

Ogden Air Logistics Complex



U.S. AIR FORCE

OO-ALC Hill AFB Corrosion Update

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OO-ALC Corrosion Manager
309 MXSG/MXDEZ
10 March 2026

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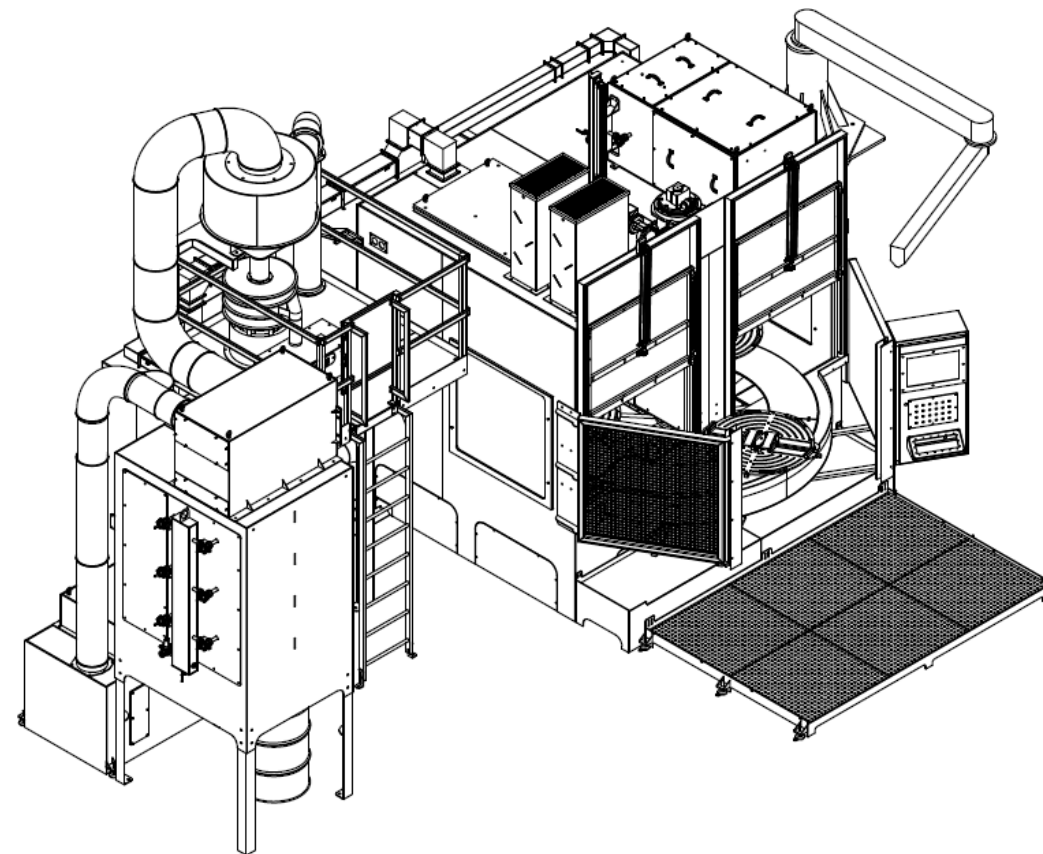


Summary



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- **ALC Corrosion at a Glance**
- **Methylene Chloride Reductions**
- **Hex Chrome Reductions on F-16**
- **AMXG OSHA Expanded Standards**
- **Specs Updates Efforts**
- **MXSG VPP Star**
- **Facilities Lessons Learned**
- **Navy C-130s Chemical Stripping**
- **Zinc Nickel**





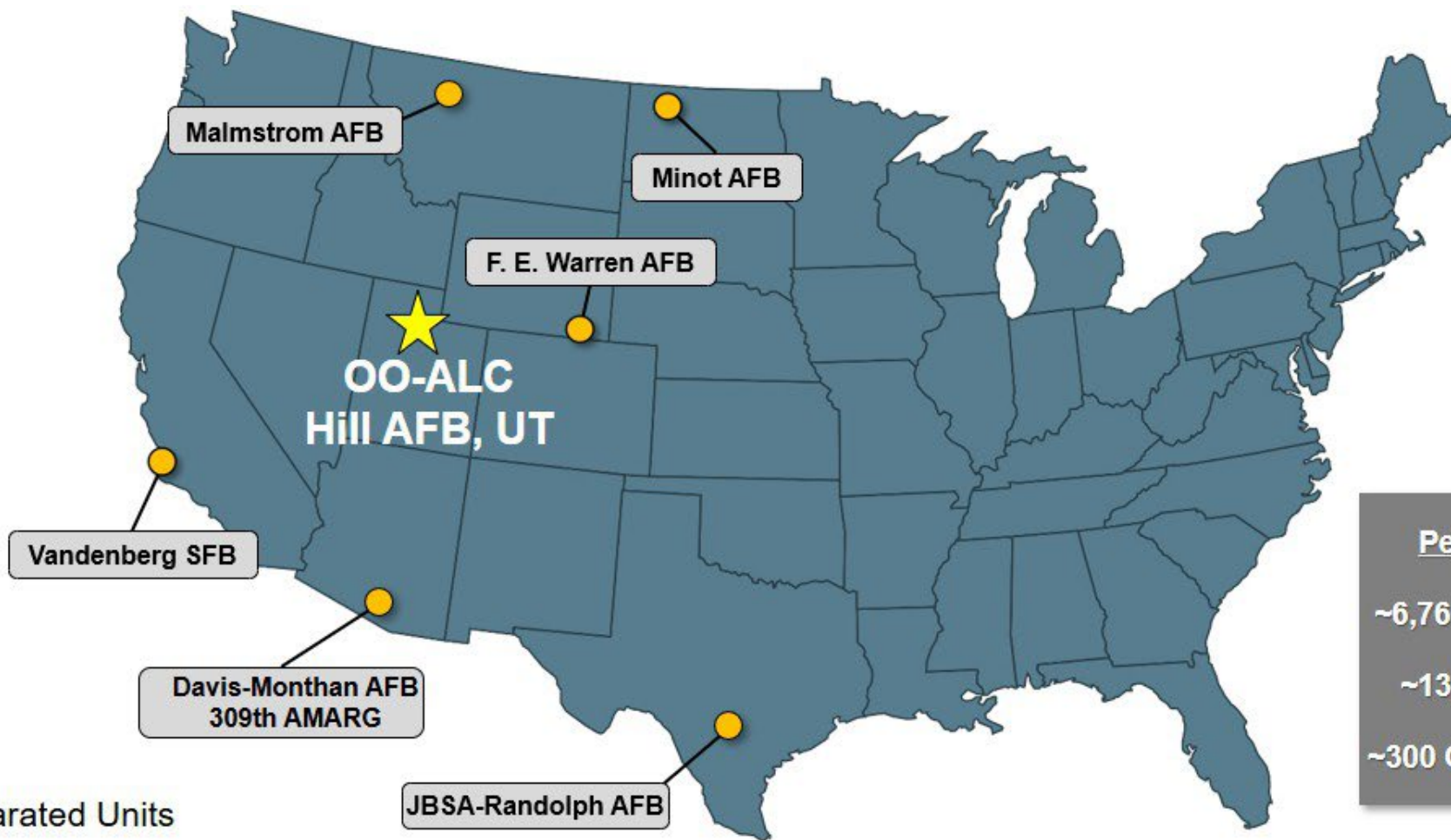
OO-ALC Depot Operations



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Kadena AB, Japan
Support Center Pacific



● Geographically Separated Units

Personnel
~6,760 Civilians
+
~130 Military
+
~300 Contractors



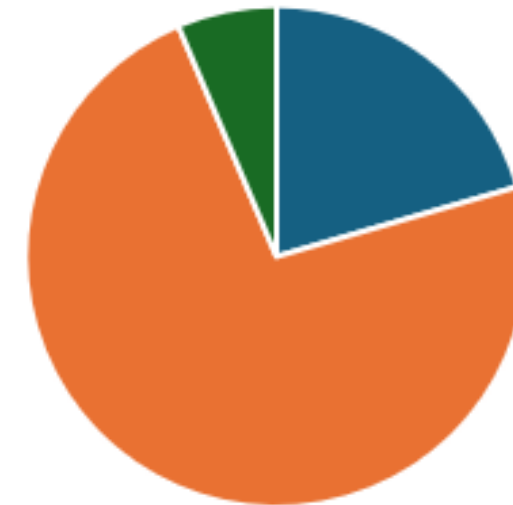
OO-ALC Corrosion at a Glance



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- Buildings with Paint/Blast – 15+
 - Paint Booths: 40+
 - Blast Booths:
- Aircraft Work Loads-
 - F-16, F-22, F-35, A-10, T-38, C-130, Landing Gear, ICBMs, GSE, and off-aircraft components
 - 709 MXSS – 50,000+ Assets per year
 - 309 AMXG- 150+ Aircraft per year

75+ Blast Booths



■ Walk-In 20% ■ Cabinet 75% ■ Robotic 5%



Methylene Chloride



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- **New EPA rules require elimination, substitution, or Workplace Chemical Protection Program (WCPP)**
 - **“Creating this plan and recertifying it every 3 months to 5 years will be a significant amount of work for both BE and the associated shop. Therefore, BE is requesting the shops that fall under these exemptions to pursue elimination or substitution to the fullest extent possible.”**
-Bioenvironmental Engineering Flight
- **Shop by shop elimination from the ESOH MIS**
- **Dip Tank Process exemption**



Hex Chrome Reduction on F-16



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- Reached out to F-16 SPO and worked together
- Switched to 23377 Class N on F-16
 - Wings, Flaps, Stabs, MLG Door, Flaperon, Access Covers, Canopy
- Attempting to continue efforts on smaller components in other buildings, must be done part by part.



AMXG OSHA Efforts



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- **Updates to Heavy Metal Exposure Controls 576 AMXS: Example**
 - **16 Areas Update for Cadmium or Hexavalent Chromium Mitigation**
 - **Continual Process Improvement Mentality to keep updating the areas**
 - Area Maps/ PPE
 - Feasibility Studies and Cadmium Compliance Plans
 - Air Sampling Results





Technical Document Reviews



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■ Blast Media

- Mil DTL 85491 C
 - Dense Particle Testing
 - New fluid
- TO 1-1-8 to match 85891



■ Media Consumption Testing, QC

- Testing different blast medias that are on BPA

■ First article testing upon delivery





MXSG VPP STAR



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- **VPP Star Awarded 2025 for MXSG**
- **Heavy Metals OSHA NOV's**
 - **Heavily Reviewed Compliance Plans and Feasibility Studies**
 - **In depth review and feedback on Blast Booth above PEL for Cadmium and Bulk Dust Sample Testing during blast**





Facility and Booths



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Built Right, Ready to Fight



Facility and Booth Lessons Learned



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■ Specifications and Guidance:

- **UFC 4-211-02** Unified Facilities Criteria (UFC) Aircraft Corrosion Control and Paint Facilities, 2012
- **Air Force Corrosion Control Facility Reference Guide**, Rev 10 2012
- **Design Considerations**
 - Ducting/Recirculation: cost, sizing, relief damper?, etc
 - Natural Gas/Electric
 - **More Engineering specifics => better differentiate proposals**
- **NFPA 660** *Standard for Combustible Dusts and Particulate Solids*
- **NFPA 68** *Standard on Explosion Protection by Deflagration Venting*
 - Class 2 Div 1
 - Class 2 Div 2
 - Explosion Venting
- Kst values





Facility and Booths (cont.)

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- **Example: Samples of blast media dust sent into lab to determine dust Hazard for Building 844.**

- **Explosivity of dust values**

- Determined by lab analysis
- K_{st} , P_{ex} , $(dp/dt)_{ex}$ value from lab combustion tests:

• P_{max}	=	6.59 barg
• P_{max} Corrected	=	6.78 barg
• $(dp/dt)_{max}$	=	287 bar/s
• K_{St}	=	78 bar m/s

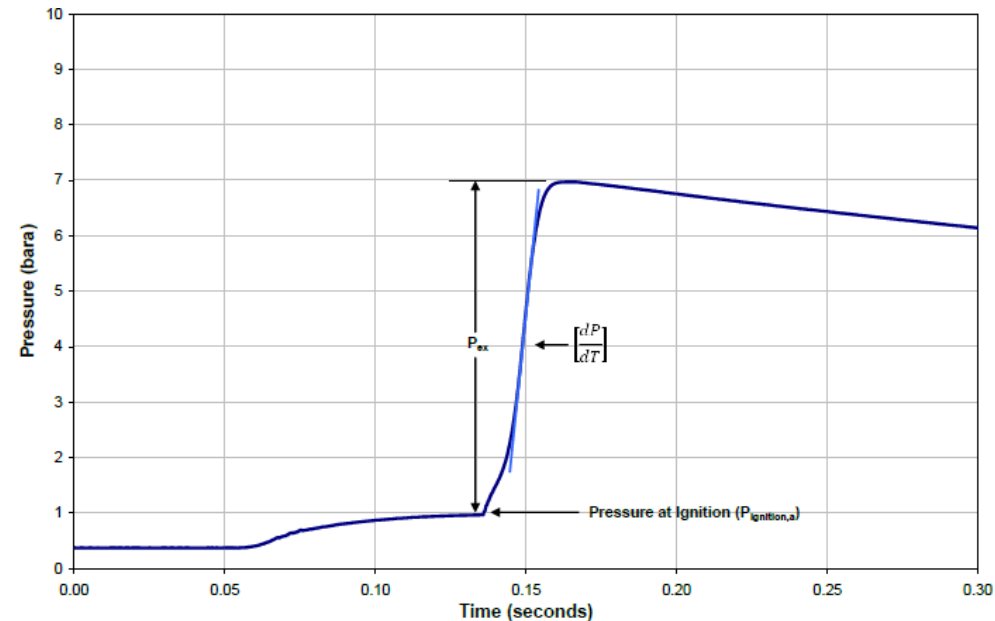


Figure 1: Pressure vs. Time from Dust Explosion in 20 Liter chamber



Facility and Booths (cont.)

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K_{st} Values
@ varying
concentrations

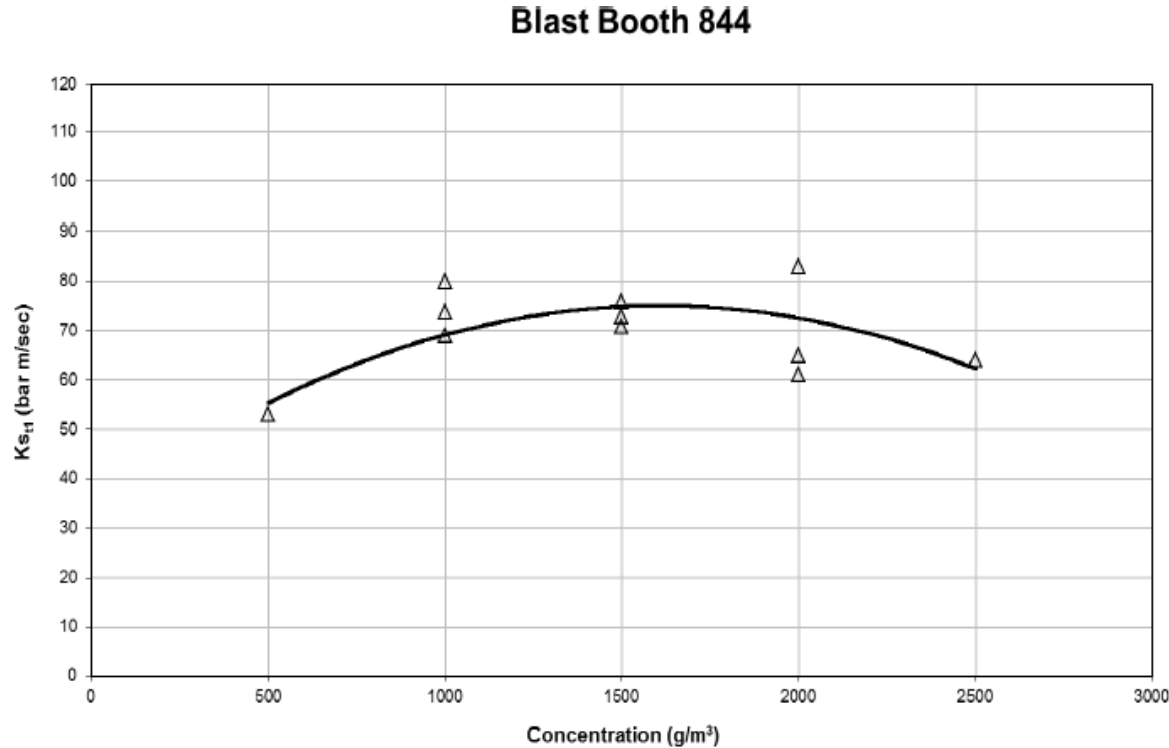
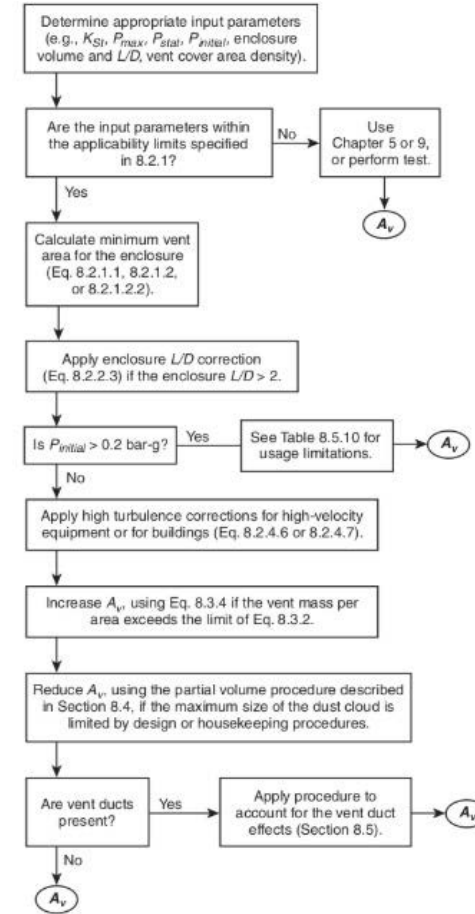


Figure 4: K_{st} Data from Transducer 1



▲ FIGURE 8.1.1.4 Dust Explosion Vent Sizing Calculation Flowchart.



Navy C-130 slides



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■ C-130 Chemical Paint Removal - Transition to Hill AFB

- POC Justin Spencer
309 AMXG/EN





Background & Motivation



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- **C-130 coming to Hill AFB for maintenance were previously stripped at Tinker AFB**
 - **Flown bare to Hill AFB**
- **Potential cost savings and reduced time to return to units**
 - **Reduced fuel use and flight time**
 - **Eliminate redundant work**
- **Free up resources at Tinker AFB**





Preparation & Planning



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- **Industrial waste management**
 - Added screens to drains
 - Perforated sheet metal rinse baskets for cleaning paint chips
- **Vertical lift equipment**
 - Scissor lifts
 - Articulating boom lifts (“JLGs”)
 - Explosion proof
- **Prepared drums (55 gal) of B&B 9095**





Process Challenges



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- **Slipping hazards**
 - Personnel and lift equipment sliding on incredibly slick floors
- **Intrusion prevention**
 - Balance too much vs. not enough aircraft masking
- **Spray equipment**
 - Highly viscous chemical doesn't spray well in "normal" spray equipment





Process Challenges (cont'd)



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- **Stripped paint management**
 - Minimize paint chips going to industrial waste
- **Variable coating thickness**
 - More difficult to remove coating in thicker areas where additional layers of coating are present
- **Vertical stabilizer access**
 - Pressure loss at height
 - Special lifts required





Lessons Learned



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- **Need to constantly spray water on floors during application**
 - **Reduces slip hazard significantly**
- **Highly viscous stripper needs high pressure and high flow rate to spray and aerate properly**
 - **Do not atomize**





Lessons Learned



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- **Scrubbing should be quick and light to avoid pulling off masking materials**
 - Only to remove loose paint chips, not to scrub off more paint
- **Brushing on B&B 9095 is largely ineffective**
 - Other products to be investigated for use during final touch-up



Ogden Air Logistics Complex



U.S. AIR FORCE

Cadmium and Zinc Nickel Plating Data Review Calendar Year 2025

January 2026

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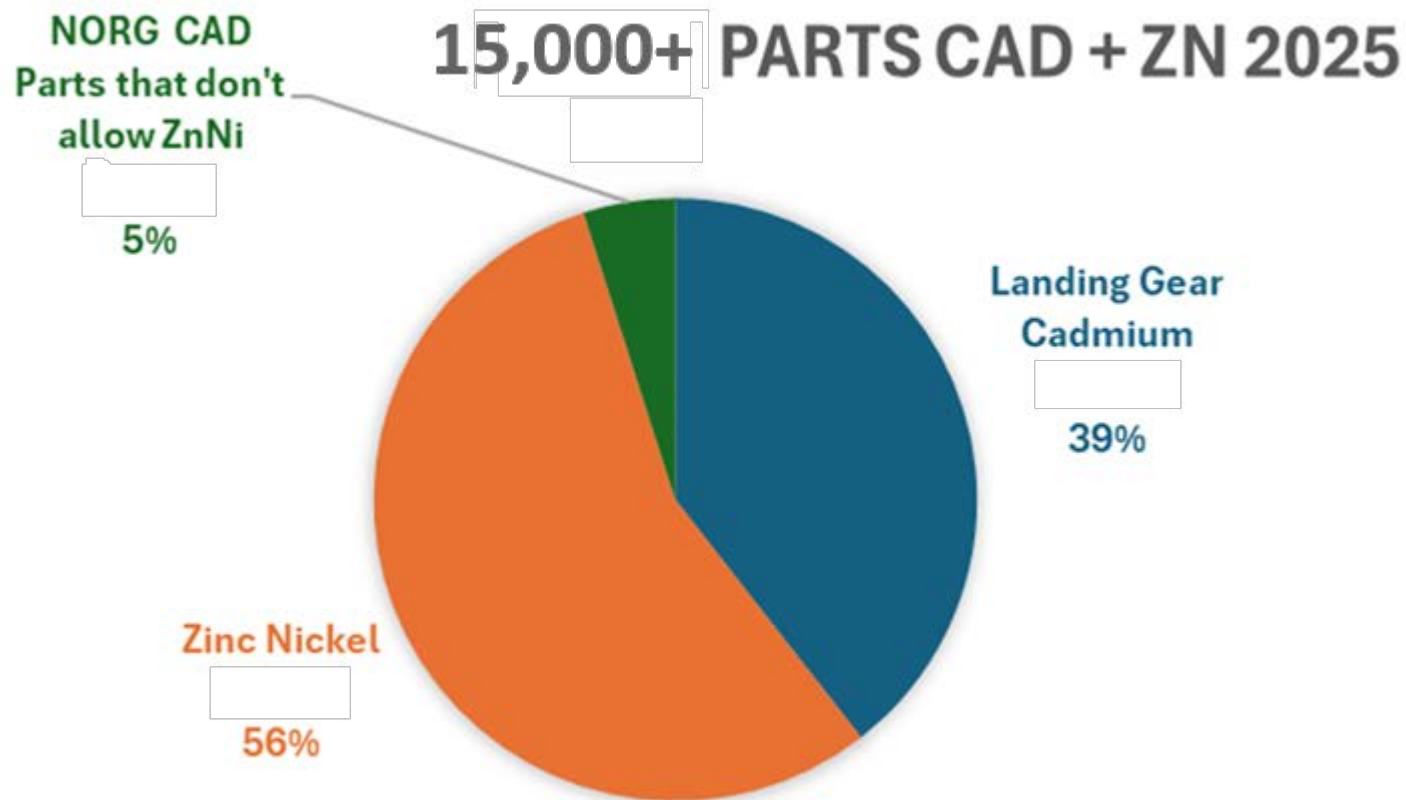


Combined 2025 Data OO-ALC



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■ Cadmium and zinc nickel plating data for 2025





2025 CMXG stats



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- **First year with more zinc nickel plated (56%) than cadmium plated (44%) parts.**
- **95% of the total parts plated with cadmium are approved for zinc nickel in lieu of cadmium.**
- **Still on track to shut down cadmium in 2028.**
 - **Renovation project will expand zinc nickel capability**



Photos



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Questions?