how DoD uses chromates, so as to generate a better understanding between suppliers and users. Subsequent meetings may be held in proximity to other depots.

Materials and applications to be covered: The workshop will address alternatives to chromate conversion coatings and sealers:

- Pretreatment (conversion coating) of Al and Mg alloys – structural and electronic
- Chromate treatment of steels (e.g. chromate wash primer)
- Chromate treatment of coatings (IVD Al, electroplated Al, Zn, ZnNi)
- Alternatives to chromate treatment of Mg

Attendees: Decision makers and process engineers from DoD organizations and depots are invited to attend and to brief their particular needs or solutions. OEMs and major finishing industry chemical and process suppliers will brief their existing and new solutions, concentrating on performance data and specific matches to DoD needs. Any existing and potential suppliers identified by DoD attendees as having products of interest will be invited to attend. The meeting will be open to technical personnel from suppliers in the corrosion protection area, including Canadian and European companies. There will be a small amount of tabletop space for technical literature, but not booths.

This workshop follows on from two previous workshops:

Metal Finishing Workshop held May 22 and 23, 2006 to understand the state of the art and remaining needs among OEMs and DoD depots for replacing hard chrome, Cd, chromates ([click here for report](#)).

Session and side meeting held November 28 and 29, 2006 at the SERDP/ESTCP Partners in Environmental Technology Symposium in Washington DC. The November meeting was designed to establish connections between DoD and the commercial finishing industry. This May workshop is being held at the urging of attendees.

Agenda:

Day 1: Briefings on needs, requirements, performance, data. DoD and OEM user briefings to identify specific needs and requirements, together with successful substitutions and supporting data; Finishing Industry briefings to identify specific COTS alternatives, with their applications, specifications and performance data.

1. Specific applications, needs, requirements, gaps – aircraft, vehicles, vessels, support equipment, electronics, fasteners, etc. The focus will be on specific applications and their requirements as well as successful substitutions. Reports from previous meetings will be provided to avoid the need for repetition.
2. COTS products, performance data, specs and applications, for commercial and military vehicles and vessels, aircraft (airframes and engines), hydraulics, electronics, fasteners, etc. The focus will be on products for specific applications, available performance data, specifications and user experience.
3. OEMs who have adopted alternatives, such as Lockheed F-35 and FCS vendors.

Briefings or notes will be required 2 weeks in advance to give everyone time to gather information on specifics and prepare for the meeting with as many detailed specifics as possible. This will assist attendees with matching needs to COTS products and determining what additional information may be required.

Panel discussions: Panel discussions will cover practical aspects of making changes in DoD and commercial operations, and experience with performance of alternatives.

Day 2: Breakout sessions: Match needs and requirements with solutions, identify gaps in data, pinpoint DoD needs without COTS solutions, ascertain how to fill the gaps. The sessions will be broken out into small enough groups to get into details:

- Pretreatment (conversion coating) of Al and Mg alloys – structural and electronic
- Chromate treatment of steels (e.g. chromate wash primer)
- Chromate treatment of coatings (IVD Al, electroplated Al, Zn, ZnNi)
- Alternatives to chromate treatment of Mg.

Workshop Product: Report giving specific COTS solutions to applications, together with links to existing data and summary of required testing. For unmet needs, we will summarize what must be done to fit a product to that need. All data that can be made available from this workshop will be added to a Surface Engineering Database that is being assembled to assist DoD and the industry with choosing and qualifying the best finishing alternatives.

All suggestions of briefing and discussion topics are welcome.

Keith Legg
Rowan Technology Group
847-680-9420
klegg@rowantechnology.com

Bruce Sartwell
SERDP-ESTCP Program Office
202-767-0722
sartwell@nrl.navy.mil

All other inquires please contact Hillary Legg, workshop coordinator, 847-680-9420 or hlegg@rowantechnology.com.

Workshop Registration

There is no fee for the workshop, however the **registration deadline is April 16, 2007**. Register on-line at:

http://www.rowantechnology.com/SERDP-MFW/MFW-mtg_reg.htm

OR fill in and fax the next page to Rowan Technology Group at 847-680-9682

Note: Attendance at this workshop is limited to approximately 100 people over a cross section of military and commercial organizations. If the event becomes oversubscribed the organizers may find it necessary to cut off registration early or limit the number of attendees from each organization.

Workshop location:

[Davis Conference Center](#), Layton, UT, near Salt Lake City.

Accommodations:

[Hilton Garden Inn](#)

Call 801-416-4000. Mention "SERDP" to get the following rates:

Conference Room Rate: \$74.00/night + tax

Government rate: \$61.00 + tax

Room block will be held until April 30, 2007.



DoD Metal Finishing Workshop – Chromate Alternatives for Metal Treatment and Sealing - May 16, 17, 2007

WORKSHOP REGISTRATION FORM

Please write clearly. Bolded items are required. Deadline is April 16th, 2007.

Last Name _____

First Name _____

Job Title _____

Organization _____

Are You (choose one): Government Gov. contractor Commercial

Street/mailling address _____

Address 2 _____

Address 3 _____

City _____

State/Province _____

Zip/Postal code _____

Phone _____

Fax _____

Email _____

I wish to visit Hill AFB on May 15th Yes No

If yes, are you a US citizen? Please include your SSN. Yes No SSN: _____

Foreign visitors to Hill AFB, please provide country of citizenship, passport number and date of birth. **Registration deadline for non-U.S. citizens wishing to visit Hill AFB is Wednesday, April 11th, 2007.** Country of Citizenship: _____
Passport number: _____ D.O.B. _____

DoD attendees: official invitation needed? Yes

I would like to give a briefing. Yes No

If yes, what is the topic? _____

I will bring reports, brochures or other documents for distribution (a limited amount of space will be available) Yes No

Note: this workshop is intended for engineering discussions. There will be limited space for technical literature only.

Fax this form to 847-680-9682