



What's New In Coatings?

NSRP Meeting - September 2026

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Technical Warrant Holder, Coatings and Corrosion Control – Ships



OBJECTIVES

- Summarize evolving Naval Sea Systems Command (NAVSEA) organization and coatings requirements team:
 - Headquarters NAVSEA organization & objectives.
- Summarize what's new in NAVSEA coatings and maintenance cost reduction requirements and strategies:
 - Surface ship corrosion-control initiative.
 - Developing requirements to support leadership efforts to address topside corrosion in rapid-response mode.
 - Published FY-28, Change 1, update to Standard Item 009-032 that implements Paint Center of Excellence (PCOE) initiatives.
 - Developing new Attachment C to update the “Spot and Sweep” process to support evolving fleet needs.
 - Published updated MIL-PRF-16173F that includes a new Grade 8 for persistent, corrosion-preventative compounds.
 - Publishing updated MIL-PRF-32577 to include corrosion control thermal spray nonskid.

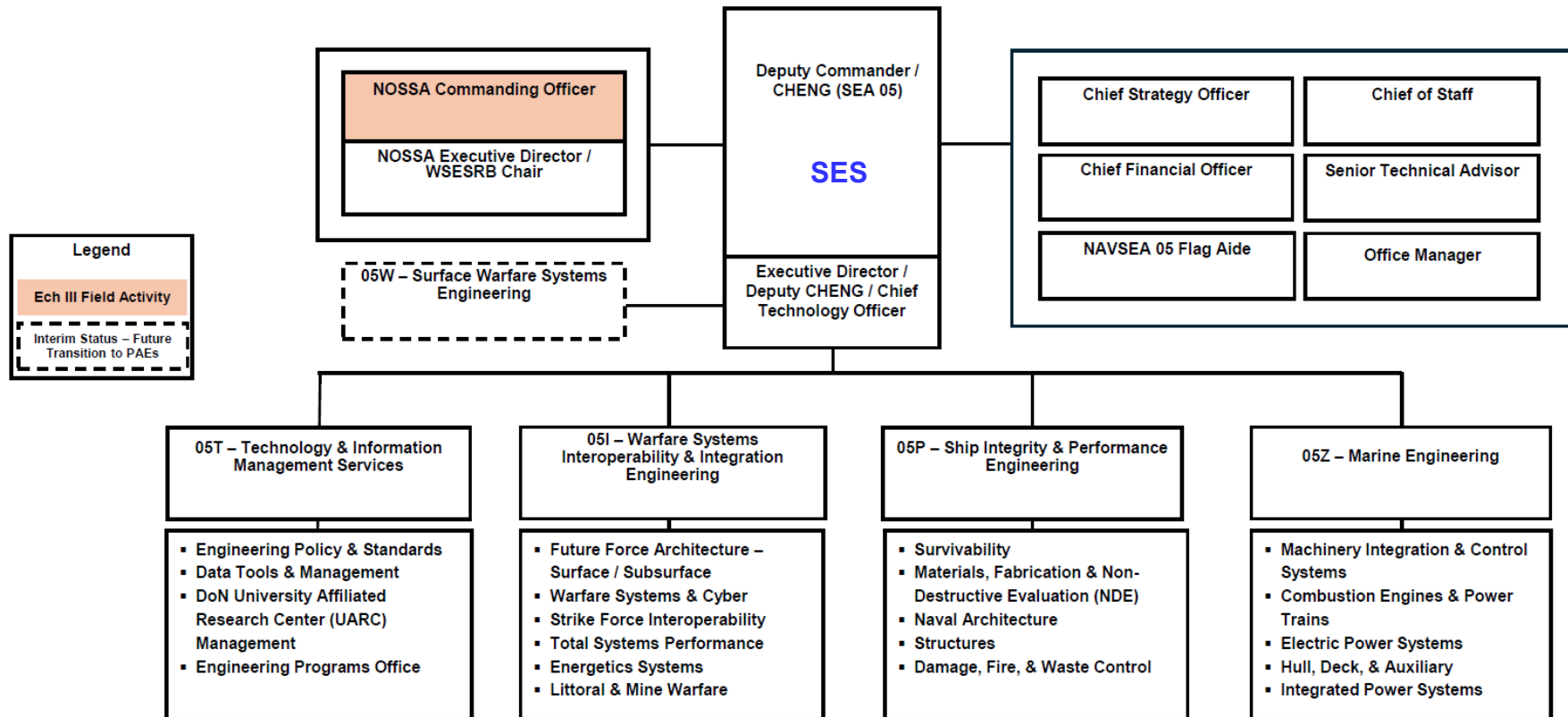


Summarize opportunities to qualify coatings and materials to support NAVSEA.

Naval Systems Engineering Directorate (SEA 05)

Draft: Jun 2026

6/11/2026



- 12 Mar 2026, U.S. Navy established five Direct Reporting Program Manager (DRPM) and Portfolio Acquisition Executives (PAEs) as follows:
 - DRPM Submarines and PAE Undersea.
 - PAE Maritime.
 - PAE Marine Corps.
 - PAE / DRPM Strategic Systems Programs.
 - PAE Industrial Operations.

Technical Authority Pyramid - Coatings & Corrosion Control

Draft: Aug 2026

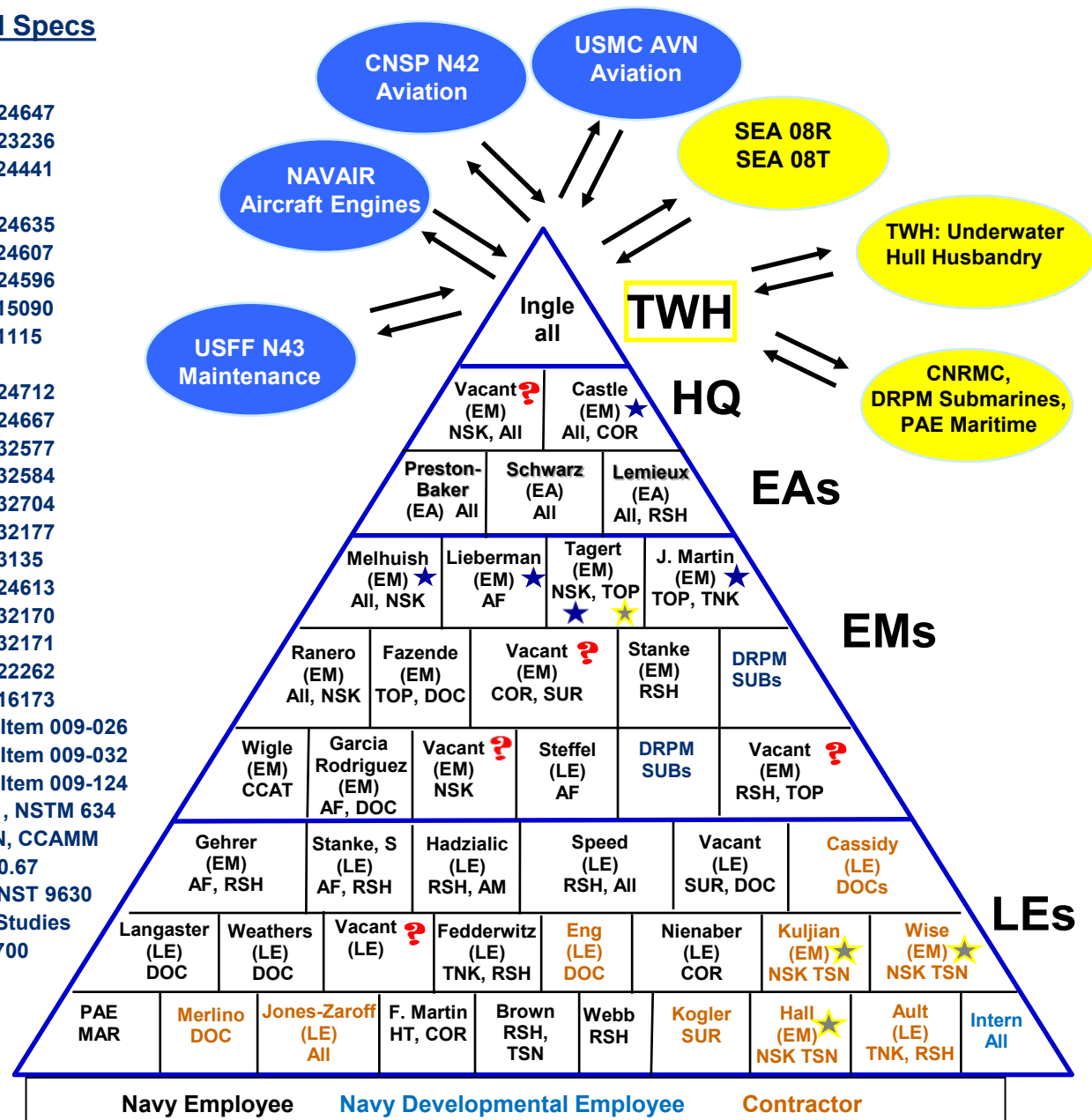
Code	Product	Related Specs
All	All Technical Products, Managerial	All
AM	Additive Manufacturing	Multiple
AF	Antifouling Coating Systems	MIL-PRF-24647
TNK	Tank Coatings, Epoxy Primers	MIL-PRF-23236
		MIL-DTL-24441
PRM	Primers, Single Component	TT-P-645
TOP	Topside, Alkyds & Polysiloxanes	MIL-PRF-24635
INT	Interior Coatings (SEA 08)	MIL-DTL-24607
		MIL-PRF-24596
		MIL-DTL-15090
		MIL-DTL-1115
HT	High Temp Coatings, Metallic	TT-P-28
PWD	Powder, Interior, Cosmetic	MIL-PRF-24712
NSK	Nonskid	MIL-PRF-24667
TSN	Thermal Spray Nonskid	MIL-PRF-32577
DCK	Deck Coverings	MIL-PRF-32584
		MIL-PRF-32704
		MIL-PRF-32177
		MIL-PRF-3135
		MIL-PRF-24613
		MIL-PRF-32170
		MIL-PRF-32171
SUR	Abrasive blasting, surface prep	MIL-PRF-22262
SEL	Sealants & Preservatives	MIL-PRF-16173
DOC	Policy Documents	Standard Item 009-026
		Standard Item 009-032
		Standard Item 009-124
		NSTM 631, NSTM 634
		S636-MAN, CCAMM
COR	Corrosion, PCOE	DODI 5000.67
		NAVSEAINST 9630
RSH	Research & Development	Reports, Studies
UNDS	Regulations, Underwater hull	40 CFR 1700
		SEA 05T Total: 109 Documents



Delegated signature authority

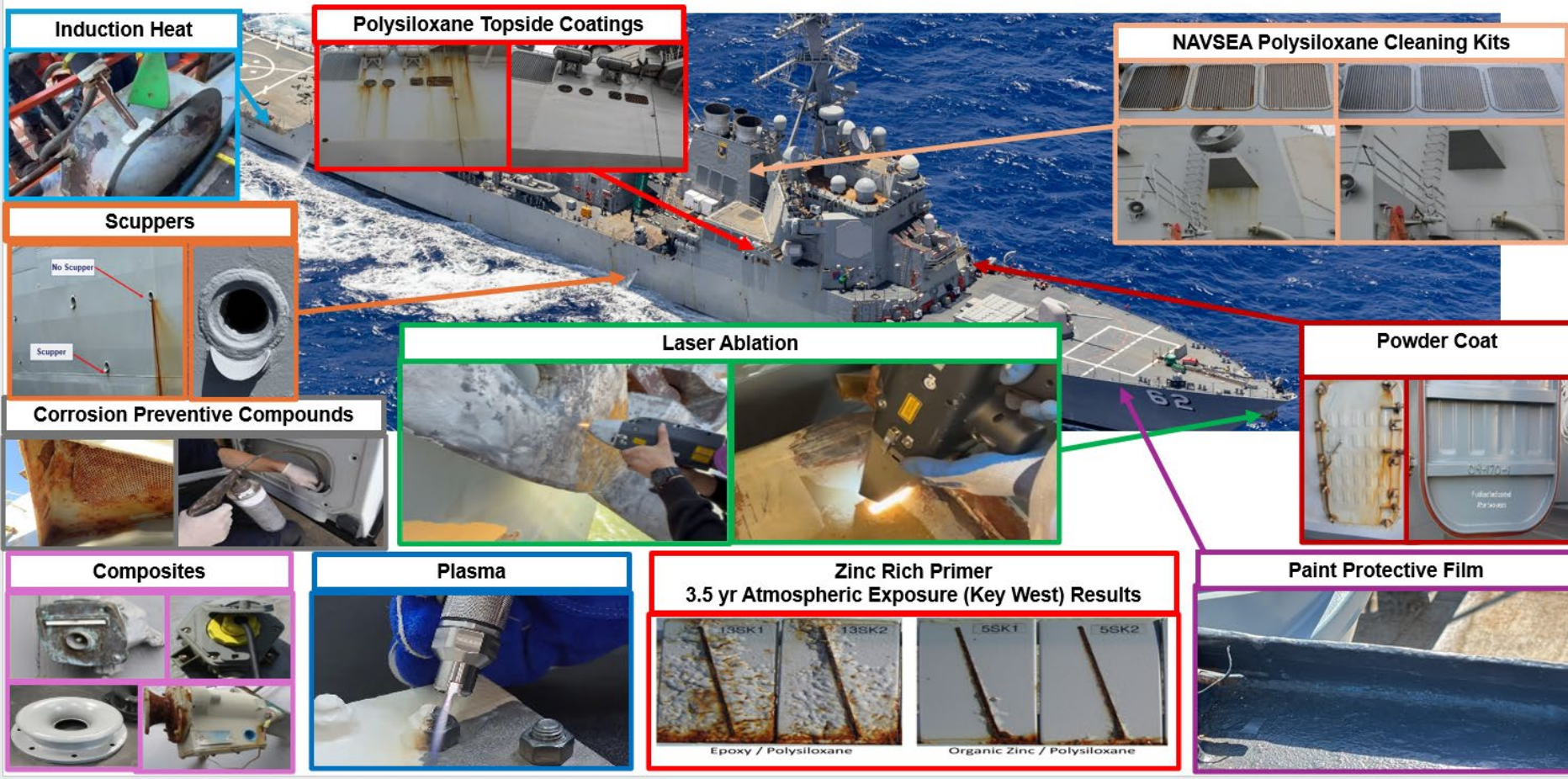


NAVSEA-approved Technical Representative



Surface Ship Corrosion Control

- SEA 05P2 managing new Swift Warship Action on Rust Mitigation (SWARM) teams in more than six locations to rapidly (e.g., days) respond to ship topside and freeboard corrosion issues.



SEA 05P2 seeking input from technical community on new technologies and materials.

Leadership Challenge - Improve Appearance of Ships

ISSUE: Aircraft Elevator (ACE) guides exhibit running rust emanating from bolted connection between guides and the hull.

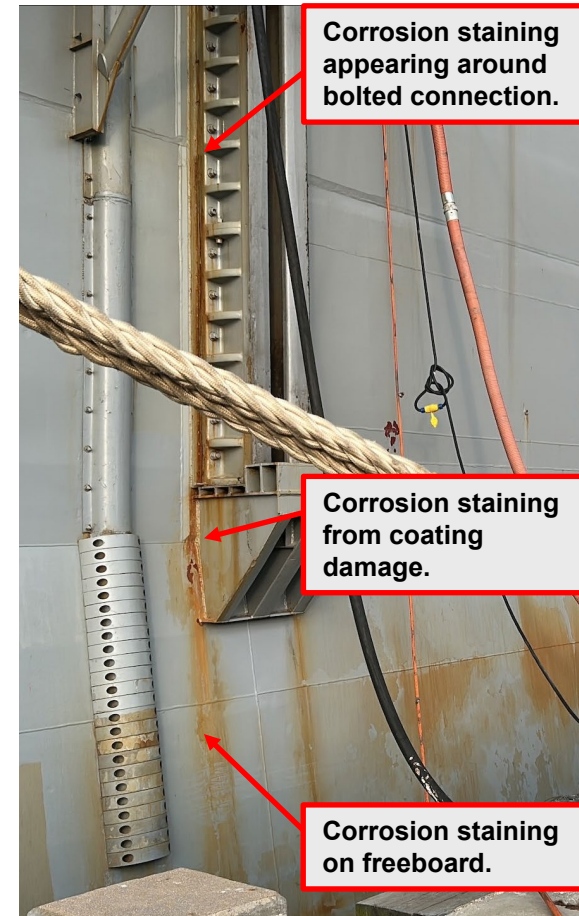
- Running rust from these areas stains the lower portion of the freeboard.
- Running rust from bolted connection provides opportunity to apply corrosion preventative compounds to retard corrosion.

RESULT: Recommended new procedure to address corrosion in bolted ACE assembly:

ACE GUIDE PRESERVATION PROCEDURE:

1. CLEAN AREAS TO REMOVE CORROSION STAINING AND LOOSE COATING.

- Utilize NAVSEA cleaning kits NSN: 7930-01-660-1605,
T-NICN: IH-M-3649-LL-HOB-0726
MFR ID: 7920-00-LAB-0001
- Remove corrosion straining from track edge to hull interface starting at flight deck and progressing vertically down to the boot top.
- Remove all loose paint, corrosion, and foreign matter using 5-in-1 tool or putty knife.
- As directed by the SUPERVISOR, remove loose sealant to expose the corroded joint edge.
DO NOT REMOVE intact adherent sealant, gaskets, or epoxy bedding compound from joint.

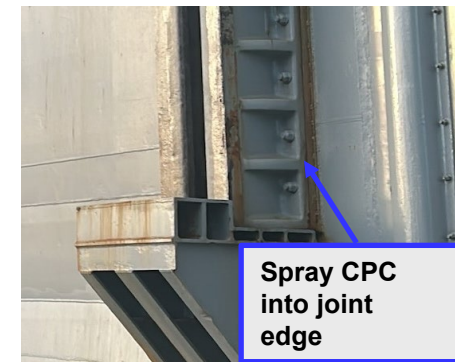
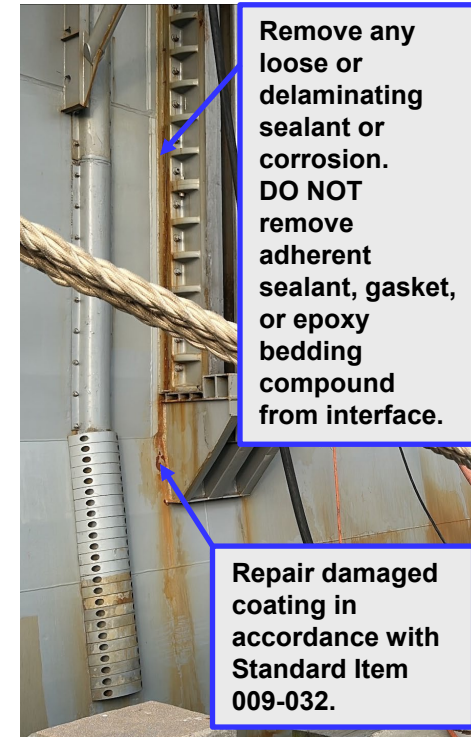


Leadership Challenge - Improve Appearance of Ships

LHA/LHD ACE GUIDE PRESERVATION PROCEDURE

2. RECOAT AREAS WITH DAMAGED COATINGS IN ACCORDANCE WITH NAVSEA STANDARD ITEM 009-032.
 - As directed by the SUPERVISOR, conduct localized coating touch-up in accordance with Table 2 requirements.
 - Allow final MIL-PRF-24635, Type V/VI polysiloxane topcoat to cure for a minimum of 24 hours before application of corrosion preventative compounds.
3. SPRAY APPLY CORROSION PREVENTATIVE COMPOUND INTO JOINT FORMED BY BOLTED CONNECTION.
 - As directed by the SUPERVISOR, spray apply MIL-PRF-16173, Class II, Grade 2 qualified Corrosion Preventative Compound (CPC) into the joint or crevice formed by the bolted connection and corroded areas. DO NOT APPLY CPC to areas coated with grease or elevator lubricants.
 - Different CPCs have different viscosity and the SUPERVISOR shall determine the amount of the specific CPC being used that needs to be spray applied into the joint.

The goal shall be to wet the accessible edges of the joint with CPC while minimizing the amount of CPC on the surrounding paint, or that drips from the bottom of the assembly.
DO NOT spray or drip CPC into the sea.
 - During the spray process, wipe off excess CPC using cleaning solvent on disposable rags. Two hours after CPC application is complete, return to the work site and wipe off excess CPC using cleaning solvent on disposable rags.



Leadership Challenge - Improve Appearance of Ships



TECHNOLOGY IMPLEMENTATION

Technologies Being Introduced

- **Laser Ablation** Precision surface preparation without abrasives
- **Plasma Blast** Advanced surface prep for complex geometries
- **Heat Induction** Efficient coating removal without mechanical damage
- **Zinc-Rich Primers** Sacrificial coating for superior corrosion protection
- **Paint Protection Film (PPF)** Thin polyurethane film for high-wear deck edge areas
- **Composite Scuppers** Addresses metallic discharge components — reduces freeboard staining
- **Corrosion Preventive Compounds** CPCs for crevices and hard-to-reach areas
- **Corrosion Resistant Components** Composites installed such as electric boxes, sunshields, fire horns, etc.
- **Anti-Fouling Coatings** Boot top black touch up with Anti-fouling coatings to restore waterline



WHY THIS MATTERS

↑ Improved Coating Life

↓ Recurring Maintenance

↓ Running Rust Incidents

↑ Preservation Quality

↓ Lifecycle Cost

Leadership Challenge - Improve Appearance of Ships

RESULT: SWARM Teams tracking metrics regarding preservation, cleaning, and improvement in topside corrosion-control performance of all types of surface ships at ports around the world.

- Validated improvement in ship appearance scores.
- Improving material condition of watertight doors.
- Resolving issues with inherently corrosion resistant polymeric and composite materials.

FLEET IMPACT TO DATE (Since beginning January 1, 2026)

Cumulative progress across all SWARM waterfronts:

- 91 ships touched fleet-wide
- 174 availabilities supported
- 246,220 sq ft preserved fleet-wide
- 322,952 sq ft cleaned fleet-wide
- 7,277 AM scuppers installed
- 48,928 LF of PPF installed

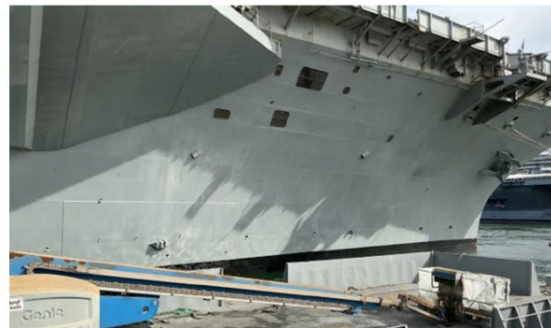
Tracking preservation progress including scuppers, PPF, and surface area.

Fleet-wide totals as of Sept 10, 2026

Before 11 MAR 2026



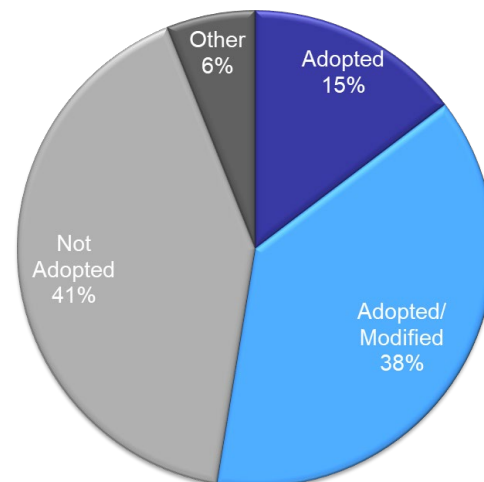
After 13 MAR 2026



What's new with Standard Item 009-032?

- 23 – 27 Jun 2025, completed in-person, Standard Specifications for Ship Repair and Alteration Committee (SSRAC) meeting in Newport News, VA.
- 31 Mar 2026, Commander, Regional Maintenance Center published FY-28, Change 1, Standard Item 009-032.
- 79 total proposals addressed:
 - 9 Adopted
 - 30 Adopted/Modified
 - 35 Not Adopted
 - 5 Other (i.e., open action items and Technical Warrant Holder directed changes)

**Hull/Preservation
Subcommittee Action**



RESULT: Update published with all changes vetted through established HQ-NAVSEA (i.e., SEA 04X, SEA 05D, SEA 05P, SEA 05PV, SEA 05U, SEA 05Z, PMS 321, PMS 421, and SEA 08) review process and all comments were incorporated.

Document update process and HQ-NAVSEA review to be streamlined in 2026.

What's new with Standard Item 009-032?

- “Top Five” updates to FY-28, Change 1, Standard Item 009-032:
 1. Updated Table 2, Lines 1A and 1B, and Table 5, Line 27 that provide an option to use the MIL-DTL-24441D, Type III qualified, Formula 159, zinc-rich coating on freeboard, topside, and Jet Blast Deflector (LBD) pits.
Zinc-rich coating retards undercutting and rust staining at defects or holidays.
 2. Updated Table One, Lines 3, 6, 18 and Lines 14, and 22 to define requirements for use of MIL-PRF-24647E qualified, Type IV, biocide-boosted, foul-release coatings on steel, aluminum, or GRP substrates for up to seven years of service.
Three coats of foul-release topcoat support up to seven years of service with two coats supporting up to two years of service.
 3. Updated, paragraph 3.1.16 to include a new clause addressing the streamlined waterfront process of applying two coats of interior topcoats to effectively cover or hide the substrate primer by adding the following:
“With the exception of MIL-PRF-24596, MIL-DTL-15090, and MIL-DTL-24607, when applying paint, multiple coats must be of contrasting colors, unless specifically stated in Tables One through 8.”

FY-28, Change 1, Standard Item 009-032 enhances coating corrosion-control performance, addresses Fleet needs, and reduces life-cycle maintenance costs.

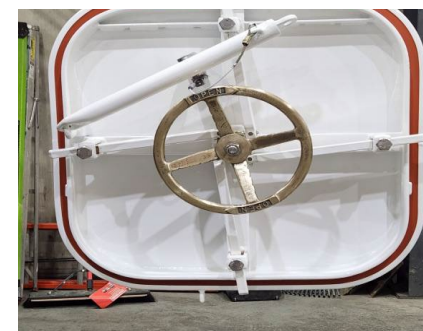
What's new with Standard Item 009-032?

- “Top Five” updates to FY-28, Change 1, Standard Item 009-032:

4. Updated Table 2, Lines 21-26 on deck coatings and added new Note (12), that also appears as Note (12) in the FY-28, Standard Item 009-026 on decking, as follows:

“Do not coat latex concrete installed in magazines and ammunition holds. For magazine and ammunition hold areas not covered with latex concrete, paint decks with the same gray epoxy system applied to the surrounding area. As directed by the SUPERVISOR, apply dark gray nonskid to magazine and ammunition hold decks. As directed by the SUPERVISOR, apply MIL-DTL-24441, Type IV, Formula 152 white epoxy to decks in magazines that contain saluting charges.”

5. Updated Table 2, Line 41 to expand the list of parts suitable for fluidized-bed powder coating by adding: ***“POWDER COATED AIRTIGHT DOORS, WATERTIGHT DOORS, HATCHES AND SCUTTLES: INTERIOR AND EXTERIOR”***



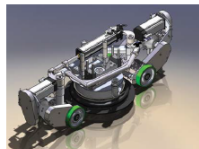
FY-28, Change 1, Standard Item 009-032 enhances coating corrosion-control performance, addresses Fleet needs, and reduces life-cycle maintenance costs.

What's Planned for the FY-29 Standard Item 009-032?

- June 2026, SURFMEPP submitted Change Proposal to update Attachment C, “Process for Spot and Sweep Blast of the Underwater Hull and Freeboard” because current requirements are not clear.
 - 12 May 2016 - Attachment C first published in FY-17, Change 1, Standard 009-32. Original Attachment C based on NSRP Surface Preparation and Coating (SPC) Panel Project.

NSRP Project Transition
Spot and Sweep To Speed Topside/Underwater Hull Coating

- Coating process derived from commercial practice.
- Requires use of Chariot Robotics hull crawler.
- Project included in-service ship demonstration.



USS KLAKRING (FFG 42) – February 2011, spot/sweep of entire underwater hull and freeboard
BERTHING BARGE (APL 65) – July 2011, spot/sweep of 2,000 ft2, WJ-2 of remaining U/W hull
USS RODNEY M. DAVIS (FFG 60) – February 2011, spot/sweep of 2,000 ft2 underwater hull
USNS ALAN SHEPARD (T-AKE 3) – May, 2012 spot/sweep of 75,000 ft2 underwater hull



[No reports of coatings issues on ships subject to spot and sweep.](#)

FY-29 Standard Item 009-032 to include updated Attachment C based on SEA 05P2 and SURFMEPP input; any NSRP SPC members interested in reviewing update language?

What's Planned for the FY-29 Standard Item 009-032?

- Original Attachment C based on NSRP Surface Preparation and Coating Panel Project.
 - Metrics showed appreciable schedule compression and costs avoidance.
 - June 2026 SURFMEPP Change Proposal noted limited use of Attachment C due to unclear requirements.

NSRP Project Transition Spot and Sweep To Speed Topside/Underwater Hull Coating

- NSRP spot and sweep report included the following:
 - Production runs of spot-and-sweep water-jetting removal were measured for this program and ranged from 1,120 – 2,545 ft² /hour or ten times faster than traditional abrasive blast removal to a SSPC-SP 10 level of cleanliness.
 - Data used to develop cost estimates:

	<u>Spot and Sweep</u>	<u>SSPC-SP 10</u>
Production Rate (square feet per “nozzle hour”)	1,200	175
Productivity (nozzle-hours of full production per day)	7	12

Surface Preparation Schedule Reduction per Ship			
Class	Freeboard	Underwater Hull	Total Days
FFG-7	6	6	12
CG-47	9	9	18
DDG-51	8	8	16
CVN	64	64	128
LHD	42	42	84
LSD-41	16	16	32
SSBN	0	27	27

- NSRP spot and sweep report mentioned that the process can reduce costs across the Fleet by an estimated \$10M annually.
- FY-17, CH-1, Standard Item 009-32, Attachment C allows SUPERVISOR to task spot and sweep processes.

[No reports of coatings issues on ships subject to spot and sweep.](#)

FY-29 Standard Item 009-032 to include updated Attachment C based on SEA 05P2 and SURFMEPP input; any NSRP SPC members interested in reviewing update language?

What's Planned for the FY-29 Standard Item 009-032?

- SEA 05P2 modified SURFMEPP Change Proposal for Attachment C based on format used in 2025 to adopt Attachment F, "Process for SSPC-SP 18 Thorough Spot and Sweep Blast Cleaning of Areas Previously Coated with MIL-PRF-23236, Type VII Coatings."
 - Attachment F created as result of NSRP SPC efforts.
 - Attachment F has been successfully invoked on the waterfront in tanks.

Key Changes in Updated Attachment C:

1. Pressure wash at up to 5,000 psi to remove marine fouling and support overcoat.
2. SUPERVISOR to direct locations and scope of work based on coating condition.



ACTUAL DAMAGE IN ZONE IS
5% OF TOTAL ZONE & LESS THAN
1% OF TOTAL HULL.



TO AVOID OVERLAP HAND WORK,
SHIPYARD WILL RE-COAT ENTIRE
3,000 square foot ZONE OR 20%
OF THE ENTIRE HULL AREA.

3. Invoke SSPC-SP 18, "Thorough Spot and Sweep Blast Cleaning for Industrial Coating Maintenance."
4. Validate that only epoxy remains in work zone with solvent wipe.

ATTACHMENT C

Process for Spot and Sweep Preservation of Underwater Hulls

The spot and sweep blast cleaning process only applies to the underwater hull and boottop areas of surface ships previously coated with MIL-PRF-24647, Type I or Type II ablative antifouling coating systems. The areas authorized for spot and sweep blast cleaning described by note 4.3 and within this Attachment C must be approved by the SUPERVISOR prior to the start of work.

1. As directed by the SUPERVISOR, use vacuum self-contained Low-Pressure Water Cleaning (LP WC) equipment or handheld LP WC lances operating at 2,000 - 5,000 psi in accordance with SSPC/NACE WJ-4 using freshwater to remove slime, depleted coating, and other contamination from the entire underwater hull and boottop.
2. As directed by the SUPERVISOR, mark areas of exposed steel, blistered coatings, or damaged epoxy primer that must be removed by abrasive blasting. Areas of scattered exposed steel, blistered coatings, or exposed epoxy primer must be grouped together into work zones to allow masking to be applied over the surrounding intact, adherent ablative antifouling coating system.
3. As directed by the SUPERVISOR, install masking outside the marked work zone to prevent damaging the surrounding intact, adherent ablative antifouling coating system.
4. Abrasive blast clean the exposed steel, blistered coatings, or damaged epoxy primer within the masked work zone to an SSPC-SP 18 level of cleanliness. SSPC-SP 18 requires exposed steel to be prepared to an SSPC-SP 10 level of cleanliness. Remove all ablative antifouling from retained epoxy primer within the work zone. The SUPERVISOR must validate that epoxy primer remaining in the work zone is intact and adherent using a dull putty knife and a solvent wipe test with the ablative antifouling coating clean-up solvent cited on the NAVSEA-reviewed ASTM F718 data sheet. Solvent wiping retained epoxy with a clean, light-colored rag will not result in color transfer onto the rag. Accomplish the requirements for profile measurements of 3.10.5 following SSPC-SP 18 preparation.
 - 4.1 The required number of surface profile measurements must be calculated based on the cumulative area of substrate prepared to a near white metal, SSPC-SP 10 level of cleanliness within the work zone. If the cumulative area of bare steel prepared to SSPC-SP 10 is less than 100 square feet, a minimum of three profile measurements must be recorded. For areas listed in 3.7, document surface profile on QA Checklist Form Appendix 3 or Naval Shipyard QA Checklist Form Appendix 3 or Naval Shipyard QA Checklist Form Appendix 3a.
 - 4.2 Profile measurements must not be accomplished on retained MIL-PRF-24647 epoxy primer. The QA Checklist Form Appendix 3 or Naval Shipyard QA Checklist Form Appendix 3 or Naval Shipyard QA Checklist Form Appendix 3a must note the SSPC-18 visual inspection of the retained MIL-PRF-24647 primer.

FY-29 Standard Item 009-032 to include updated Attachment C based on SEA 05P2 and SURFMEPP input; any NSRP SPC members interested in reviewing update language?

What's Planned for the FY-29 Standard Item 009-032?

- **SEA 05P2 modified SURFMEPP Change Proposal for Attachment C based on format used in 2025 to adopt Attachment F, "Process for SSPC-SP 18 Thorough Spot and Sweep Blast Cleaning of Areas Previously Coated with MIL-PRF-23236, Type VII Coatings."**

Key Changes in Updated Attachment C:

5. **Apply one coat of MIL-PRF-24647 epoxy primer over SSPC-SP 18 in work zone, validate thickness with Wet Film Thickness (WFT) gauge.**
6. **Apply second coat of MIL-PRF-24647 epoxy primer in work zone, validate thickness with WFT gauge.**
7. **Establishes time limits to remove masking and apply first coat of MIL-PRF-24647 ablative antifouling in accordance with NAVSEA-reviewed ASTM F718.**
8. **Apply designated number of coats of MIL-PRF-24647 ablative topcoat over second primer coating and entire hull to tie system together. Verify each coat thickness with WFT gauge.**
9. **SURFMEPP working on final draft with goal to be same two-page Attachment F.**

5. Remove all masking and validate that the retained underwater hull coating surrounding the work zone is intact and adherent. As directed by the SUPERVISOR, feather the transition from areas that retained underwater hull coating system to the abrasive blasted areas. Record on the applicable QA Appendix any areas of sharp or "step" transition between bare metal and paint.

6. As directed by the SUPERVISOR, mask the intact adherent ablative antifouling coating system surrounding the work zone that was cleaned to the SSPC-SP 18 level of cleanliness to prevent the first coat of epoxy primer applied to the work zone from being applied over any surrounding, intact, adherent ablative antifouling coating.

7. Upon completion of masking, apply one coat of MIL-PRF-24647 epoxy primer to the work zone in accordance with the specified line in Table One.

7.1 During primer application, a WFT gauge must be used to verify the application of proper film thickness (see 3.10.10.3 and SSPC-SP 18, section A8.5). WFTs must be taken on areas of exposed steel and areas where the primer was applied over retained epoxy primer. WFT readings are not required to be recorded.

8. After the primer applied in the work zone cures to overcoat in accordance with the NAVSEA-reviewed ASTM F718 data sheet, apply the second coat of epoxy primer to the work zone in accordance with the specified lines in Table One. The second primer coat must be in a contrasting color.

8.1 During primer application, a WFT gauge must be used to verify the application of proper film thickness (see 3.10.10.3 and SSPC-SP 18, section A8.5). WFTs must be taken on areas of exposed steel and areas where the epoxy primer was applied over retained epoxy primer. WFT readings are not required to be recorded.

9. Within one hour of completing application of the second primer coat, remove all masking around the work zone and verify that the primer is tacky or cured to overcoat in accordance with applicable NAVSEA-reviewed ASTM F718 (see 3.1.20).

10. Apply the first coat of MIL-PRF-24647 ablative antifouling to the second coat of epoxy primer in the work zone and to the entire surrounding, intact, adherent underwater hull area adjacent to the work zone. The color of the first antifouling coat shall be in accordance with the specified line in Table One.

10.1 During ablative antifouling application, a WFT gauge must be used to verify the application of proper film thickness (see 3.10.10.3). WFTs must be taken over the entire underwater hull area (see 3.10.10.3). Record WFT measurements on QA Checklist Form Appendix 7A or Naval Shipyard QA Checklist Form Appendix 7.

11. In accordance with the specified line in Table One, validate that the first ablative antifouling coat has cured to overcoat in accordance with the NAVSEA-reviewed ASTM F718. As directed by the SUPERVISOR and in accordance with the specified Line in Table One, apply the second coat of ablative antifouling over the entire underwater hull area.

11.1 During ablative antifouling application, a WFT gauge must be used to verify the application of proper film thickness (see 3.10.10.3 and SSPC-SP 18, section A8.5). WFTs must be taken over the entire area being coated (see 3.10.10.3). Record WFT

FY-29 Standard Item 009-032 to include updated Attachment C based on SEA 05P2 and SURFMEPP input; any NSRP SPC members interested in reviewing update language?

Published MIL-PRF-16173F on Corrosion Preventive Compounds

ISSUE: 20 Aug 2026 Published MIL-PRF-16173F “CORROSION PREVENTIVE COMPOUND, SOLVENT-DISPERSED, AMBIENT TEMPERATURE DRIED” to replace MIL-PRF-16173E, with Amendment 2 that last updated on 19 Oct 2017.

RESULT: NAVSEA significantly updated MIL-PRF-16173F as part of a PCOE project to address the following issues:

- Instances where Navy has ordered corrosion preventive compound (i.e., MIL-PRF-16173E, Class I, Grade I) and received a product from one manufacturer that met operational requirements while at other times received the same Class/Grade product from a different manufacturer that **did not meet** their operational requirements.
- Includes new Class III corrosion preventive compound with Volatile Organic Compound (VOC) content below 100 grams/liter.
- Added new Grade 8 or persistent preservative compounds intended for long-term corrosion control performance without surface preparation (e.g., spray hydrophobic preservative or wax).
- Added new Application requirements for brush, spray, roller, self-pressurized container, or putty/paste forms of the corrosion preventive compounds.
- Replaced obsolete tests like “shed” storage and eliminate archaic / redundant test methods (i.e., MIL-C-16173A published in 1953) by citing current ASTM test methods. Updated text to clarify Conformance Test requirements.



Publication coordinated with all services and all government comments were adjudicated/incorporated.

Published MIL-PRF-16173F on Corrosion Preventive Compounds

ISSUE: 22 Oct 2025, NAVSEA received government non-concurrence with 1 Aug 2025, version of MIL-PRF-16173F that adopted a Type/Class/Grade/Application organizational structure that had completed optional government / industry review and NAVSEA comment adjudication.

- Government requested changes revert to Class/Grade/Application format.
- Requested consistency in performance requirements for current Grade 1 – 5 qualified products.
- Discussed eliminating archaic material categories.

Original	Proposed draft April 2025	Planned final 2026	
MIL-PRF-16173E(2) Grade / Description	MIL-PRF-16173F Class	MIL-PRF-16173F Grade	MIL-PRF-16173F Grade Description
1 - Hard film	1	1	Hard film (<i>aligns with NATO Code Number C-632</i>)
2 - Soft film	4	2	Soft film, miscibility with lubricants required. (<i>aligns with NATO Code Number C-620</i>)
3 - Water displacing, soft film	-	3	Water displacing, soft film.
4 - Transparent, non-tacky film	-	4	Transparent, non-tacky film.
5 - Low pressure steam removable film	-	5	Low-pressure steam- or hot water-removable.
{2}*	5	6	Soft film, miscibility with lubricants when nominal heat resistance required (e.g. gear boxes).
{3}*	2	7	Water displacing, soft film for machinery, instruments, or parts.
---	9	8	Persistent, preservative compound
{1}*	3	---	Hard asphaltic film, mechanically removable (e.g., peel, scrape)
---	6	---	Penetrating for fasteners and crevices between faying surfaces.
{3}*	7	---	Water displacing, soft film, for outdoor or indoor storage.
{5}*	8	---	Low-pressure steam- or hot water-removable for outdoor or indoor storage.

- 2025 draft MIL-PRF-16173F subdivided MIL-PRF-16173E Grades. Some 2026 draft MIL-PRF-16173F, Grade 1 – 5 corrosion preventative compounds are currently qualified to the same Grade in MIL-PRF-16173E, with Amendment 2.

Published MIL-PRF-16173F on Corrosion Preventive Compounds

ISSUE: 20 Aug 2026, MIL-PRF-16173F “Corrosion Preventive Compound, Solvent Dispersed, Ambient Temperature Dried,” includes all government comment adjudication.

Class reverts to MIL-PRF-16173E, with Amendment 2, format defining requirements for VOCs.

Includes new low, VOC, Class III systems with less than 100 g/l or (0.8 pound per gallon).

NOTE: This draft, dated 28 April 2026, prepared by Naval Sea Systems Command, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 8030-2025-006)

ATTN: Per SEA 055, all updates to the document are required to be made in tracked changes. As such, the Track Changes function is enabled. Additionally, each change requires an adjacent comment balloon to be inserted after the change with an accurate and detailed justification for the change (select New Comment under the Review ribbon above). Please do not select large portions of text when inserting comment balloons.

INCH-POUND
MIL-PRF-16173F
DRAFT
SUPERSEDING
MIL-PRF-16173E(SH)
w/INT. AMENDMENT 2
19 October 2017
MIL-PRF-16173E
6 January 1993

PERFORMANCE SPECIFICATION
CORROSION PREVENTIVE COMPOUND, SOLVENT DISPERSED, AMBIENT TEMPERATURE DRIED

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers solvent-dispersed corrosion preventive compounds that are deposited as thin films and dried at ambient temperatures by solvent evaporation. These products are formulated to be removed by solvent, oil, or steam; or to provide persistent, long-term, corrosion-control performance on metallic substrates.

1.2 Classification. Corrosion preventive compounds covered by this specification are furnished in the following classes, grades, and applications, as specified (see 6.2).

1.2.1 Classes. The classes of corrosion preventive compounds are as follows:

a. Class I - A corrosion preventive compound having a Volatile Organic Compound (VOC) content greater than 3 pounds per gallon (340 grams per liter) and less than or equal to 4.6 pounds per gallon (550 grams per liter).

b. Class II - A corrosion preventive compound having a VOC content greater than 0.8 pound per gallon (100 grams per liter) and less than or equal to 2.8 pounds per gallon (350 grams per liter).

c. Class III - A corrosion preventive compound having a VOC content less than or equal to 0.8 pound per gallon (100 grams per liter).

1.2.2 Grades. The grades of corrosion preventive compounds are as follows (see 6.1):

a. Grade 1 - Temporary, hard film, solvent-removable compound for corrosion protection during outdoor storage and overseas shipping. NATO Code Number C-632 cites this specification to define performance requirements for this grade of corrosion preventative compounds.

b. Grade 2 - Temporary, soft film, solvent-removable compound for corrosion protection on equipment where miscibility with lubricants is required. NATO Code Number C-620 cites this specification to define performance requirements for this grade of corrosion preventative compounds.

c. Grade 3 - Temporary, water displacing, soft film, solvent-removable compound for corrosion protection during outdoor or indoor storage.

d. Grade 4 - Temporary, transparent, non-tacky film, solvent-removable compound for corrosion protection during outdoor or indoor storage.

e. Grade 5 - Temporary, low-pressure steam- or hot water-removable compound for corrosion protection during outdoor or indoor storage.

Comments, suggestions, or questions on this document should be addressed to Commander, Naval Sea Systems Command, ATTN: SEA 055, 1333 Isaac Hall Avenue, SE, Stop 5160, Washington Navy Yard, DC 20376-5160 or emailed to CommandStandards@navy.mil, with the subject line "Document Comment". Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.dia.mil>

AMSC N/A FSC 8030

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Grade reverts to MIL-PRF-16173E, with Amendment 2, format defining requirements for the characteristics of the different corrosion preventative compounds

Performance requirements for Grade 1 – 5 similar to those for MIL-PRF-16173E, with Amendment 2, Grade 1 – 5 corrosion preventative compounds.

Government comments preferred MIL-PRF-16173E (2) organizational structure using Class, Grade, and adding Application instead of NAVSEA proposed Type, Class, and Grade to reduce administrative burden.

Published MIL-PRF-16173F on Corrosion Preventive Compounds

ISSUE: 20 Aug 2026, MIL-PRF-16173F “Corrosion Preventive Compound, Solvent Dispersed, Ambient Temperature Dried,” includes all government comment adjudication.

Applications that will include a putty with inert filler.

MIL-PRF-16173F
DRAFT DATED 28 April 2026

f. Grade 6 - Temporary, solvent-removable compound for corrosion protection during storage of equipment (e.g., gear boxes) where miscibility with lubricants and nominal heat resistance are required.

g. Grade 7 - Temporary, solvent-removable compound for corrosion protection during indoor storage of machinery, instruments, or parts.

h. Grade 8 - Persistent, preservative compound for corrosion protection of metals in outdoor or indoor environment.

1.2.3 Applications: The corrosion preventive compound applications are as follows:

a. Application A - For brush application.

b. Application B - For dip application.

c. Application C - For fill and drain application.

d. Application D - For spray application using spray equipment.

e. Application E - For spray application using a self-pressurized container.

f. Application F - For applications with inert filler(s) or binder(s).

1.3 Part or Identifying Number (PIN): PINs to be used for corrosion preventative compound acquired to this specification are created as follows:

M	16173	-	X	-	X	-	X	-	X	-	X
Prefix for Military Specification	Specification Number		Class		Grade		Application		Container Size		Color
			(see code below)		(see code below)		(see code below)		(see code below)		

2

Grade reverts to MIL-PRF-16173E, with Amendment 2, format defining requirements for the characteristics of the different corrosion preventative compounds

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Opportunity for Application of New, Class 8 “Persistent” Preservatives

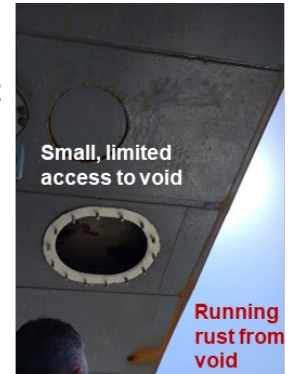
STATUS: Updated MIL-PRF-16173F specification includes new, “Class 8, Persistent” corrosion-preventive compound requirements intended as supplement for coatings in spaces where coating installation and maintenance is impractical and corrosion is an issue.

Performance requirements include:

- Thickest layer at a minimum of 4 mils.
- Longest ASTM B117 salt fog performance requirements at 504 hours (i.e., fewer than three corrosion spots).
- Longest ASTM G155 xenon arc accelerated weathering performance requirement at 1,200 hours (i.e., fewer than three corrosion spots).

Key technical considerations for use of “persistent” preservatives:

- Space or void where coatings are impractical to install that are analogous to interior of rudder or bilge keel, but more accessible to the environment or weather.
- Cosmetic appearance of waxy, oily coating will not be an issue. Translucent, amber preservative can attract dirt or dust.
- Thick, waxy material will not interfere with mechanical equipment operation.
- Runoff or release of preservative to the environment will not be significant.



NEED: Technical community input on applications for persistent preservatives needed to create maintenance requirements for ship's force and contractors.

Need to validate application requirements for new MIL-PRF-16173F Class/Grade/Application products.

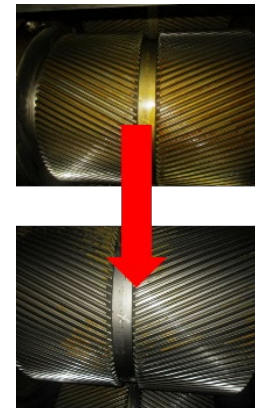
Completed Update to MIL-PRF-16173F for Publication

ISSUE: MIL-PRF-16173E(2), “Corrosion Preventive Compound, Solvent Cutback, Cold-Application” with interim amendments was last updated on 19 Oct 2017, included:

- Updated Volatile Organic Compounds (VOC) requirements in paragraph 3.4.2 to state:
 - VOC for Class I compounds shall exceed 2.8 lbs/gal (340 grams/liter).
 - VOC for Class II compounds shall not exceed 2.8 lbs/gal (340 grams/liter).
- Interim amendments require full specification update within two years.

WAY AHEAD: NAVSEA significantly updating MIL-PRF-16173F as part of a PCOE project to address the following issues:

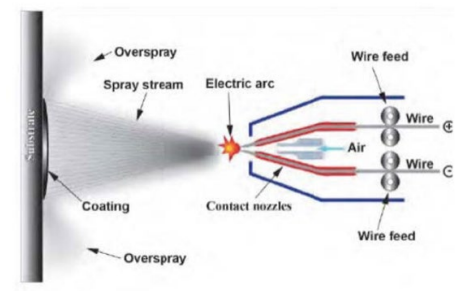
- Instances where Navy has ordered material (i.e., MIL-PRF-16173E, Class I, Grade I) and received a product from one manufacturer that met operational requirements while at other times received the same Class/Grade product from a different manufacturer that **did not meet** their operational requirements.
- Update MIL-PRF-16173F based on classification system instead of current classification based on film removal characteristics.
- Replace obsolete tests like “shed” storage and eliminate archaic / redundant test methods (i.e., MIL-C-16173A published in 1953) by citing current ASTM test methods. Update the requirements for conformance testing.
- Add new technology products for long-term corrosion control performance without surface preparation (e.g., spray hydrophobic preservative or wax).



What's New with Thermal Spray Material Requirements?

- NRL, Code 6130 initiated FY-26 PCOE project to update the current, MIL-PRF-32577, "Coating System, Nonskid, Metallic Thermal Spray Application," specification to include new requirements for corrosion-control thermal spray wire.

- Corrosion control applications based on in-service performance of Thermal Spray Nonskid (TSN) created using MIL-PRF-32577 wire in twin wire arc spray equipment to create rough nonskid surface >12-year service life from first NAVSEA TSN application.



- One layer of new wire optimized for corrosion control could prevent corrosion where organic coatings are inadequate.

Key Changes in Proposed MIL-PRF-32577, with Amendment 1:

- Change name to reflect expanded scope to include corrosion-control wire requirements.
- Added new, "Applications" to separate nonskid wire from corrosion control wire applications.
- Added thickness requirements to clarify relationship with Standard Item 009-124.
- Added corrosion testing requirements for Application 2 wire.
- Eliminated four-point bend test because in-service performance did not indicate flexure adversely affected TSN.

NOTE: This draft, dated 22 June 2026, prepared by Naval Sea Systems Command, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project ~~XXXX-XXXX-XXXX~~)

INCH-POUND
MIL-PRF-32577
w/AMENDMENT 1
DRAFT
SUPERSEDING
MIL-PRF-32577
12 June 2017

ATTN: Per SEA 05T, all updates to the document are required to be made in tracked changes. As such, the Track Changes function is enabled. Additionally, each change requires an adjacent comment balloon to be inserted after the change with an accurate and detailed justification for the change (select New Comment under the Review ribbon above). Please do not select large portions of text when inserting comment balloons.

PERFORMANCE SPECIFICATION COATING SYSTEM, METALLIC THERMAL SPRAY APPLICATION

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers thermal spray coatings for corrosion control and nonskid applications by electric arc wire spray. The coatings are applied to steel substrates in accordance with the approved procedure. The thermal spray is then covered with one or more color toppings or coatings (sealers) as designated by the approved application procedure.

1.2 Classification

1.2.1 Type. The thermal spray coatings covered by this specification are of the following types:

- Type I: Coatings obtained from wire containing total chromium concentrations not exceeding 0.55 weight percent.
- Type II: Coatings obtained from wire containing total chromium concentrations not exceeding 0.01 weight percent.

1.2.2 Application. The applications of thermal spray coatings are segregated by intended use as follows:

- Application 1: Nonskid
- Application 2: Corrosion control

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

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AMSC N/A

FSC MFPF

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Amendment 1 to MIL-PRF-32577 will support expansion of thermal spray applications to include areas subject to appreciable corrosion challenge, high heat, and/or wear.

QUESTIONS?