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United States Coast Guard

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COMDTNOTE 10360
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COMMANDANT NOTICE 10360 **CANCELLED:** JUN 10 2003

Subj: CH-1 TO THE COAST GUARD COATINGS AND COLOR MANUAL, COMDTINST M10360.3B

1. PURPOSE. This Notice publishes changes to the Coast Guard Coatings and Color Manual, COMDTINST M10360.3B.

2. ACTION. Area and district commanders, commanders of maintenance and logistics commands, commanding officers of headquarters units, assistant commandants for directorates, Chief Counsel, and special staff offices at Headquarters shall comply with the provisions of this Notice. Internet release authorized.

3. DIRECTIVES AFFECTED. None

4. SUMMARY OF CHANGES. Changes to ref a include: amplifying coating policy for aluminum surfaces, authorization of a high performance bilge epoxy coating system, stripecoat requirement on all edges, welds, corners, crevices, etc. after the initial primer coat for all critical surfaces, and an updated listing of cg approved coatings and materials.

5. PROCEDURE.

   a. Remove and insert the following:

      (1) Table of Contents

      (2) Chapters 1, 4, 9, 11, 12, and 16

      (3) Appendices A, B, and C

DISTRIBUTION – SDL No. 139

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	2	2	2		2	2	2	2	1	1		1	2	2	1	1	1	1	1		2					
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NON-STANDARD DISTRIBUTION: *B:c MLCs (6 extra); *D:l SWOSCOLCOM, ATG Mayport (3 Extra), ATG Norfolk (3 Extra), ATG San Diego (3 Extra), ATG Pearl Harbor (3 Extra), TAFT Roosevelt Roads only

6. CHANGES. Recommendations for improvements to this Manual should be submitted via the chain of command to the Commandant (G-SEN).

7. FORMS AVAILABILITY. Forms mentioned in this Manual may be obtained as indicated in the Catalog of Forms, COMDTINST M5213.6 (series) or electronically in Jet Form Filler on Standard Workstation III.

P. J. GLAHE
Assistant Commandant for Systems
Acting

Encl: (1) CH-1 to the Coast Guard Coatings and Color Manual, COMDTINST M10360.3B

Coatings and Color Manual

COMDTINST M10360.3B

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APPENDICES

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CHAPTER 1. INTRODUCTION

A. Purpose. The Coatings and Color Manual, COMDTINST M10360.3 (series), is published to promulgate Coast Guard coating and color policy and selected procedures for all vessels, buildings, structures, fixed equipment, and aids to navigation. While the Coatings and Color Manual, COMDTINST M10360.3B, does authorize different coating systems from revision A, implementation of this Manual does not constitute a significant change in Coast Guard policy. Accordingly, this Manual qualifies for Categorical Exclusion 33 under the National Environmental Policy Act (NEPA) and therefore does not require NEPA analysis.

Note: Aircraft and Vehicles. For information on painting or preservation of aircraft, refer to the applicable Technical Notes listing the reference drawings maintained by Aircraft Repair and Supply Center. For information on painting vehicles refer to Motor Vehicle Manual, COMDTINST M11240.9 (series).

B. Change Process. To ensure this Manual remains up-to-date, coincides with current practices, and continues to meet program needs, future change proposals shall be forwarded as specified in the following paragraphs.

1. Change proposals may be originated at any organizational level. Proposals shall be submitted by letter to Commandant (G-SEN) via their cognizant Maintenance and Logistics Center (MLC). Headquarters units and program managers may submit their proposals directly to Commandant (G-SEN).

2. MLCs shall review, endorse, and forward approved proposals to Commandant (G-SEN). Disapproved requests shall be returned to the originator with an explanation for disapproval.

3. Upon receipt, Commandant (G-SEN) will initiate the following action:

   a. Conduct a thorough investigation of each proposal to justify the need, identify possible conflicts with other directives and publications, and assess the affects of implementation.

   b. Forward the proposal to the Engineering Logistics Center (ELC) technical point of contact for a technical review.

4. The ELC responsibilities include:

   a. Conduct a technical review of all change proposals.

   b. Return any disapproved change request to the originator with an explanation for the disapproval. Maintain custody of all approved change requests for inclusion into the next change to the manual.

   c. When directed by Commandant (G-SEN), collate all change proposals and supporting documentation into a package and forward to Commandant (G-SEN) for concurrent clearance routing and approval.

5. Commandant (G-SEN) is the final approving authority and has overall responsibility for the Coatings and Color Manual, COMDTINST M10360.3(series).

   a. All approved changes will be promulgated by future change notices to this Manual.

   b. Changes that require immediate action shall be submitted directly to Commandant (G-SEN) via message, information copy to the ELC and MLCs.

C. Exemptions. All units shall comply with the requirements of The Coatings and Color Manual, COMDTINST 10360.3(series) unless otherwise authorized by G-SEN. G-SEN may authorize variance from this manual for color, prototype, and material substitution. For cutters and boats, ELC may authorize variance from this manual for prototype evaluation purposes only (ELC(024) for non-standard boats, ELC(01) for cutters and standard boats). For shore facilities and buoys, Commandant (G-SEC) may authorize variance from this manual for prototype evaluation purposes only.

Units seeking a waiver from this manual for cutters and boats shall submit their request to Commandant (G-SEN), via their cognizant MLC(v), copy ELC(01) and ELC(024). Units seeking a waiver from this manual for shore facilities and buoys shall submit their request to Commandant (G-SEN) via their cognizant MLC(s) and Commandant (G-SEC).

Units seeking to test new coating systems or materials on cutters and boats shall submit prototype requests to: ELC(01) for standard boats and ELC(024) for non-standard boats; via their cognizant MLC(v); copy to Commandant (G-SEN), ELC (024) if appropriate, non-cognizant MLC(v), and the Acquisition Program Manager, if appropriate. Letter reports of performance data will be described in the approval document.

Units seeking to test new coating systems or materials on shore facilities and buoys shall submit prototype requests to Commandant (G-SEN) via their cognizant MLC(s) and Commandant (G-SEC).

D. Distribution. Commandant (G-SEN) shall determine distribution of this Manual. Requests for changes to the distribution should be submitted on "Request for Allowance Change" (Form CG-5323), addressed to Commandant (G-CIM-3), via the chain of command.

E. Ordering. The Directives Publication and Reports Index (DPRI), COMDTNOTE 5600 provides guidance for ordering The Coating and Color Manual, COMDTINST M10360.3(series), and its associated changes. Form CG-4428, Request For Directives, shall be completed and forwarded to the appropriate stockpoint. The Manual is also available on the Commandant (G-SEN) website at http://cgweb.comdt.uscg.mil/g-sen/gsen.htm.

CHAPTER 4. PAINTING ORGANIZATION AND SUPERVISION

A. Frequency Of Painting.

1. General. The principal objective of painting is to prevent deterioration of the substrate at a minimum cost. The recommended method of protection is a condition-based paint program i.e., continuous inspection and painting as necessary. Condition-based painting is preferable to completely repainting after the original coating has failed because the latter results in an unsightly surface, expensive preparation before repainting, and possible deterioration of structural members. Condition-based painting is preferable to complete repainting at pre-determined intervals where repainting may be too late in cases where deterioration has already taken place, but completely unnecessary in others. Careful record keeping of paint activities is also recommended to aid in selecting the best paint system and painting procedures.

2. Interior Surfaces. Interior surfaces are generally painted more frequently than necessary, the painting being done for appearance rather than protection. Excessive repainting results in paint film failure due to films that are either too thick or incompatible.

   a. Since interior paint films are generally renewed due to yellowing or staining rather than mechanical film failure, the paints selected for interior use are designed to hold up under repeated washing. Scrubbing the surface with detergent and water will usually result in a reasonably clean, fresh appearance.

   b. Interior painting should normally be accomplished at intervals of 3 years or greater. Shorter intervals result in wasted time and paint on surfaces where the paint film is intact and only needs to be cleaned.

3. Exterior Surfaces. The frequency of painting should be optimized to repaint prior to failure of the paint film. Touch-up painting between the scheduled periods of large scale repainting is adequate to protect the surface and impart a satisfactory appearance. See Chapter 9 – Cutters and Boats General Information and Maintenance Painting for more detailed information on frequency of painting for cutters and boats.

4. Preventive Maintenance. Paint systems do not deteriorate uniformly. Even when they are applied by skilled painters, some pinholes, gaps, and breaks at sharp edges or seams are often present. Left unattended, corrosion and deterioration will initiate at these points. Spot painting describes the painting of only the small or localized areas in which the coating has begun to deteriorate. Not only does spot painting save costly surface preparation and repainting of large areas, but the life expectancy of the paint system and structure can be extended considerably. Furthermore, when repainting is desired to achieve adequate film thickness or for uniform appearance, it can be accomplished economically with the minimum number of coats, since the surface will be in sound condition. An added advantage derived from preventive maintenance is the detection of faulty structural conditions or problems caused by leakage or moisture.

B. Weather Conditions. Weather conditions for painting are an important factor for exterior painting. In the absence of specific manufacturer guidelines to the contrary, the following requirements shall be adhered to.

1. To ensure a dry surface, the temperature of the surface must be 5°F above the dew point temperature. If the temperature of the surface to be painted is at or below the dew point temperature, condensation may blister the paint film. Visual examination of the surface for condensation cannot be relied upon

since condensation cannot be detected until it is in an advanced stage. The dew point is determined by the relative humidity in relation to the air temperature.

2. During winter, spring and fall the combination of short days and extreme weather conditions limit available time for paint application. Delay the start of painting in the day until dew and frost have disappeared and the temperature of the surface is above the dew point. The painting must be further shortened by stopping the work at least two hours before the temperature of the surface is expected to drop below the dew point. This allows the paint time to set before being exposed to moisture. Regardless of the season or temperature, do not paint in fog, mist, drizzle, or rain.

C. Procurement of Paint. Open purchase procurements should not be used unless a government source of supply is not available or when emergent conditions exist and a government source cannot meet delivery requirements. For a complete description of procurement regulations, see the Simplified Acquisition Procedures Handbook COMDTINST M4200.13 (series). GSA offers a variety of procurement vehicles to obtain coatings and supplies with or without a National Stock Number (NSN).

1. GSA Advantage! Online shopping service is an electronic ordering system designed to make products and services offered through GSA available online. The system allows users to browse, perform keyword searches on product-specific information and assemble and place an order. When ordering through GSA Advantage!, a Smart Pay Card may be used, orders may be placed via the standard MILSTRIP procedures or an order faxed directly to the contractor.

2. Contractor-Direct Ordering. Orders may also be placed directly with contractors on a Multiple Award Schedule, also known as Federal Supply Schedule. This is a listing of contracts awarded by GSA to responsible companies that offer commercial services or products, at varying prices, provided that prices are determined fair and reasonable.

3. Military Interdepartmental Purchase Request (MIPR). DD Form 448 may be used to order items on schedule when customers have a special project or for high dollar items. This form may be used to order a multitude of items on one or more contracts and just attach a bill of material(s).

4. MILSTRIP. The Form DD 1348-6 may also be used to submit exception data requisitions. Descriptive data is required when ordering non-NSN listed items, such as those on Multiple Award Schedule, and when a specific color or material is required. When submitting non-NSN listed orders, be certain to cite all the data required to purchase the item, such as name, part number, size, color, vendor, contract number, etc.

D. Ordering and Receipt of Paints. Most vessels and shore units maintain paint lockers and keep an allowance of paint on hand. These allowances are necessarily kept low because paint will deteriorate in the container. Prior to a scheduled painting, obtain larger paint stocks as necessary to meet the projected demand.

1. To prevent costly waste of paints due to age deterioration, always use the oldest paints first. Reference to the shelf-life extension program is encouraged to minimize wastes.

2. When ordering paints and related supplies, always request the Material Safety Data Sheet (MSDS). The MSDS provides valuable information about the proper handling of a product. The Emergency Planning and Community Right-to-Know Act, and Pollution Prevention (EPCRA/P2) Manual, COMDTINST M16455.10 (series), requires that MSDS's be obtained prior to purchasing a hazardous material. Coatings with hazardous toxic materials should be eliminated as acceptable substitutes with less toxicity are made available.

3. To estimate the amount of paint needed for a particular job:

a. Use table 4-1 to determine coverage of a flat surface in square feet per gallon. Table 4-1 takes into account the type of paint (some paints leave thicker films than others) and the material being covered (variable material absorption rates).

b. Multiply the figure from table 4-1 by the appropriate surface irregularity factor from table 4-2. The resulting coverage figure should be a reasonable estimate of the surface area that a gallon of paint will cover.

TABLE 4-1

Coverage in Sq. Ft. Per Gallon on a Flat Surface

Surface and Material	1st or Primer Coat	2nd Coat	3rd Coat
Siding and Trim Exterior Oil Paint	350	400	450
Porch Floors and Steps Deck Paint	300	400	450
Asbestos Wall Shingles Exterior Paint	150	300	
Shingle Siding Exterior Oil Paint	250	300	
Shingle Roofs Roof Paint	100	200	
Brick Exterior Oil Paint	150	300	
Interior Doors and Windows Interior Gloss Enamel	350	400	450
Walls, Smooth Finish, Plaster Interior Gloss or Semi-Gloss Oil Paint	350	400	450
Interior Latex Paint	450	500	
Plasterboard (Sheetrock)			
Interior Gloss or Semi-Gloss Oil Paint	400	450	
Interior Latex Paint	450	500	
Metal			
High Build Epoxy (5 mils)	165	165	
Exterior Enamel	350		

TABLE 4-2

Surface	Irregularity Factor
Vessel Overheads	1.50
Bulkheads	1.70
Building Ceilings	1.90
Walls	1.80

4. All paint products that are received should be delivered in original, unopened containers with the following information:
   - Product Name/No.
   - Manufacturer
   - Batch No.
   - Date of Manufacture
   - Shelf Life
   - Product Data/ASTM F718 Sheet

- Material Safety Data Sheet (MSDS)
- Certificate of Compliance (COC)

E. Organizing for the Job. Careful organization is necessary to ensure safety, efficiency, and quality. Accordingly, the following guidelines are recommended:

1. Apply Operational Risk Management principles, in accordance with Operational Risk Management Instruction, COMDTINST 3500.3, to manage Occupational Safety and Health risks. Contact the cognizant MLC (kse) for assistance.

2. Use only experienced personnel as supervisors. This is especially important in the operation of specialized equipment and in the use of highly toxic materials. Supervisors must have a thorough knowledge of painting procedures, maintenance procedures, operation and maintenance of equipment, and safety precautions. All jobs must be checked frequently to ensure personnel are preparing surfaces properly, paints are used properly with regard to mixing and conditioning, application is uniform and at proper film thickness, and proper drying time is allowed between coats. Supervisors are responsible for recording work progress, gallons used, and for daily project and job acceptance inspection reports. Supervisors are responsible for proper identification and disposal of any hazardous wastes resulting from the job.

3. Maintain a clean, well-ventilated paint mixing room and paint locker.

4. Develop a full knowledge of various surfaces and how to prepare them for painting.

5. Consider weather conditions and avoid painting when conditions are unfavorable.

F. Paint Records.

1. Maintenance of paint records is essential for evaluating the performance of coating systems. It allows for performance versus time comparisons, thus distinguishing high performance systems from substandard ones. Aboard ship this information is entered in the Hull History as required by the Naval Engineering Manual, COMDTINST M9000.6 (series). For small boats, this information should be kept in the boat record. At shore establishments, a Painting Log should be maintained. These records should have separate pages for each compartment or room and for the exterior of superstructures or buildings. The following information should be recorded whenever complete repainting is done:

   a. Date of application.

   b. Area painted.

   c. Name of each finish material used, number of coats, specification number, name of manufacturer, date of manufacture, and manufacturer's lot number.

   d. Number of gallons of each type paint used.

   e. Temperature.

   f. Dewpoint.

   g. General statement of weather conditions.

2. In addition to recording the above information, the date of application may be stenciled on the painted area in an inconspicuous location. This practice will aid in evaluating coating system

performance versus time. A stenciled date may also prevent unnecessary repainting. Finally, the stencil serves as a crosscheck with the Hull History or Painting Log.

G. Contract Painting.

1. When painting is done under contract, specifications must be written to guard against inferior workmanship, materials, and other detrimental factors that may shorten the service life of the paint film.

2. Painting specifications should prescribe weather conditions suitable for painting, surface preparation, the painting systems to be used, paint materials to be used, methods of application, equality of the finished job and the general condition of the premises upon completion.

3. Repair and construction contracts may specify contractor-furnished paint only when the agreement specifies painting by the contractor. Contracts normally require submittals for key materials that demonstrate that those materials conform to contract requirements.

4. Monitoring of preparation and paint application by a Coast Guard inspector is equally important as final inspection. In process monitoring shall supplement final inspection. The completed paint job shall be inspected by a Coast Guard inspector prior to acceptance.

5. Safety requirements contained in this Manual and those specified by the Safety and Occupational Health Manual COMDTINST M5100.47 (series) shall apply to contract painting when Coast Guard personnel health is at risk.

6. Painting specifications shall require contractors to manage and dispose of all hazardous wastes resulting from their operations in accordance with all applicable federal, state, and local requirements.

H. Reports of Deficient Paint. Units receiving defective paint shall refer to the Supply Policy and Procedures Manual, COMDTINST M4400.19(series); Reporting Quality Deficiencies Involving Items, Enclosure 5.4.

CHAPTER 9. CUTTERS AND BOATS GENERAL INFORMATION AND MAINTENANCE PAINTING

A. When To Paint. Painting of cutter surfaces should be considered only when it is necessary to prevent corrosion or deterioration of the surfaces. Soiled surfaces should be cleaned rather than repainted.

1. Interior Surfaces. Interior surfaces are generally painted more frequently than necessary. Repainting too frequently results in paint film failure due to films which are too thick or incompatible. The interior paints that have been recommended are designed to hold up under repeated washing. Scrubbing the surface with detergent and water will usually result in a clean, fresh appearance. Interior repainting shall normally not be required more often than once every 3 years. The minimum number of coats required for hiding a surface should be applied. One coat is usually sufficient.

2. Hull Exterior and Superstructure Surfaces. Exterior surfaces should be repainted prior to failure of the paint film. Exterior steel surfaces on cutters and boats above the main deck shall not normally be top coated more often than every two years. Exteriors of hulls above the boot-topping should not normally be top coated more often than every year. Touch-up painting rather than complete repainting should be considered. Units should refer to the Cutter Class Maintenance Plan (CCMP) for determining frequency of painting. For example, WMECs are now on an eight-year schedule for painting freeboard and superstructure.

3. Underwater Body and Boot-Top Surfaces. Underwater body and boot-top surfaces shall be repainted at intervals prescribed by the MLC Commander under the guidance of the Commandant. The anticorrosion primer used with ablative paints should remain in place for the life of the paint (approximately 9-12 years). Do not remove the antifouling system if it is not necessary.

4. Weather Deck Surfaces (Non-Flight Deck). The various non-skid/slip resistant systems used for weather decks should provide about 3-6 years of service. Cosmetic "wash" topcoats are allowed for broadcast grit and MIL-PRF-24667 non-skid systems, but shall not be used on slip resistant sheeting. Cosmetic "wash" topcoats should be used sparingly because they will have an adverse effect on the ability of the non-skid system to prevent slips and falls.

5. Flight Deck Surfaces. Flight decks are certified by the Navy and must be applied and maintained in accordance with NSTM Chapter 634, Deck Coverings. Flight deck coatings shall be applied by commercial contractor, Coast Guard Yard, or USN Ship Intermediate Maintenance Activity (SIMA). An item to be determined on a pre-award survey is whether contractor personnel are competently trained and recognized by the manufacturer to ensure that the non-skid is applied according to coating manufacturer's instructions and that the manufacturer will honor the warranty. Contracts may specify a warranty by the contractor but care should also be taken to preserve any standard warranty provided by the manufacturer. In lieu of top coating, decks shall be washed using Adhesion Promoter/Cleaner to remove stains, chalking and residual oil (Note: Federal Law prohibits units from allowing any cleaning solvents to enter the sea within 12nm of shore). Ship's work force is authorized to spot repair flight decks in order to control underlying corrosion in accordance with the guidelines set out in NSTM 634, Deck Coverings. Ships are also encouraged to review MLCA's Flight Deck Preservation Web-Based Interactive Tutorial, located on the MLCA Naval Engineering Website.

B. Changing Painting Practices. CG policy requires products which meet minimum technical needs and which have the lowest potential for injuring personnel and causing environmental damage. In the past, CG policy required the use of Federal and Military specifications when available. Coatings selected for this Manual still include specifications developed by other federal agencies, primarily the Naval Sea

Systems Command (NAVSEA), in order to avoid duplicating costly R&D work. However, there is a much greater reliance on commercially developed products. Before being entered in the manual, all coatings and systems are reviewed technically to determine suitability for CG use. Projects have been established to test and develop new coatings when specifications do not meet minimum technical needs. Lists of Coast Guard approved commercial products that meet minimum technical needs have been issued in this Manual as required to meet CG requirements. Coatings and painting practices are changing rapidly in response to environmental laws and occupational health concerns. Changes will continue to occur at a rapid rate during the next decade.

Prototypes of any new material requires prior approval by the Commandant (G-SEN), which has delegated this authority to ELC(01). Units wishing to test new coating systems or materials shall submit prototype requests to ELC(01) via their cognizant MLC(v); copy to Commandant (G-SEN), ELC (024), non-cognizant MLC(v), and, if appropriate, Acquisition Program Manager. Letter reports of performance data will be described in the approval document.

C. Vessel Maintenance Painting.

1. Touch-Up Painting On Steel. Any of the surface preparation methods discussed in Chapter 5 of this Manual may be used for steel surfaces. Choice of method should be based on equipment availability, manpower skills, total area being worked, and accessibility. Use the same primer as the original application. Apply in accordance with manufacturer instructions. One exception is inorganic zinc primers because they usually require a Near-White Blast Cleaning (SSPC-SP 10) which is generally beyond the capabilities of the ship's force.

2. Touch-Up Painting On Aluminum. Abrasive blasting aluminum and aggressive disk sanding down to bare metal are not encouraged because these methods remove too much metal from the hull. Loose paint should be scraped off. Rough edges should be feathered out and the original primer and remaining paint should be top coated. Exposed aluminum should be reprimed with the same primer as the original application. Apply in accordance with manufacturer instructions.

3. Alternative Primers. Table 9-1 provides alternative primer systems for the ship's work force to use for touch-up maintenance work if the high build epoxy primers called out by this Manual are not available. The primers are selected because they have been frequently used in the past, are readily available, and have low hazardous pigment concentrations. The tables found elsewhere in this Manual should be used to determine correct topcoat and color.

TABLE 9-1
Alternative Maintenance Primers for Steel and Aluminum Vessels

Touch up Area	Preparation	Coating (Brush or Roller)	Rating
Interior Dry Areas w/o Corrosion	Hand Tool Cleaning or Power Tool	1 coat Zinc Molybdate Alkyd Primer TT-P-645	Very Good
Exterior Problems (For vessels operating in fresh or salt water)	Cleaning	2 coats Zinc Molybdate Alkyd Primer TT-P-645	Good
Exterior/Interior Wet Areas with Corrosion Problem (For vessels operating in salt water)	Power Tool Cleaning Near White Metal	2 coats Epoxy Polyamide Primer, Formula 150 MIL-P-24441 Type III or IV	Excellent
Appearance	Power Tool Cleaning	2 coats Zinc Molybdate Alkyd Primer TT-P-645	Fair

D. Critical Coated Surfaces. Critical coated surfaces are those areas that have experienced premature failures in the past that have resulted in avoidable repair costs. Coatings specifications address these critical areas by requiring greater degrees of cleanliness, inspection, and quality control. Critical coated surfaces are defined as all exterior applications (including but not limited to the underwater body, freeboard, weather deck, flight deck, superstructure, and mast) and tanks/voids (including but not limited to ballast, potable water, and fuel).

E. Rust Converters and Stabilizers. Continued challenges surrounding internal corrosion within tanks, bilges, voids, and inaccessible areas require innovative alternatives. In many cases, rust converters, stabilizers, and iron phosphate coatings, such as RDP Rust Deoxidizing Primer, offer an effective and environmentally sound method of protecting steel structures. Use of rust converters, stabilizers, and iron phosphate coatings is highly encouraged. Adding this option to a unit's materiel maintenance program can reduce metal wastage caused by unchecked corrosion and also reduce the manpower effort required to eliminate corrosion if a coating system fails. However, it should be noted that these products do not provide for as long term performance as surfaces prepared in accordance with Chapter 5 of this Manual. The iron phosphate solutions deoxidize rusted metal, removing the rust "stain" and prevent continued oxidation for up to 90 days. Repeated applications on treated steel will stop or slow the corrosion process , during the interim period, until a new coating system is applied. When using rust converters, stabilizers and iron phosphate coatings, units shall conduct an evaluation of the product with full concern for state and local environmental regulations and hazardous materials concerns. Assistance in this evaluation is available from the cognizant CEU or MLC (vs). Additionally, units shall set up adequate ventilation if using a rust converter or stabilizer in a confined space. Rust converters and stabilizers are only for use at the unit level and are not authorized for use by industrial level activities. Rust converters are not authorized for use on flight deck surfaces.

F. Preconstruction Primers. Also known as shop primers, preconstruction primers are used as a temporary coating to protect steel from corrosion during welding, storage, and fabrication. Preconstruction primers shall be removed prior to applying the permanent coating system on all critical coated surfaces as defined in section 9.D. Preconstruction primers may be left in place in other interior areas (such as machinery spaces, habitability spaces, etc.) if they are intact, uncontaminated, and compatible with the overcoating system.

G. Powder Coatings. Powder coating are authorized for use on exterior topside or interior applications where traditional liquid applied coating systems are difficult to maintain due to a severely corrosive environment, high wear, or abrasion. These coatings are usually applied by electrostatic spray or fluidized bed. The final step in the process involves heating in an oven at temperatures from 275 ^{o}F to 450 ^{o}F. The need for an oven limits the application to items that can be removed from the cutter or boat, withstand the high cure temperatures, and sizes that can be fitted in the available oven. The powder that is used should conform to the requirements of MIL-PRF-24712 with Type IV Polyester TGIC recommended for exterior applications and Type I Epoxy for interior applications. Following is a sample list of items that are candidates for the application of powder coatings.

H. Stripe Coats. Stripe Coating refers to the practice of applying an extra layer of paint on areas such as corners, edges and welds. (It is not to be confused with the method of painting stripes, "striping", discussed in Chapter 7.) Stripe coating will build up the coating thickness at edges where paint tends to shrink away from the edge surface. It also fills in surface irregularities such as porosity in welds. Stripe coats shall be applied after the application of the primer coat. Use the same coating for the stripe coat as was used for the primer coat. Stripe Coating is a proven method for increasing the useful life of a coating system. It is required for all critical areas as defined in section 9.D.

TABLE 9-2
Candidate Powder Coating Applications

Anchors	Fire Hose Racks, Fire Extinguisher Holders	Overhead Panels
Battle Helmets	First Aid Boxes	Padeyes
Boat Booms	Foundations: AFFF/PKP	Perforated Plates for Hull Openings and Tank Entries
Brackets	Fuel Oil Spill Kit Boxes	Piping, Interior/Exterior
Bunks and Fixtures	Furniture: File Cabinets	Sea Chest Strainers
Chains: Safety, Anchor/Links	Gun Mounts and Hardware	Sea Transfer Equipment
Chocks	Hand Railings	Ship's Communication Speaker Boxes
Control Panels	Hatches	Signaling Equipment
Damage Control Equipment: Flashlight Holders, Battle Lanterns	Head Facilities: Medicine Cabinets, Towel Racks, Partitions, Doors, Blow Dryers	Signs: Refueling, Damage Control, Medical, Directional
Deck Gratings	Instrument Consoles	Sound Powered Telephone Receiver Holders
Deck Hardware: Refueling Gear, Portable Booms, Underway Replenishment Equipment	Junction Boxes	Spare Parts Stored In Free Floods
Deck Light Covers and Deflectors	Ladders: Interior/Exterior, Railing and Related Hardware	Stanchions
Diesel Motor Covers	Lantern Mounts	Stretchers, Strokes
Doors: Watertight and Partition	Light Fixtures: Interior/Exterior	Swimmer's Safety Line Reels and Bases
Drip Pans	Line Reels and Cable Reels	Tank Covers
Electrical Cabinets	Lockers: Ammunition, Pyrotechnic, Clothing	Tool Boxes
Electrical Motor Housings	Lube Oil Strainers	Ventilation: Fixed Sectional and Screens
Exterior Turnbuckles (Lifeline)	Mess Deck Furniture	Weapons Handling Equipment
Fasteners	Metal Shoring	

CHAPTER 11. CUTTERS AND BOATS COLORS - EXTERIOR AND INTERIOR

A. General. This chapter presents the required colors for various exterior and interior areas/components of Coast Guard cutters and boats. The areas are listed in alphabetical order. The specified coating systems and requisition information are found in Appendices A through C. The cognizant MLC promulgated cutter or boat painting schedules take precedence over this chapter. In general, miscellaneous exterior objects whose colors are not specifically prescribed in the following paragraphs shall be painted the same color as the structures to which they are attached or adjacent. References are by paragraph heading and include:

1. Exterior Spaces.

a. Anchors, Anchor Chains. (pg. 11-1)
b. Antenna Hardware, Radio and Radar, DF Loops. (pg. 11-2)
c. Boot-Top. (See Underwater Body/Boot-Top). (pg. 11-2)
d. Electric Cables, Armored, Exterior. (pg. 11-2)
e. Flight Deck. (pg. 11-2)
f. Freeboard. (pg. 11-2)
g. Machinery, Deck. (pg. 11-3)
h. Masts. (pg. 11-3)
i. Miscellaneous Details and Fittings. (pg. 11-4)
j. Open Hulls, Cockpits and Cargo Space. (pg. 11-6)
k. Ordnance Equipment. (pg. 11-6)
l. Piping Systems. (pg. 11-7)
m. Running Light Screens. (pg. 11-7)
n. Smoke Stacks. (pg. 11-7)
o. Spuds. (pg. 11-7)
p. Superstructure. (pg. 11-7)
q. Underwater Body/Boot-Top. (pg. 11-7)
r. Weather Decks. (pg. 11-8)

2. Interior Spaces.

a. Interior Colors - Epoxy. (pg. 11-9)
b. Interior Colors - Fire Retardant Paint. (pg. 11-9)
c. Piping Systems. (pg. 11-10)
d. Miscellaneous Interior Spaces. (pg. 11-11)

B. Exterior Spaces. This manual changes the exterior white from Fed. Std. 595 color number 17875 which has a slight gray tinge to color number 17925 which is a "pure" white. Transition shall be driven by maintenance and supply considerations. No funding is being provided to effect this change. Units may exhaust their inventory of color #17875 prior to transitioning to color #17925. No timeline for transition is imposed, CO's discretion in accomplishing this change shall prevail.

1. Anchors, Anchor Chains. (See Appendix A, Anchors and Anchor Chain) Anchors stowed in the hawse shall be the color of the hull; white (17925), black (17038) or red (11105). Anchors stowed against the superstructure shall be, white (17925). Anchors stowed on deck shall be spar (10371). Anchor chain will be painted black (17038) with the exception of the depth markings. The detachable link between shots, excluding the detachable link for the 5 fathom connecting section, will be painted in the following pattern starting at the anchor end and working inboard, repeating the pattern as necessary:

15 fathom, first shot detachable link, red (11105)
30 fathom, second shot detachable link, white (17925)
45 fathom, third shot detachable link, blue (15182)

a. Additionally, the first link on each side of the 15 fathom detachable link shall be painted white (17925). The first link at each side of the detachable link shall also be marked by one turn of wire around the stud. The first two links on each side of the 30 fathom (second shot) detachable link shall be painted white (17925). The second link at each side of the detachable link shall also be marked by two turns of wire around the stud.

b. The same pattern of marking detachable links shall be continued up to the next to last inboard shot. All of the links in the next to last inboard shot shall be painted yellow (13538), and all of the links in the last inboard shot shall be painted red (11105).

2. Antenna Hardware, Radio and Radar, DF Loops. Do not paint radar waveguides, gaskets, contact points, insulators or rubber stock mounts. Wire or whip antennas may be painted white or black to enhance appearance of the cutter or boat. Top coat the antenna with a commercial grade of acrylic paint. Four inch wide red (11105) warning lines shall be painted on the deck to designate Radio Frequency Radiation Hazard Areas. Location of the warning lines will be found in a modification to the ship's drawings. Warning signs shall be posted where personnel enter the hazardous areas. Warning signs must be manufactured locally until they become available through the stock system. Further guidance can be found in Electronics Manual, COMDTINST M10550.25. Antennas are not to be painted with metallic based paints. If unsure, do not paint and refer painting maintenance to the supporting electronics facility.

TABLE 11-1: Antenna Hardware Colors

Hardware	Color
Direction Finder Stand and Loops	White (17925)
Radar	Match Mast Color
Whip Antennas	White (17925)
Antenna base (receive)	Blue (15182)
Antenna base (transmit)	Red (11105)
NOTE: Radio antennas may be painted black for aesthetic reasons. The manufacturers recommended coating should be used for this purpose. Usually, the recommended coating is a water based acrylic. Coatings with metallic pigment shall not be used on antennas.	

3. Boot-Top. (See Underwater Body/Boot-Top).

4. Electric Cables, Armored, Exterior. Paint in the color of the structure to which the cable is attached. Do not paint identification labels.

5. Flight Deck. All vessels with helicopter flight decks shall follow the instruction set forth in The Shipboard Helicopter Operational Procedures Manual, COMDTINST M3710.2 (series), Chapter 4, for proper marking and identification of this area.

6. Freeboard (See Table 11-2: Underwater Body, Boot-top, and Freeboard Colors). The freeboard coating system shall extend from the upper limit of the boot-topping, antifouling or underwater area to the top of the hull, bulwark, or sheer line, including all fittings.

TABLE 11-2: Underwater Body, Boot-top, and Freeboard Colors

Vessel Class	U/W Body *	Boot Top *	Freeboard
14' Skiffs - ops on ice	Int'l Orange (12197)	Int'l Orange (12197)	Int'l Orange (12197)
ASB	Red (11105)	Black (17038)	Black (17038)
Barges	Red (11105)	Black (17038)	Black (17038)
Buoy Boats	Red (11105)	Black (17038)	Black (17038)
Flood Relief Punts	Int'l Orange (12197)	Int'l Orange (12197)	Int'l Orange (12197)
LARC	Black (17038)	White (17925)	White (17925)
LCM	Black (17038)	Black (17038)	Black (17038)
LCVP	Red (11105)	Black (17038)	Black (17038)
Motor Cargo Boats	White (17925)	White (17925)	White (17925)
Motor Lifeboats (44')	Red (11105)	Black (17038)	White (17925)
Motor Lifeboats (47')	Black (17038)	Black (17038)	No Coating
Motor Surf Boats	White (17925)	White (17925)	White (17925)
TANB	Hull and freeboard no longer painted. Remove coatings in lieu of repainting.		
USCGC MACKINAW	Red (11105)	Black (17038)	Red (11105)
Utility Boat (41')	Black (17038)	Black (17038)	No Coating
WAGB	Black (17038)	Black (17038)	Red (11105)
WHEC	Red (11105)	Black (17038)	White (17925)
WIX	Red (11105)	Black (17038)	White (17925)
WLB	Red (11105)	Red (11105)	Black (17038)
WLI	Red (11105)	Red (11105)	Black (17038)
WLIC	Red (11105)	Red (11105)	Black (17038)
WLM	Red (11105)	Red (11105)	Black (17038)
WLR	Red (11105)	Red (11105)	Black (17038)
WMEC	Red (11105)	Black (17038)	White (17925)
WPB	Red (11105)	Black (17038)	White (17925)
WTGB	Red (11105)	Red (11105)	Black (17038)
WYTL	Red (11105)	Red (11105)	Black (17038)
WYTM	Red (11105)	Red (11105)	Black (17038)

*Note: Many of the coatings specified for the boot-top/underwater body are not available in the FED-STD-595 color numbers listed. Use the color which best approximates the FED-STD-595 color number. For example, cuprous oxide-based antifouling coatings are not available in red. A red oxide (brownish red) would be used instead.

7. Machinery, Deck. Winches, capstans, winch and capstan controllers, sounding machines and other deck machinery shall be painted as specified in Table 11-3: Miscellaneous Details and Fittings.

8. Masts.

   a. Masts, including ladders, crow's nests, platforms and their supports and foundations, shall be spar (10371). Equipment secured to the masts, such as pedestals, searchlights or bullhorns shall also be spar.

   b. Mast areas which are directly in the way of stack gases may be black (17038 or 37038). Areas on masts painted black when the vessel is commissioned will continue to be painted black in service. WAGB (399 ft), WHECs (378 ft.), WMECs (270 ft.) and WMECs (210 ft.) have black

masts. Any extension of these areas beyond that originally authorized or the painting of additional areas black without authorization from Commandant (G-SEN) is prohibited.

9. Miscellaneous Details and Fittings.

TABLE 11-3: Miscellaneous Details and Fittings

Item	**Color**
Aerial - Drop Pump Canisters	International Orange (12197)
Alarms, Chemical	Green (14260)
Alarms, Collision	Yellow (13538)
Alarms, Emergency, Fire and General	Red (11105)
Applicators	Red (11105)
Applicator nozzles	Polish
Awning Ridgepoles and Stanchions	White (17925)
Battle Lanterns	As manufactured or Yellow (13538)
Bitts, side, mounted on gunwales on harbor tugs	Black (17038)
Bitts, side, mounted on gunwales on seagoing tugs	Spar (10371)
Bitts, mooring and towing	Spar (10371)[3]
Blocks (except those in black areas on mast or stack)	Spar (10371)[1]
Blocks, in black area on mast or stack	Black (17038)[1]
Blocks, traveling or fall type, and related swivels and headache balls made of corrosion resistant material.	Painting not required; outline major component with Yellow, or Yellow/Black stripe safety tape/edging. Yellow (13538) if painted
Blocks, traveling or fall type, and related swivels and headache balls made of non-corrosion resistant material.	Yellow (13538); or Yellow (13538)/Black (17038) stripe; or Spar (10371) with Yellow/ Black stripe safety tape/edging for large blocks.
Boom Cradle	Spar (10371)[1]
Booms, boat	Spar (10371)
Boarding Ladders	Spar (10371)
Boarding Ladders, Wood	Do not paint. Coat with linseed oil.
Brightwork	Polish and coat with clear plastic or lacquer
Canvas or fabric covers, removable	No coating. Color of fabric to match color of item covered
Capstans [1]	Spar (10371)
Chocks, brass/bronze	Uncoated[3]
Chocks, bulwark	Bulwark color[1]
Chocks, except bulwark and roller type	Spar (10371)[1]
Chocks, Roller	Black (17038)[1]
Compass Stands, except binnacle and bright work	White (17925), Optional Blue Grey (16099); Commanding Officer's Discretion
Cranes, Booms, and Frames	Spar (10371)
Davits, all type	Spar (10371)
Deck chests	White (17925)
Deck treads, Non Skid	No coating
Deck Machinery, controls and control stand, and equipment safety bumpers	Spar (10371)[1,2]
Diaphones	Spar (10371)

TABLE 11-3 (Cont'd)

Dodgers, Canvas	Fabric color to be blue or white; Commanding Officer's Discretion
Dogs	Grease moving parts, do not Paint. Do not grease oil tight bearings, add oil if required.
Flag Staffs (on white hulls)	Spar (10371)
Flag Staffs (on black & red hulls)	Spar (10371)
Fire Pumps	Red (11105)
Firemain valves, (except threaded and machined parts)	Red (11105)
Flag lockers	White (17925)
Foam valves and outlets (AFFF)	1" wide diagonal stripes, approximately 45° alternating Red (11105) and Green (14062)
Fuel Can, P-100 pump	IAW NSTM 555-4.11.2.9.5.1. Units may deviate from NSTM by replacing Purple stripe with Yellow (13538) and replacing the word "JP-5" with "DIESEL" in Black (17038) letters.[4]
Fumetight Cover, P-100 pump	IAW NSTM 555-4.11.2.9.4. Units may deviate from NSTM by replacing Purple stripe with Yellow (13538) and replacing the text "WARNING JP-5/F-76 NO SMOKING" with "WARNING DIESEL FUEL NO SMOKING" in Black (17038) letters.[4]
Gangplanks, metal, except aluminum	White (17925)
Gangplanks, aluminum	No coating
Gasoline cans, portable	Red (11105)
Gasoline drums	Yellow (13538) with "GASOLINE" in Black (17038) letters
Gasoline storage racks	Color of bulkhead
Handrails and lifeline stanchions	White (17925)
Hatch coamings	Spar (10371)
Hatch covers	White (17925)
Hooks, boat davit, crane or cargo boom, and related swivels and headache balls; corrosion resistant material	Painting not required; outline major component with Yellow, or Yellow/Black stripe safety tape/edging. Yellow (13538) if painted.
Hooks, boat davit, crane or cargo boom, and related swivels and headache balls; other than corrosion resistant material	Yellow (13538); or Yellow (13538)/Black (17038) stripe
Hose racks, saddles and reels for fire hose	Red (11105)
Hull numbers and markings	See Chapter 12
Insulators, Electrical	No coating
Jack staffs (on white hulls)	Spar (10371)
Jack staffs (on black and red hulls)	Spar (10371)
Knife edges on watertight doors and hatches	Do not paint. Clean with aluminum oxide abrasive cloth, grit #320
Ladders, except those on masts	White (17925)
Ladders, leading from Buoy Deck	Black (17038)
Ladders, on masts	Spar (10371)
Leather coverings	Oil with preservative, neat's-foot 0-L-165
Name plates	No coating

TABLE 11-3 (Cont'd)

Pelorus pedestals	White (17925)
Pilot House Visor, underside	White (17925) or Blue Grey (16099); Commanding Officer's Discretion
Probe, refueling	Black (17038)
Pump, gasoline powered	Yellow (13538)
Ready service lockers	White (17925)
Release mechanisms	Grease
Rigging, running	Lubricate per COMDTINST M9000.6 Chapter 613.
Rigging, standing	Lubricate per COMDTINST M9000.6 Chapter 613.
Searchlights, except on masts	White (17925)
Searchlights, on masts	Spar (10371)
Searchlight shutters	No coating
Sheaves	Block color or Spar (10371) [1]
Spray shield on bridge, inboard	White (17925) or Blue Grey (16099); Commanding Officer prerogative
Towing bitts See: Bitts, towing	
Towing rail (corrosion resistant material)	No coating
Turtle Back (distinct area adjacent to superstructure where cargo handling gear is attached to deck)	Black (17038)
Ventilators, all types, including gooseneck pipe vents, not attached or immediately adjacent to the superstructure	Spar (10371)
Ventilators/ducts for engine room, not attached to superstructure on 82 WPB.	White (17925)
Notes: [1]Working surfaces in contact with wire rope or synthetic lines may be coated with gray or green-gray Inorganic Zinc. [2]Except that Ingersoll Rand TM standard air winches in use on WLIC/WLR platforms for spud or crossdeck winch service may be OEM factory applied black plasticized marine coating. [3]47' MLB and 41' UTB shall be bare aluminum [4] With regard to P-100 pump markings, the CG allows deviation from NSTM because cutters do not always carry JP-5/F-76. The choice between following the NSTM or following the modified version provided in this Manual is at the discretion of the individual unit.	

9. Miscellaneous Details and Fittings (Cont'd). In general, miscellaneous objects whose color is not specifically prescribed elsewhere in these instructions shall be painted white (17925) if attached or immediately adjacent to some part of the superstructure that is also painted white. They shall be painted spar (10371) if attached or immediately adjacent to masts, spars, or other objects whose prescribed color is spar. Objects standing alone on the deck shall be spar. Stumbling hazards, such as deck padeyes, deck clips, and other projections, shall be painted white for better night visibility.

a. UTBs shall have bare aluminum with slip resistant sheets.

b. LCMs and barges are exceptions and will have all miscellaneous objects painted black (17038).

c. Refer to Table 3 for a list of miscellaneous objects most frequently encountered. The general rules shall be applied to objects not listed.

d. On newer vessels, first refer to the Vessel Painting Schedule. If not listed there, follow the miscellaneous painting instructions listed in this Section.

10. Open Hulls, Cockpits and Cargo Spaces. The exterior freeboard and boot top of open hulls are painted according to Table 2. The interiors of shipboard open hulls are painted spar (10371) and the interiors of all others are painted as follows: The inside of open hulls and the cockpits and cargo spaces of decked hulls shall be white (17925) down to the side seats or risers, or down to the cockpit deck, grating, or floorboards if there are no side seats or risers. UTLs will have blue gray (16099) decks unless these decks are of color-impregnated material. Blue-gray (16099) will be applied below the white including seats, thwarts, inside of hull, cockpit decks, gratings, floorboards or open bilges. Engine trunks not extending appreciably above the sheer line will be blue gray (16099) overall. This color scheme will apply to all boats except as noted below.

    a. LARCs and Motor Cargo Boats will have the entire interior of their cockpit and cargo space painted blue gray (16099).

    b. LCMs, Barges, and Buoy Boats will have the interior of their cargo spaces black (17038). Bulk barge storerooms will have a white (17925) overhead and bulkheads.

    c. Flood Relief Punts and Ice Skiffs will have the entire interior, including hull, thwarts, floor boards, and bilges painted international orange (12197).

11. Ordnance Equipment. Interior and exterior surfaces of enclosed gun mount shields are to be painted white (17925). The interior gun mechanism and equipment shall be painted gray (16376). Gun barrels shall be painted black (27038). The foundations of all gun mounts, mortars, launchers, and gun directors shall be painted the same color as the deck on which they are mounted. All open gun mounts and mortars shall be painted black (27038). Close-in-Weapons System (CIWS) shall be maintained in the delivered preservation color. Super Rapid Blooming Outboard Chaff (SRBOC) launching systems shall be maintained in the delivered preservation color in accordance with NAVSEA Technical Manual SW393-AI-MMM-010/MK36/1-2. MK92 FCS CAS RADOMES shall be spray painted white (17925) with Silicone Alkyd Paint MIL-PRF-24635, Type II. Dry film thickness shall not exceed 6 mils total. Film thickness tolerance must be maintained to avoid interference with radar transmission.

    a. Ready service lockers, pyrotechnic lockers, explosive lockers, and detonator lockers shall be painted white (17925) and conspicuously labeled with the content of each locker. The label shall be stenciled in red (11105) letters of the largest practical size.

    b. Bulkheads and magazine overheads shall be painted white (27886). Magazine decks shall be painted blue gray (16099). Ammunition dredger hoists and their controllers shall be painted equipment gray (16376). Gun directors and all fire control equipment shall also be painted equipment gray.

12. Piping Systems. See interior piping systems, section 11.C.4. Running Light Screens.

13. Running Light Screens. Shall be painted black (37038).

14. Smoke Stack. Stack exteriors shall be painted spar (10371) with a black (17038) band around the top of the stack, unless otherwise authorized by the Commandant (G-SEN). The width of the band shall equal 1/2 the fore-and-aft diameter of the stack or 1/5 the height of the stack, whichever is smaller. If the stack has a hood, the hood shall also be painted black and will form an extension of the band. WHEC's (378 ft.) and WMEC's (270 ft. and 210 ft.) shall follow the Vessel Painting Schedule of a white (17925) stack with a black band.

15. Spuds. Shall be flat black (37038). A red (11105) 6 inch wide band shall be painted completely around the spud 6 feet from the top. This is to prevent personnel from lowering the spud too far. Further down the spud where the pin inserts, paint a red (11105) 6 inch wide band and above the red band paint a yellow (13538) 6 inch wide band. The yellow band will act as a warning and the red band will locate the pin hole so that the spud is not raised any higher.

16. Superstructure. The superstructure and all attachments secured, bracketed or adjacent to the superstructure shall be white (17925) with the exception of UTBs which shall be bare aluminum. This includes:

    a. Aircastles, in board and outboard
    b. Breakwaters
    c. Bridgewings
    d. Bulwarks, bulwark supports and brackets (bulwarks forming an extension of the hull shall be painted the hull color outboard. The inboard bow bulwark on icebreakers may be painted with dull black to cut glare).
    e. Cabins (where there is no distinct demarcation between vertical and horizontal surfaces, such as on the cabins of 44-ft motor lifeboats, white shall be used over the entire cabin).
    f. Canvas dodgers attached to superstructure, bulwarks or bridge wings (optional blue - CO prerogative; inboard side on the bridge may be painted blue gray (16099) to reduce glare).
    g. Deck houses
    h. Electrical conduits
    i. Engine trunks
    j. Gun shields
    k. Gun tubs
    l. Ladders
    m. Passageways, including overheads
    n. Pilothouses (underside of visor over pilothouse windows may be painted blue gray (16099) to reduce glare).
    o. Shelters, including overheads
    p. Spray shields (inboard side on the bridge may be painted blue gray (16099) to reduce glare).
    q. Stanchions
    r. Switch boxes
    s. Ventilation ducts

17. Underwater Body/Boot-Top. (See Table 11-2: Underwater Body, Boot-top, and Freeboard Colors).

    a. Underwater Body. The underwater body coating systems include the area from the bottom of the keel to the upper edge of the boot-topping. It also includes rudders, bilge keels, skegs, seachests and gratings. Use alternating colors for the different coats of anticorrosive (AC) epoxy paint and antifouling (AF) paint. Table 11-4 contains two recommended schemes.

TABLE 11-4: Antifouling Paint Scheme

Freeboard	Underwater Body (including Boot-Top)				Boot-Top Only
	AC 1st Coat	AC 2nd Coat	AF 3rd Coat	AF 4th Coat	AF 5th Coat
Black Hull	Red	Gray	Black	Red	Red
White Hull	Red	Gray	Black	Red	Black

b. Boot-Top.

(1) Location of Lower Edge. The lower edge of the boot-topping shall be the light load waterline on all steel, aluminum and plastic vessels, and on wooden vessels where metal sheathing is installed in the boot-topping area. On all other wooden vessels, the lower edge of the boot-topping shall be the full-load waterline.

(2) Location of Upper Edge.

(a) For all vessels with a length of 150 feet or more, the upper edge of the boot-topping at amidships will be above the full-load waterline, a distance equal to one-eighth of the freeboard measured from the full-load waterline. The upper edge of the boot-topping at the bow will be above the full-load waterline, a distance 1.33 times the distance that the upper edge of the boot-top is above the full-load waterline at amidships. The upper edge of the boot-topping at the stern will be above the full-load waterline, a distance 0.66 times the distance that the upper edge of the boot-top is above the full-load waterline at amidships.

(b) For all vessels with a length of 65 feet or more but less than 150 feet, the upper edge of the boot-topping at amidships will be above the full-load waterline, a distance equal to one-sixth of the freeboard measured from the full-load waterline. The upper edge of the boot-topping at the bow will be above the full-load waterline, a distance 1.33 times the distance that the upper edge of the boot-top is above the full-load waterline at amidships. The upper edge of the boot-topping at the stern will be above the full-load waterline, a distance 0.66 times the distance that the upper edge of the boot-top is above the full-load waterline at amidships.

(c) For all vessels with a length less than 65 feet, the upper edge of the boot-topping at amidships will be above the full-load waterline, a distance equal to one-fourth of the freeboard measured from the full-load waterline. The upper edge of the boot-topping at the bow will be above the full-load waterline, a distance 2 times the distance that the upper edge of the boot-topping is above the full-load waterline at amidships. The upper edge of the boot-topping at the stern will be above the full-load waterline, a distance equal to the distance that the upper edge of the boot-top is above the full-load waterline at amidships.

(d) When the chines, rubbing rails or spray rails interfere with or lie close to the upper edge of the boot-topping, the upper edge of the boot-topping shall be adjusted the minimum amount to be parallel to and either completely above or completely below the chine, rubbing rails or spray rails.

(e) Contracting Officers may authorize some variation to the above criteria for newly constructed vessels. In general, they shall not be changed and the upper edge of the

boot-topping shall be retained as originally applied. In all cases, the upper edge of the boot-topping shall be a fair and visually pleasing line from stem to stern.

18. Weather Decks. Weather decks may be painted with CG gloss dark gray (16099) or Navy flat dark gray (36076) with the exception of UTBs which shall be bare aluminum with slip resistant sheets. Where there is a coaming at the deck edge, the deck paint will be extended up the inboard surface of the coaming. Deck paint shall also be applied to bounding angles between decks and superstructure or hatch coaming where superstructure and hatch coamings are welded to the deck. A dado of dark gray shall be applied to the vertical surfaces and shall not to exceed 12 inches in height. Waterways shall also be painted dark gray. Water tight door jams in the dado may be painted black to mask scuff marks. Buoy tender working decks should be gray (36231). Proprietary coatings authorized for use on buoy tender working decks may be green-gray in color. Red-gray colors are not authorized.

C. Interior Spaces.

1. Interior Colors - Epoxy (See Table 11-5). In all spaces requiring an epoxy as the topcoat, use a high build epoxy which approximates the following colors:

TABLE 11-5: Interior Colors - Epoxy

COLOR	FED STD 595
Black	27038
Dark Gray	26099
Gray	26270
Light Gray	26373
Green	24272
Red	20152
White	27886
Yellow	23594

2. Interior Colors - Fire Retardant Paint (See Table 11-6). All specifications shall include the requirements of this manual. All vessels shall use the coating systems in this manual for painting the vessel interior. In all spaces requiring fire retardant paint, colors are limited to those found in the Chlorinated Alkyd Fire Retardant Paint (DOD-E-24607) and Water Based Fire Retardant Paint (MIL-PRF-24596) specifications. This currently includes:

TABLE 11-6: Interior Colors - Fire Retardant Paint

COLOR	FED STD 595
Soft White	27880
Pastel Green	24585
Bulkhead Gray	26307
Beach Sand	22563
Rose Wood	22519
Clipper Blue	24516
Sun Glow	23697
Green Gray	26496
Yellow Gray	26400
Pearl Gray	26493
Pastel Blue	25526

Color Selection. The CO's and OIC's are authorized to select any color combination from the above list if it is not in conflict with the safety color code requirements found elsewhere in this manual.

3. Miscellaneous Interior Spaces (See Table 11-7).

TABLE 11-7: Miscellaneous Interior Spaces

Interior Space	1st Coat [1,2]	2nd Coat	3rd Coat	Topcoat [3]
Bilges and Cofferdams	Light Gray (26373)	-	-	Red (20152)
Bulkheads, Firezone	Green (24272)	-	-	White (27875)
Bulkheads and Overheads, Uninsulated Aluminum	Green (24272)	-	-	Soft White (27880) or Pastel Green (24585)
Bulkheads and Overheads, Uninsulated Steel	Green (24272)	Light Gray (26373)	-	Soft White (27880) or Pastel Green (24585)
Bulkheads and Overheads, Uninsulated Metal-wet areas	Green (24272)	-	-	As required
Bulkheads and Overheads, Uninsulated Steel/Aluminum-appearance not a factor	Green (24272)	-	-	Gray (26270)
Chain Lockers	-	-	-	Gray (26270)
Condensation, Space Subjected to	Light Gray (26373)	Green (24272)	Light Gray (26373)	Soft White (27880) or Pastel Green (24585)
Deckplates, Steel/Aluminum (Bottom and edges)	-	-	-	Gray (26270)
Decks, Steel/Aluminum-wet areas	Green (24272)	-	-	Color as required
Decks, Steel/Aluminum-dry areas and non-skid	Green (24272)			Deck Red (10076) or Light Gray (16251)
Doors, Joiner	Green (24272)	-	-	Soft White (27880) or Pastel Green (24585)
Electric Cable, Armored	Green (24272)	-	-	Match adjacent bulkhead
Furniture and Galley Equip.	Green (24272)	-	-	Soft White (27880) or Pastel Green (24585)
Inaccessible Areas, Steel/Aluminum	Green (24272)	-	-	Gray (26270)
Insulation Surfaces, Fiberglass Sheet	-	-	-	Soft White (27880) or Pastel Green (24585)
Insulation Surfaces, Closed Cell PVC	White	-	-	White (Can be tinted to match adjacent bulkhead
Machinery, Operating Temp. < 200°F	Green (24272)	-	-	Gray (26307) or match OEM color
Machinery, Operating Temp. > 200°F	-	-	-	Aluminum
Piping, Insulated/Uninsulated < 200°F	-	-	-	See Next Section.
Piping, Uninsulated > 200°F	-	-	-	Aluminum
Tanks and Voids, General	Use appropriate system from MIL-P-23236. Choose white as topcoat unless it is not manufactured in that color. Undercoats should be contrasting colors.			
Wood, Painted Interior	Green (24272)	-	-	Soft White (27880) or Pastel Green (24585)
Wood, Stained and Varnished Interior	Choose appropriate stain from list for TT-S-711			

Notes: [1] Mist coats are not included.

[2] Color of underlying primer coat(s) is not critical, however, each coat should provide color contrast to ensure complete coverage during application.

[3] Applies to final two coats of coatings such as DOD-E-24607 Chlorinated Alkyd, MIL-PRF-24596 Fire Retardant, and MIL-PRF-46081 Intumescent Epoxy.

4. Piping Systems. All piping and valve bodies with the exception of that for oxygen and for firemains shall be painted to match adjacent bulkheads or overheads. Packing glands, valve stems, threads and similar working surfaces shall not be painted.

   a. Where feasible, all piping shall be marked to show the name of the service, destination and the direction of flow where practical.

   b. The name of the service and destination shall be painted on by stencil or hand lettering or by applying adhesive-backed tape, previously printed, stenciled or lettered. Lettering shall be one inch high for two inch or larger outside diameter bare pipe or insulation. For smaller sizes, lettering size may be reduced or label plates attached by wire or other suitable means.

   c. Direction of flow shall be indicated by an arrow three inches long pointing away from the lettering. For reversible flow, arrows are to be shown on each end of the lettering.

   d. Lettering and arrows shall be black except for dark colored pipe, including oxygen piping, for which they shall be white.

   e. Markings shall be applied to piping in conspicuous locations, preferably near control valves and at suitable intervals so that every line shall have at least one identification marking in each compartment through which it passes. Piping marking in cabins, officers' wardroom and messrooms, and warrant officers' messrooms is optional.

   f. Valves are marked by inscribing the rims of handwheels, by a circular label plate secured by the handwheel nut, or by label plates attached to the ship's structure or to the adjacent piping.

   g. Piping system valve handwheels and operating levers shall be provided with a standardized color code identification for training and casualty control purposes.

TABLE 11-8: Piping System Identification Color Code

Piping Contents	Valve Handwheel/ Operating Lever	Fed Std 595 Color Number
Steam	White	(17925)
Potable Water	Dark Blue	(15044)
Nitrogen	Light Gray	(16376)
H.P. Air	Dark Gray	(16081)
L.P. Air	Tan	(10324)
Oxygen	Light Green	(14449)
Salt Water	Dark Green	(14062)
JP-5	Purple	(17142)
Fuel Oil/Gasoline	Yellow	(13538)
Lube Oil	Striped Yellow/Black	(13538)(17038)
Firemain & Plugs	Red	(11105)
AFFF (Foam)	Striped Red/Green	(11105)(14062)
Feedwater	Light Blue	(15200)

TABLE 11-8 (Cont'd)

Hydraulic Fluid	Orange	(12246)
Refrigerants	Dark Purple	(17100)
Hydrogen	Chartreuse	(23814)
Cleaning Fluid	Brown	(10080)
Helium	Buff	(10371)
Helium/Oxygen	Striped Buff/Green	(10371)(14449)
Sewage	Gold	(17043)
Halon	Striped Gray/White	(16187)(17925)

h. Valve handwheels and operating levers may be painted with brush or spray. Paint these items with the same coatings used on the machinery which they are fastened to.

i. Oxygen pipes, including valve bodies, shall be light green (14449).

j. Firemain valves, magazine sprinkler valves and fire hose connections, except threaded parts, valve stems and other working parts, shall be painted red (11105). The remainder of firemain and sprinkler main piping system shall be painted to match the surrounding areas. Aluminum sprinkler piping in magazines area shall not be painted.

CHAPTER 12. CUTTER AND BOAT IDENTIFICATION MARKINGS

A. GENERAL. All vessels and boats including boats assigned to cutters shall be identified by distinctive visual identification markings consisting of the Coast Guard emblem and diagonal stripes as well as numerals and letters. The DOT Graphics Standards Manual, DOT Order 1360.6, discusses the authorized display of the Coast Guard Emblem and stripes. U.S. Coast Guard Heraldry, COMDTINST M5200.14 (series) authorizes use of the Coast Guard Emblem and Seal. In rare cases, deviation from the prescribed use of the emblem, stripes and seal as well as other ship markings described by this Manual may be advantageous. However, any such change must be specifically approved by the acquisition program manager and facilities manager affected by the change. Copies of the request and approval shall be forwarded to Commandant (G-SEN) so that this Manual can be amended.

B. MARKINGS.

1. Size, Style and Location. The size and location of all markings shall be in accordance with the detailed drawings of each individual class size and location of markings on nonstandard boats may be approximated from standard boat identification drawings.

2. Coast Guard Diagonal Stripes. The diagonal stripes are to be painted red (12199), blue (15182) and white (17925).

3. Color of Letters and Numerals. Black (17038) letters and numerals shall be used on white hulls and unpainted aluminum hulls. White (17925) letters and numerals shall be used on black and red hulls. Gold (17043) numerals shall be used on the vessel designated by Commandant (G-OCU) as Oldest Commissioned Cutter.

4. Official Number of Boats. The official number of all boats not assigned to named cutters or numbered floating units shall be placed on the stern of flat-sterned boats or on each quarter of round-sterned or double-ended boats in numerals of the same size as the numerals on the bow.

5. Station Name of Boats. All boats attached to shore facilities shall display their station name across the stern of flat-sterned boats or on each quarter of round-sterned or double-ended boats. The terms "station", "group" or "base" shall not be included with the geographical name. The station name lettering shall be approximately one-third the size of the boat numerals and located below the numerals. This ratio may be varied to improve appearance. In no case shall the station name lettering be larger than the boat number numerals.

6. Reserve Training Boats. The vessel identification markings of this section shall apply to Reserve Training boats.

7. Barges. Barges shall be identified in the same manner as described in paragraph 12.A.1. except that the prefix CGB shall be substituted for the prefix CG. Barges obtained from the Army or Navy on a loan basis shall retain their Army or Navy identification symbols unless otherwise directed by Commandant (G-SEN).

8. Boats Assigned To Named Cutters. In addition to the emblem and diagonal stripe, the markings on boats assigned to named cutters shall consist of an abbreviation of the name of the cutter to which the boat is assigned followed by a numeral. The abbreviation shall consist of the first three letters of the cutter's name. Starboard boats are assigned odd numbers starting forward and working aft. Where boats are stowed one above the other, the upper boat shall have the lowest number. When only one boat is carried by a cutter the number may be omitted.

9. Boats Assigned To Numbered Units and Barges. In addition to the emblem and diagonal stripes, boats assigned to numbered floating units and barges shall be identified by placing the designating number of the unit, such as CG 63005, on both bows in 3 inch letters.

10. Miscellaneous Boats. When it is not feasible to use the emblem and diagonal stripes, boats shall be identified by the legend "U.S. COAST GUARD" in 3 inch letters. On inflatables, with or without ridged hulls, the lettering is located by putting the bottom of the letters on the centerline of the tube. The lettering is centered between the stem and stern. On ridged hull boats, the lettering is centered vertically on the sheer plank and located so that the beginning of the first letter is 4 inches from the stem. If possible, the lettering is applied in a manner which avoids plank seams.

11. Draft Figures. Draft figures on metal hulls will be made by running a bead of weld around the outline of the draft figures projected on the hull. Draft figures shall be located so that the bottom of the figure is even with the draft it represents measured from the bottom of the keel line extended. Draft figures shall conform to Coast Guard Plan No. FL-2804-15.

12. Limiting Draft Mark. Limiting draft marks are marks designating the maximum draft to which a vessel may be loaded. Commandant (G-SEN) will issue the letter of authorization which will locate the marks by stating the limiting draft, freeboard and frame number on which the mark will be centered. The mark shall be outlined with center punch marks or with a light bead of weld

13. Individual Ship Emblems. Individual ship emblems shall not be painted on, nor affixed to, the exterior of vessels. An emblem which is in keeping with the dignity of the service may be displayed at the quarterdeck or gangway.

    a. Requests for approval of ship emblems will be submitted to the district commander (dpa) or area commander, as appropriate, together with a replica of the emblem design in full color. Following approval, district commanders shall furnish a copy of the design to the program manager and facilities manager. The replica of the emblem design shall be an 8" x 10" photograph, drawing or other copy marked to indicate colors if not a colored replica.

    b. Direct liaison with the Institute of Heraldry, Department of the Army, is authorized to assist in the design or procurement of drawings and molds. Requests should be addressed to:

       Director
       U. S. Army Institute of Heraldry
       9325 Gunston Road (Rm S112)
       Fort Belvoir, VA 22060-5579
       (703) 806-4970

14. Commendation And Service Insignia. Display of commendation and service insignia is optional. When displayed, they will consist of replicas of the ribbons of the awards to which the vessel would be entitled under the same rules and regulations as prescribed in the Medals and Awards Manual, COMDTINST M1650.25 (series).

    a. Replicas of authorized operation and engagement stars as well as stars representing second and subsequent awards are authorized to be painted on the authorized ribbons.

    b. The sizes and locations designated in Table 12-1 shall be a guide for the ship types listed and shall be used as a general rule for ship types not listed. Where symmetrical arrangements permit, the painted replicas will be displayed on both sides of the vessel in corresponding locations, port and starboard.

c. Painted replicas of commendation and service insignia shall be arranged in the same order as ribbons worn by personnel with a maximum of three replicas in a horizontal line.

15. Controlled Substance Contraband Seizure Logos. The decision to display, or not to display such logos will remain a command prerogative. Those units desiring to display logos shall do so in accordance with contraband symbols approved by Commandant. Vessels with broken service/commission time (such as post MMA and FRAM cutters) may display all contraband decals earned since original Coast Guard commissioning. Display of these logos shall be as follows:

    a. Individual seizures may be symbolically displayed by a green marijuana leaf (or white snowflake) with a red "X" of equivalent size superimposed on it.

    b. Upon attainment of seizures totaling one million pounds of a single type contraband, the individual seizure logos contributing to this milestone shall be removed and replaced by a single double sized, gold logo with a superimposed red “X” of equivalent size.

    c. Size, location, composition, and color shading of symbols displayed shall remain at the unit CO/OINC's discretion, with the general guidance that their size by appropriate to the size of the displaying unit, and that the color shades chosen do not detract from mandated unit color schemes.

TABLE 12-1
Painted Replicas of Commendation and Service Insignia

Type Vessel	Insignia Size	Location
378' WHEC	5" wide x 18" long	Centered on outboard side of bridge wing bulwark both port and starboard
270' WMEC		Centered on outboard side of bridge wing bulwark 12" below top, forward of conning platform
210' WMEC		Centered on outboard side of bridge wing bulwark, 12" below top
110' WPB		Centered on superstructure 6" below the window

16. Ring Type Life Buoys. The vessel's name or number will be placed on the top semicircle of the ring. Place on the bottom semicircle the legend "U.S. COAST GUARD". Black letters 2 inches in height will be used. Retroreflective tape shall be applied as illustrated in the Rescue and Survival Systems Manual, COMDTINST M10470.10 (series).

17. Life Floats. Markings will always be placed on the longer legs of the raft. The vessel's name or number will be placed on one leg and the legend "U.S. COAST GUARD" will be placed on the other leg. The markings will be placed to be readily seen and placed so the vessel's name or the vessel's number shall be read first. Retroreflective tape shall be applied as specified in the Rescue and Survival Systems Manual, COMDTINST M10470.10 (series).

18. PFD's. On Navy standard vest-type PFD's the vessel's name or number will be placed across the middle of the back of the PFD in letters 3/4 inch in height. CG approved Type III PFD's shall be marked as specified in the Rescue and Survival Systems Manual, COMDTINST M10470.10 (series).

19. Wood Articles. Deck chests, boat boxes, oars, or other wood articles which may be washed overboard will have the vessel's name preceded by USCGC or designating number preceded by CG burned into the article in 1/2 inch letters to leave a clear impression.

20. Radio Call Numbers. There is no longer a requirement for radio call numbers on the top of a vessels superstructure.

CHAPTER 16. PROTECTIVE COATINGS FOR AIDS TO NAVIGATION

A. Steel Ocean Buoys.

1. Introduction. Stricter environmental regulations have required the Coast Guard to identify new coatings for aids to navigation (ATON) maintenance which are low in volatile organic compounds (VOCs) and heavy metals such as lead and chromium. In addition, ever-tightening resource constraints dictate that new coatings provide as good or better long-term protection of our ATON hardware as the old system, and at a reasonable price. The new buoy coating system described in this chapter complies with these two requirements, and it replaces the old vinyl alkyd enamel/vinyl antifouling paints. The new paints meet current air quality and heavy metal restrictions, and they are off-the-shelf commercial products which have a long history of successful use in marine applications. However, these paints will not be the "final answer" for buoy maintenance. The coatings industry is very dynamic due to expected increases in environmental regulations, and the advance of technology is rapid. As promising new coatings come on the market, they will be evaluated for their potential as buoy coatings and further guidance will be promulgated accordingly.

2. Surface preparation.

   a. Removal of fouling. Servicing units shall remove the majority of fouling to the greatest extent possible before dropping buoys off at the shoreside buoy maintenance facilities. In particular, heavy fouling shall not be allowed to dry on the buoy. Dried fouling is very difficult to remove, and it creates a strong and unpleasant odor. Fouling may be removed by high-pressure water washing or by scraping. Special attention shall be given to removing the fouling from underneath the counterweights of flat-bottom lighted buoys, and from inside whistle tubes. Any remaining fouling shall be removed by the buoy maintenance facilities prior to blasting. If the fouling is light or tightly adhering, it may be removed by blasting.

   b. Removal of components. Components that could be damaged by blasting shall be removed from the buoy before blasting. Examples include signal equipment, bells, gongs, and whistles. In addition, vent valves shall be removed and the vent lines plugged.

   c. Removal of foreign material. Heavy accumulations of oil, grease, and dirt shall be removed from the buoy prior to blasting. Foreign material will become embedded in the steel during blasting, and will prevent the paint from sticking.

   d. Blasting methods and materials.

      (1) All exterior surfaces of the buoy hull, and the inside surfaces of whistle tubes and battery pockets, shall be blasted to near-white metal in accordance with Steel Structures Painting Council (SSPC) specification SSPC-SP-10. The steel cages shall also be blasted to near-white metal if they have the old vinyl paint system. The steel cages that have the new buoy coating system described in this chapter shall be blasted to near-white metal only if the coating is damaged or the steelwork requires repair.

      (2) Surface profile after blasting shall be 1.5 to 3.0 mils. The ablative system used will normally be steel shot or grit which contains no copper slag;garnet blasting grit is also acceptable. Sand or crystalline silica shall not be used. Other ablative materials may be used which can meet SSPC-SP-10, but should be reviewed by the cognizant MLC(kse) staff for health risks prior to use.

(3) After blasting, the surface to be painted shall have the following characteristics: free of rust and scale except for slight shadows, streaks, or discolorations; free of blasting grit, weld spatter, and slag; free of old paint, oil, grease, and dirt. Guidance on the correct appearance of a surface blasted to near-white metal can be found in SSPC specification SSPC-VIS 1-89, "Visual Standard for Abrasive Blast Cleaned Steel."

3. Buoy coating system. The following guidance applies to shoreside painting in a buoy maintenance facility. Touch-up painting on station is discussed in paragraph 4 below.

a. General. The buoy coating system consists of three components: a high-build epoxy primer, an ablative antifouling paint, and a marine-grade aliphatic polyurethane topcoat. The epoxy and ablative paints meet the stringent requirements for submerged service in accordance with MIL-P-24647. The polyurethane topcoat is the type commonly used on offshore rigs, bridges, and other exposed marine applications. The paints are commercial products available from a variety of manufacturers. However, they shall be applied as a complete system; i.e., all of the paints applied to a given buoy shall be from the same manufacturer. This is to provide compatibility between coats, validate the manufacturers' warranties, and ensure the Coast Guard receives adequate technical support to correct problems and increase productivity. The approved buoy coatings are described below and are listed in the tables at the end of this chapter.

b. Application. Follow the manufacturer's instructions for correct application of the coating system. This includes complying with temperature, humidity, and dew point restrictions; storage, mixing, and induction time requirements; and specific requirements related to equipment and application techniques. All welding, machining, cutting, drilling, forming, or any other operation which would damage the coating system shall be performed prior to painting.

c. Safety. Implement appropriate worker safety procedures for the application of the coating system, and ensure the procedures are strictly followed by the paint applicators. In particular, the new polyurethane coatings can cause severe allergic and asthma-like reactions if the proper safety precautions are not followed. Guidance on the safe application of polyurethanes is found in Polyurethane Coatings Exposure Control, COMDTINST 6260.30 (series). General questions on worker safety requirements can be directed to the cognizant MLC (kse) safety and environmental health staff, or to Commandant (G-WKS-2).

d. Epoxy primer. All exterior steel surfaces, the exterior counterweights, and the inside surfaces of whistle tubes and battery pockets shall be coated with epoxy primer. Epoxy primer shall meet the requirements of MIL-P-24647, Type I, Class 1A, Grade A or B, Application 1 or 2, and shall be listed on the latest edition of QPL-24647. Apply by spraying two coats, 5 mils dry film thickness each, using contrasting colors for each coat. Sharp corners, edges, and other hard-to-coat areas shall be striped before each full coat is applied.

e. Ablative antifouling paint. All exterior surfaces below the waterline and the inside surfaces of whistle tubes shall be coated with ablative antifouling paint. Ablative antifouling paint shall meet the requirements of MIL-P-24647, Type I, Class 1A, Grade A or B, Application 1 or 2, and shall be listed on the latest edition of QPL-24647. Apply by spraying two coats, 5 mils dry film thickness each, using contrasting colors for each coat. Sharp corners, edges, and other hard-to-coat areas shall be striped before each full coat is applied.

f. Polyurethane topcoat. All exterior steel surfaces above the waterline shall be coated with a marine grade of acrylic aliphatic polyurethane. This paint shall meet the following requirements: 1) it shall be a commercial product from the same manufacturer that supplies the epoxy primer and ablative antifouling paints; 2) it shall have a VOC content of no more than 340 g/L (2.8 lb./gal), a lead content of less than 0.06% by weight, and a chromium content of less than 0.06%

by weight. Apply by spraying one coat, 3 mils dry film thickness. Sharp corners, edges, and other hard-to-coat areas shall be striped before the full coat is applied.

4. Coating repair on station. If buoys require touch-up painting while on station to maintain the daytime signal, a VOC-compliant polyurethane shall be used. Because of the long drying time involved, the polyurethane topcoat described in paragraph 3.f is not suitable for use on station. Instead, a moisture-cured polyurethane shall be used. It shall be suitable for use over the old vinyl coatings or the new polyurethane topcoat, it shall be immersible in under one hour, and it shall be suitable for brush or roller application in cold weather (20 degrees), wet conditions (99 percent humidity), and with no dew point restrictions. The known products meeting these requirements are approved for coating repair on station and are listed in the tables at the end of this chapter.

   a. Safety. The safety requirements of Polyurethane Coatings Exposure Control, COMDTINST 6260.30, including use of respiratory protection, necessary personal protective equipment, and required training, apply to this polyurethane touch-up paint, along with the following supplementary guidance:

      (1) When rolling or brushing polyurethane paint outdoors, personnel within 15 feet of the uncured coating shall be equipped with a half-face air purifying respirator with organic vapor cartridges.

      (2) TYVEK coveralls need not be worn when applying this moisture-cured polyurethane coating by roller or brush, but care shall be taken to avoid skin contact. However, the chemical resistant gloves required by Polyurethane Coatings Exposure Control, COMDTINST 6260.30, are still required during application of the coating.

      (3) When applying polyurethane coatings outdoors using a brush or roller, cordoning off a 100-foot area is not required. However, the number of personnel in the immediate vicinity of the painting shall be kept to a minimum.

   b. Surface preparation. Prepare the buoy surface by wire brushing, scraping, or high-pressure water washing to remove as much dirt, rust, guano, fouling, loose paint, grease, and salt as possible. If high-pressure water washing is used, follow the manufacturer's recommendations for a pressure setting that will clean the buoy thoroughly but will not damage the underlying coatings. The surface must be dry before painting. Wet surfaces shall be blown dry with compressed air or wiped off.

   c. Application. Follow the manufacturer's instructions for the correct application of this paint. Be aware that the paint reacts with the moisture in the air, and it will quickly start to cure (harden) once the can has been opened. To avoid wastage, take the following steps:

      (1) Keep cans sealed until ready for use.

      (2) Open the can, pour out only what you need for the job, cover the unused portion in the can with a thin layer of thinner, re-seal the can.

      (3) Do not allow rain, mist, or water to mix with the paint.

   d. Drying Time. The moisture-cured polyurethane can generally be immersed (the buoy can be re-deployed) within 1/2 hour to 1 hour after painting, depending on temperature. The paint cures slower in cooler temperatures. It is possible to reduce this time by adding accelerator. Follow the manufacturer's instructions for mixing and other application requirements.

B. River Buoys. Maintenance painting of these buoys is generally not required or recommended. However, if it is felt that touch-up painting is needed to maintain the daytime signal, the moisture-cured polyurethane described in section A, paragraph 4 of this chapter may be used. Another alternative would be an industrial-grade acrylic latex paint. Such paints are available "off the shelf" from a variety of commercial sources (two examples would be "DTM Acrylic" from the Sherwin-Williams-Company, or "Amercoat 220" from Ameron International). However, this type of paint has a much shorter color life than polyurethane, and it requires low humidity, warm temperatures, and a long drying time to cure properly. This limits its usefulness as an on-station touch-up paint, although it may be suitable for shoreside application. Contact Commandant (G-SEC-2B) for additional guidance before using this type of paint.

C. Foam Buoys. Maintenance painting of these buoys is not required or recommended. However, on the 5x9LFR, if it is felt that the tower requires touch-up painting to maintain the daytime signal, use the moisture-cured polyurethane described in section A, paragraph 4 of this chapter.

D. Plastic Buoys. Maintenance painting of these buoys is not required or recommended.

E. Minor Fixed Aids To Navigation.

1. General. Coating of fixed structures depends on the material from which they are constructed, the daytime signal required, and whether the painting will be done at a shoreside maintenance (or contractor) facility or on-site.

   a. Steel structures. The coatings and surface preparation methods described in section A of this chapter are suitable for use on steel structures which require corrosion protection or a daytime color signal. Structures made of galvanized steel or stainless steel need not be coated, unless a daytime color signal is required. If touch-up painting of the color coat is required on station, use the VOC compliant moisture-cured polyurethane described in section A, paragraph 4 of this chapter.

   b. Aluminum structures. Aluminum structures and their components are to be left unpainted.

   c. Wood, concrete, and masonry structures. See chapter 14.

APPROVED COATINGS FOR AIDS TO NAVIGATION

Shoreside maintenance painting. As of this writing, there are three companies whose products meet the requirements for shoreside buoy maintenance painting: Ameron, International, and Hempel.A fourth company, Sherwin-Williams, is licensed to supply Hemple products under their own brand name. The approved products from each of these companies are listed in Tables 16-1, 16-2, 16-2(a), and 16-3. Note that the epoxies are designated as "summer grade" and "winter grade." The "winter grade" is formulated to cure properly in colder temperatures than the "summer grade." Consult the manufacturer's literature for specific application instructions.

Touch-up painting on station. As of this writing, there are two companies whose products meet the requirements for buoy touch-up painting on station: Wasser and Xymax. The approved products from these companies are listed in Tables 16-4 and 16-5. These paints are available in gloss and semigloss versions - either type is acceptable for touch-up painting.

Procurement guidelines. With the exception of the polyurethane topcoat paint, all of these products are available through the GSA Supply System (NSNs are provided in the tables). They can also be purchased directly from the manufacturer, or from one of the manufacturer's authorized distributors. Phone numbers and addresses for each of the companies are included on the tables.

TABLE 16-1 AMERON PRODUCTS

(Shoreside Maintenance Painting)

Paint Type	**Product Name**	**NSN**	**Color**
Epoxy			
"Summer Grade":	Devran 230	8010-01-270-8161	Red
	Devran 230	8010-01-419-2430	Gray
	-or-		
"Winter Grade":	Bar-Rust 235	8010-01-316-6741	Red
	Bar-Rust 235	8010-01-316-6020	Black
	Bar-Rust 235	8010-01-419-2433	Gray
	Bar-Rust 235	8010-01-359-7235	Haze Gray
	Bar-Rust-235	8010-01-359-7234	Buff
Ablative	ABC #3	8010-01-211-4815	Red
	ABC #3	8010-01-210-7813	Black
Epoxy and ablative thinner	T-10	8010-01-272-3208	
Polyurethane	Devthane 379	Commercial Sources	Federal Color Numbers:
	-or-		Red (11350)
	Amershield		Green (14193)
			Yellow (13655)
			Orange (12197)
			Blue (15182)
			White (17875)
			Black (17038)

Company Info:

Ameron International
Protective Coatings Group
201 North Berry Street
Brea, CA 92922
1-800-411-2528

TABLE 16-2 HEMPEL PRODUCTS

(Shoreside Maintenance Painting)

Paint Type	**Product Name**	**NSN**	**Color**
Epoxy			
"Summer Grade":	Hempadur 4515-5063	8010-01-419-2431	Red
	Hempadur 4515-1148	8010-01-419-2434	Gray
	-or-		
"Winter Grade":	Hempadur 4514-5063	8010-01-419-2427	Red
	Hempadur 4514-1148	8010-01-419-2432	Gray
Epoxy Thinner	0846	8010-01-419-2436	
Ablative	Olympic 7660-5111	8010-01-419-2435	Red
	Olympic 7660-1999	8010-01-419-2428	Black
Ablative thinner	0808B	8010-01-419-2429	
Polyurethane	Hempel's Urethane 5595U	Commercial Sources	Federal Color Numbers:
			Red (11350)
			Green (14193)
			Yellow (13655)
			Orange (12197)
			Blue (15182)
			White (17875)
			Black (17038)

Company Info:

Hempel Coatings (USA), Inc.
6901 Cavalcade
Houston, TX 77028
1-800-678-6641

TABLE 16-2(a) SHERWIN-WILLIAMS PRODUCTS

(Shoreside Maintenance Painting)

NOTE: The epoxy and ablative paints listed below are Hempel paints which Sherwin-Williams is licensed to sell under their own brand name.

Paint Type	Product Name	NSN	Color
Epoxy			
"Summer Grade":	SeaGuard Anti-Corrosive P23RQ82	8010-01-467-5555	Red
	SeaGuard Anti-Corrosive P23AQ81	8010-01-467-5556	Gray
	-or-		
"Winter Grade":	SeaGuard Anti-Corrosive P23RQ62	8010-01-467-5557	Red
	SeaGuard Anti-Corrosive P23AQ61	8010-01-467-5558	Gray
Ablative	SeaGuard Anti-Corrosive P30RQ10	8010-01-467-5559	Red
	SeaGuard Anti-Corrosive P30BQ12	8010-01-467-5561	Black
Polyurethane	Hi-Solids Polyurethane	Commercial Sources	Federal Color Numbers:
			Same as Hempel

Company Info:

The Sherwin-Williams Company
101 Prospect Ave., NW
Cleveland, OH 44115-1075
1-706-234-8396

TABLE 16-3 INTERNATIONAL PRODUCTS

(Shoreside Maintenance Painting)

Paint Type	**Product Name**	**NSN**	**Color**
Epoxy			
"Summer Grade":	FPL274/FPA327 AC	8010-01-268-7583	Red
	FPJ034/FPA327 AC	8010-01-241-9721	Gray
	-or-		
"Winter Grade":	FPL274/FCA321 AC	8010-01-268-7584	Red
	FPJ034/FCA321 AC	8010-01-241-9723	Gray
Epoxy Thinner	GTA415	8010-01-309-0330	
Ablative	BRA 640 AF	8010-01-339-8708	Red
	BRA 642 AF	8010-01-339-8707	Black
Ablative thinner	GTA007	8010-01-272-4050	
Polyurethane	Interthane 990HS	Commercial Sources	Federal Color Numbers:
			Red (11350)
			Green (14193)
			Yellow (13655)
			Orange (12197)
			Blue (15182)
			White (17875)
			Black (17038)

Company Info:

International/Courtaulds Coatings, Inc.
Marine Division
6001 Antoine Drive (77091)
P.O. Box 4806
Houston, TX 77210-4806
713-682-1711

TABLE 16-4 WASSER PRODUCTS

(Touch-up Painting on Station)

Paint Type	Product Name	NSN	Federal Color Numbers
Gloss	MC Shieldcoat	8010-01-396-6838	Red (11350)
Gloss	MC Shieldcoat	8010-01-396-6837	Green (14193)
Gloss	MC Shieldcoat	8010-01-396-6842	River Green (14062)
Gloss	MC Shieldcoat	8010-01-396-6839	Yellow (13655)
Gloss	MC Shieldcoat	8010-01-396-6841	Orange (12197)
Gloss	MC Shieldcoat	8010-01-396-6840	Blue (15182)
Gloss	MC Shieldcoat	8010-01-396-6843	White (17875)
Gloss	MC Shieldcoat	8010-01-397-3817	Black (17038)
	-or-		
Semigloss	MC Luster	8010-01-396-6831	Red (21350)
Semigloss	MC Luster	8010-01-396-6832	Green (24193)
Semigloss	MC Luster	8010-01-396-6836	River Green (24062)
Semigloss	MC Luster	8010-01-396-6833	Yellow (23655)
Semigloss	MC Luster	8010-01-396-6835	Orange (22197)
Semigloss	MC Luster	8010-01-396-6834	Blue (25182)
Semigloss	MC Luster	8010-01-396-6830	White (27875)
Semigloss	MC Luster	8010-01-397-3818	Black (27038)
Thinner	MC Thinner 100	8010-01-396-6844	
Accelerator	MC Accelerator	8010-01-397-3677	

Company Info:

Wasser High Tech Coatings
8041 S. 228th
Kent, WA 98302
1-800-627-2968

TABLE 16-5 XYMAX PRODUCTS

(Touch-up Painting on Station)

Paint Type	Product Name	NSN	Federal Color Numbers
Gloss	Max Coat HB	8010-01-436-6418	Red (11350)
Gloss	Max Coat HB	8010-01-436-7612	Green (14193)
Gloss	Max Coat HB	8010-01-436-9130	River Green (14062)
Gloss	Max Coat HB	8010-01-436-7618	Yellow (13655)
Gloss	Max Coat HB	8010-01-436-7614	Orange (12197)
Gloss	Max Coat HB	8010-01-436-7610	Blue (15182)
Gloss	Max Coat HB	8010-01-436-7609	White (17875)
Gloss	Max Coat HB	8010-01-436-7616	Black (17038)
	-or-		
Semigloss	Max Coat HB	8010-01-437-0462	Red (21350)
Semigloss	Max Coat HB	Not available	Green (24193)
Semigloss	Max Coat HB	8010-01-436-9773	River Green (24062)
Semigloss	Max Coat HB	8010-01-436-7611	Yellow (23655)
Semigloss	Max Coat HB	8010-01-436-9767	Orange (22197)
Semigloss	Max Coat HB	8010-01-436-9771	Blue (25182)
Semigloss	Max Coat HB	8010-01-436-9768	White (27875)
Semigloss	Max Coat HB	8010-01-436-7608	Black (27038)
Thinner	Thinner X-34	8010-01-436-9128	
Thinner	Thinner X-60	8010-01-436-7605	
Activator	Max Coat HB Activator	8010-01-436-6420	

Company Info:

Xymax Coatings, Inc.
P.O. Box 650
New Kensington, PA 15068-0650
412-339-1442

APPENDIX A. CUTTERS AND BOATS EXTERIOR PAINTING SYSTEM

A. Vessel Coating Systems - Exterior. This appendix presents the required coatings for various exterior areas and components of Coast Guard cutters and boats. The coating systems for each area are presented in tabular form. The tables include the surface preparation, primer, intermediate coats if any, and topcoat. The various coatings used for a particular application should be regarded as a system. The coating system shall be obtained from a single manufacturer to ensure that the individual components are compatible and to maximize performance. Thickness references apply to the dried film and is abbreviated as DFT (dry film thickness). Subject matter in this chapter is listed alphabetically. References are by paragraph heading and include:

1. Accommodation Ladders, Wood. (See Wood, Exterior)
2. Anchors/Anchor Chains.
3. Antenna Hardware, Radio and Radar, DF Loops.
4. Bilge Keel. (See Underwater Body/Boot-Top)
5. Boat Hooks. (See Wood, Exterior)
6. Boatswain's Chairs. (See Wood, Exterior)
7. Boot-Top. (See Underwater Body/Boot-Top)
8. Electric Cables, Armored, Exterior.
9. Fittings.
10. Flight Deck.
11. Freeboard/Superstructure/Mast.
    a. Freeboard/Superstructure/Mast, Steel
    b. Freeboard/Superstructure/Mast, Aluminum
    c. Freeboard/Superstructure/Mast, Aluminum, Unpainted
    d. Freeboard/Superstructure, Fiber Glass
12. Gangplanks, Wood. (See Wood, Exterior)
13. Gratings, Wood. (See Wood, Exterior)
14. Inaccessible Areas.
    a. Inaccessible Areas, Steel
    b. Inaccessible Areas, Galvanized Steel or Aluminum
15. Ladders, Wooden. (See Wood, Exterior)
16. Machinery, Deck.
17. Masts. (See Freeboard/Superstructure/Mast)
18. Metal Repair and Hull Smoothing
19. Piping, Exterior.
20. Propellers. (See Underwater Body/Boot-Top)
21. Propeller Shafts. (See Underwater Body/Boot-Top)
22. Railing, Wood. (See Wood, Exterior)
23. Rudders. (See Underwater Body/Boot-Top)
24. Sea Chests and Gratings. (See Underwater Body/Boot-Top)\
25. Skegs. (See Underwater Body/Boot-Top)Smoke Stacks.
26. Spuds.
27. Strongbacks, Wood. (See Wood, Exterior)
28. Superstructure. (See Freeboard/Superstructure/Mast)
29. Transducer Hull Rings.
30. Underwater Body/Boot-top.
    a. U/W Body and Boot-Top, Steel Hulls (5-10 Years), in Salt Water
    b. U/W Body and Boot-Top, Steel Hulls, in Fresh Water
    c. U/W Body and Boot-Top, Icebreaker >350', in Salt Water
    d. U/W Body and Boot-Top, Icebreaker <350', in Salt Water
    e. U/W Body and Boot-Top, Icebreaker in Fresh Water
    f. U/W Body and Boot-Top, Aluminum Hulls

g. U/W Body and Boot-Top, Aluminum Hulls (in waters with limited fouling)
h. U/W Body and Boot-Top, Fiber Glass Hulls in Salt Water
i. U/W Body Appendages: High Turbulent Areas
j. U/W Body Propellers
k. 11. U/W Body Shafts
l. 12. U/W Body Seachest, Icebreaker in Fresh Water
m. 13. U/W Body Zincs

31. Weather Decks.
    a. Weather Deck Non-Skid, Steel
    b. Weather Deck Non-Skid, Aluminum
    c. Weather Deck Slip Resistant Sheets
    d. Weather Deck, Buoy Tender Working Deck
32. Wood, Exterior.
33. Zinc (or other Sacrificial) Anodes. (See Underwater Body/Boot-Top)

Warning

PERSONNEL INVOLVED IN THE APPLICATION OF PAINTS, PRIMERS, VARNISHES, OR SIMILAR TREATMENTS, OR THE PREPARATION OF SURFACES FOR THE APPLICATION OF PAINT OR PAINT PRODUCTS, SHALL BE FAMILIAR WITH THE CONTENTS OF CHAPTER 2 OF THIS MANUAL, THE INFORMATION CONTAINED ON ALL APPLICABLE MATERIAL SAFETY DATA SHEETS, AND TECHNICAL GUIDE: PRACTICES FOR RESPIRATORY PROTECTION, COMDTINST M6260.2 (series). PERSONNEL SHALL ALSO BE FAMILIAR WITH THE ENVIRONMENTAL ISSUES ADDRESSED IN CHAPTER 3 OF THIS MANUAL.

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
ANCHOR/ANCHOR CHAIN					
		SSPC-SP 6/NACE NO. 3 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane 3) Epoxy Polysiloxane	Mist Coat 5.0-6.0 5.0-6.0	1
ANTENNA HARDWARE, RADIO AND RADAR, DF LOOPS					
		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) [metal hardware only]	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	2
ELECTRIC CABLES, ARMORED, EXTERIOR					
	I	Clean with Adhesion Promoter/Cleaner. Break gloss with sandpaper as required.	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane	5.0-6.0 2.0-3.0	2, 3, 39
	II	Same as Option I	1) High Build Epoxy (dip the cable) 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	
FITTINGS					
Bulkhead and deck fittings, including pad eyes, links, chain stoppers. . .		Use the same surface preparation as used for surfaces on which fittings are attached.	Use the same coating system as for surfaces on which fittings are attached (for deck fittings: omit non-skid aggregate and select top color coat as per Chapter 11.)		
FLIGHT DECK					
	I	SSPC-SP 10/NACE NO. 2 using AA-1043 Steel Shot or grit conforming to MIL-A-22262 / (3.0-4.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) MIL-PRF-24667 Type I, Comp. G Primer 2) MIL-PRF-24667 Type I, Comp. G Non-skid	Follow Manuf. Instructions	4, 5
	II	Same as Option I	1) MIL-PRF-24667 Type II, Comp. G Primer 2) MIL-PRF-24667 Type II, Comp. G UV Resistant Epoxy/Low Solar Absorbing Non-skid	Follow Manuf. Instructions	
FREEBOARD/SUPERSTRUCTURE/MAST					
Freeboard/ Superstructure, Steel	I	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Inorganic Zinc, Modified 2) Epoxy Polysiloxane 3) Epoxy Polysiloxane	3.0-4.0 1.0-2.0 5.0-6.0	2, 6, 7, 8, 9, 10, 39
	II	SSPC-SP 10/NACE NO. 2 using grit	1) Inorganic Zinc	2.5-3.5	

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
		conforming to MIL-A-22262 / (1.5-2.5)	2) High Build Epoxy 3) High Build Epoxy 4) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	Mist Coat 5.0-6.0 2.0-3.0	
	III	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) High Build Epoxy 2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 5.0-6.0 2.0-3.0	
Freeboard/ Superstructure, Aluminum	I	Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane	1.0-2.0 5.0-6.0	39
	II	Same as Option I	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	
Freeboard/ Superstructure, Aluminum, Unpainted		Blast with glass bead: 1) #8 conforming to MIL-G-9954A, 2) No. AGB-18 (U.S. sieve size 70-100) as designated by AMS 2431A, or 3) commercial equivalent	-	-	36, 37, 39
Freeboard/ Superstructure, Fiber Glass Fiber Reinforced Plastic [FRP]/Fiber Reinforced Epoxy/ Fiber Reinforced Polyester)	I	Sand lightly with 120 grit paper to break the glaze and roughen the surface then wash with Adhesion Promoter/Cleaner . On new material, remove mold release by washing with cleaner before sanding and clean again.	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane	Mist Coat 3.0-4.0	2, 8, 39
	II	Same as Option I	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	Mist Coat 2.0-3.0	
INACCESSIBLE AREAS					
Inaccessible Areas, Steel	I	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc	2.5-3.5	6, 9
	II	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
	III	Brush blast with grit conforming to MIL-A-22262 or mechanical tools	1) MIL-C-16173 Solvent Cutback Corrosion Preventive Compound, Grade 3 (1 coat)	-	
Inaccessible Areas, Galvanized Steel or Aluminum		Roughen by brush blasting with clean fine aluminum oxide, garnet or equivalent inert material, or mechanical tools	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	11
MACHINERY, DECK					
	I	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Inorganic Zinc, Modified 2) Epoxy Polysiloxane 3) Epoxy Polysiloxane	3.0-4.0 1.0-2.0 5.0-6.0	2, 6, 7, 8, 9, 10, 12, 39
	II	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc 2) High Build Epoxy 3) High Build Epoxy 4) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	2.5-3.5 Mist Coat 5.0-6.0 2.0-3.0	
	III	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) High Build Epoxy 2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 5.0-6.0 2.0-3.0	
METAL REPAIR AND HULL SMOOTHING					
		Steel: SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) Aluminum: Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.5-2.5)	1) DOD-PRF-24176 Cement, Epoxy, Metal Repair and Hull Smoothing	Follow Manuf. Instructions	38
PIPING, EXTERIOR					
	I	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane	5.0-6.0 5.0-6.0	2, 39
	II	Same as Option I	1) High Build Epoxy	5.0-6.0	

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
			2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	
SMOKE STACK					
Smoke Stack Casing, Steel Exterior		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc 2) High Build Epoxy 3) High Build Epoxy 4) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	2.5-3.5 Mist Coat 5.0-6.0 2.0-3.0	2, 6, 8, 9, 10
Smoke Stack Casing, Steel Interior (containing uninsulated exhaust piping)		SSPC-SP 6/NACE NO. 3 using grit conforming to MIL-A-22262 / (1.0-2.0)	1) TT-P-28 Heat Resisting Aluminum Paint 2) TT-P-28 Heat Resisting Aluminum Paint	1.0-2.0 1.0-2.0	
Smoke Stack Casing, Steel Interior (containing insulated exhaust piping)		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 5.0-6.0 2.0-3.0	2
Smoke Stack Exterior Within Casing		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	
SPUDS					
	I II	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) Same as Option I	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane 1) High Build Epoxy 2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0 2.0-3.0	2, 13, 39
TRANSDUCER HULL RINGS					
Exterior surfaces		Same surface preparation as the rest of the Underwater Body Surfaces	Use the same coating system as the rest of the Underwater Body Surfaces		14
UNDERWATER (U/W) BODY/BOOT-TOP					
U/W Body and Boot-Top, Steel Hulls (5-10 Years), in Salt Water		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) MIL-PRF-24647 Anti-corrosive Epoxy 2) MIL-PRF-24647 Anti-corrosive Epoxy 3) MIL-PRF-24647 Copper Ablative, Type I, Class 1A 4) MIL-PRF-24647 Copper Ablative, Type I, Class 1A 5) MIL-PRF-24647 Copper Ablative, Type I,	5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0	15, 16, 17, 18, 19, 40

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
			Class 1A (Boot-Top only)		
U/W Body and Boot-Top, Steel Hulls, in Fresh Water		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) MIL-PRF-24647 Anti-corrosive Epoxy 2) MIL-PRF-24647 Anti-corrosive Epoxy	5.0-6.0 5.0-6.0	16, 18, 20
U/W Body and Boot-Top, Icebreaker > 350', in Salt Water		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (3.5-5.5)	1) Anti-Abrasion Coating, Icebreaker, Salt Water >350'	20-30	16, 18, 21
U/W Body and Boot-Top, Icebreaker <350', in Salt Water		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) Anti-Abrasion Coating, Icebreaker, Salt Water <350' And Fresh Water 2) Anti-Abrasion Coating, Icebreaker, Salt Water <350' And Fresh Water 3) MIL-PRF-24647 Copper Ablative, Type I, Class 1A 4) MIL-PRF-24647 Copper Ablative, Type I, Class 1A	Follow Manuf. Instructions 5.0-6.0 5.0-6.0	16, 18, 22
U/W Body and Boot-Top, Icebreaker, in Fresh Water (Excluding Sea Chests)		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) Anti-Abrasion Coating, Icebreaker, Salt Water <350' And Fresh Water 2) Anti-Abrasion Coating, Icebreaker, Salt Water <350' And Fresh Water 3) Anti-Abrasion Coating, Icebreaker, Salt Water <350' And Fresh Water (Boot-topping on CGC Mackinaw only)	Follow Manuf. Instructions	16, 18, 22
U/W Body and Boot-Top, Aluminum Hull	I II	Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1") Same as Option I	1) MIL-PRF-24647 Anti-corrosive Epoxy 2) MIL-PRF-24647 Anti-corrosive Epoxy 3) Antifoulant, Non-copper 4) Antifoulant, Non-copper 5) Antifoulant, Non-copper 6) Antifoulant, Non-copper (Boot-Top only) 7) Antifoulant, Non-copper (Boot-Top only) 1) Fouling Release Coating System	5.0-6.0 5.0-6.0 3.0-4.0 3.0-4.0 3.0-4.0 3.0-4.0 3.0-4.0 Follow Manuf. Instructions	16, 18, 22, 23, 24
U/W Body and		Brush blast to bare metal with clean, fine	1) MIL-PRF-24647 Anti-corrosive Epoxy	5.0-6.0	16,

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
Boot-Top, Aluminum Hull (in waters with limited fouling)		aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	2) MIL-PRF-24647 Anti-corrosive Epoxy	5.0-6.0	18, 22
U/W Body and Boot-Top, Fiber Glass Hulls in Salt Water		Roughen surface with 120 grit paper and wash with Adhesion Promoter/Cleaner. On new surfaces, remove mold release with a cleaner, sand and clean again.	1) MIL-PRF-24647 Anti-corrosive Epoxy 2) MIL-PRF-24647 Copper Ablative, Type I, Class 1A 3) MIL-PRF-24647 Copper Ablative, Type I, Class 1A	Mist Coat 4.0-5.0 4.0-5.0	8, 16, 18, 22, 25, 26
U/W Body Appendages: High Turbulent Areas (i.e.,Rudders, Struts, Fins for 110 WPBs)		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-1")	1) High Turbulence Coating 2) High Turbulence Coating 3) Follow with same number coats of antifoulant used for the rest of the underwater body	10.0-11.0 10.0-11.0 -	40
U/W Body Propellers		Cast Steel and Cast Iron: All Other Materials:	Treat the same as Underwater Body Appendages Clean and polish bright. - Do not paint -		
U/W Body Shafts		Corrosion Resistant Materials (such as Monel, Aquamet, and FRP wrap): Clean and polish metallic surfaces bright. All Other Materials: Use same surface preparation method as the rest of the underwater body	- Do not paint - Apply same antifouling coating system as the rest of the underwater body	-	
U/W Body Sea Chest, Icebreaker in Fresh Water		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc	2.5-3.5	9
U/W Body Sea Chest, Sea Chest Strainer Plates, Grid Cooler Hull Recesses in Fresh Water (for WLR River Tenders and Barges)		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) MIL-PRF-24647 Anti-corrosive Epoxy 2) MIL-PRF-24647 Copper Ablative, Type I, Class 1A 3) MIL-PRF-24647 Copper Ablative, Type I, Class 1A	Mist Coat 4.0-5.0 4.0-5.0	8, 16, 18, 25, 26
U/W Body Zincs (or other sacrificial			- Do not paint -		27

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
anodes)					
WEATHER DECKS					
Weather Deck Non-Skid, Steel	I	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Inorganic Zinc, Modified 2) Epoxy Polysiloxane 3) Epoxy Polysiloxane 4) #8-16 Garnet or inert grit conforming to MIL-A-22262 5) Epoxy Polysiloxane	3.0-4.0 Mist Coat 5.0-6.0 - 2.0-3.0	6, 7, 8, 9, 10, 28, 39
	II	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc 2) High Build Epoxy 3) High Build Epoxy 4) #8-16 Garnet or inert grit conforming to MIL-A-22262 5) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	2.5-3.5 Mist Coat 5.0-6.0 - 2.0-3.0	
	III	SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 /(1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) High Build Epoxy 2) High Build Epoxy 3) #8-16 Garnet or inert grit conforming to MIL-A-22262 4) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 5.0-6.0 - 2.0-3.0	
	IV	Same as Option III	1) MIL-PRF-24667 Type I, II, III, or IV Comp. G Primer 1a) MIL-PRF-24667 Type III Intermediate Membrane (Only for Type III) 2) MIL-PRF-24667 Type I, II, III, or IV Comp. G Non-skid	Follow Manuf. Instructions	29, 30, 31
Weather Deck Non-Skid, Aluminum	I	Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Epoxy Polysiloxane 2) Epoxy Polysiloxane 3) #8-16 Garnet or inert non-ferrous grit conforming to MIL-A-22262 4) Epoxy Polysiloxane	1.0-2.0 5.0-6.0 - 2.0-3.0	28, 39
	II	Same as Option I	1) High Build Epoxy 2) High Build Epoxy 3) #8-16 Garnet or inert non-ferrous grit	5.0-6.0 5.0-6.0 -	

Exterior Surfaces to be Preserved	Option	Surface Preparation / (Anchor Profile in mils)	Coating System	DFT (mils)	Notes
			conforming to MIL-A-22262 4)MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	 2.0-3.0	
	III	Same as Option I	1) MIL-PRF-24667 Type I, II, III, or IV Comp. G Primer 1a) MIL-PRF-24667 Type III Intermediate Membrane (Only for Type III) 2) MIL-PRF-24667 Type I, II, III, or IV Comp. G Non-skid	Follow Manuf. Instructions	30, 31
Weather Deck Slip Resistant Sheets		Steel: SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2") Aluminum: Abrasive blast with glass bead conforming to SAE AMS 2431/6 #AGB-18	1) Inorganic Zinc, Modified 2) Epoxy Polysiloxane 3) Epoxy Polysiloxane 4) Slip Resistant Sheet 5) Edge Sealing Compound 1) Slip Resistant Sheet Primer 2) Slip Resistant Sheet 3) Edge Sealing Compound	3.0-4.0 Mist Coat 5.0-6.0 - - - - -	6, 7, 8, 32
Weather Deck, Buoy Tender Working Deck		SSPC-SP 10/NACE NO. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc Safety Markings on Inorganic Zinc Buoy Deck: 1) Epoxy Polysiloxane 2) Epoxy Polysiloxane - or - 1) High Build Epoxy 2) High Build Epoxy 3) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	2.5-3.5 Mist Coat 5.0-6.0 Mist Coat 5.0-6.0 2.0-3.0	7, 8, 33
WOOD, EXTERIOR					
Wood, Exterior (i.e., Accommodation Ladder, Boat Hooks, Boatswain's Chairs, Gangplanks and Brows, Gratings, Ladders, Railings, and Strongbacks)		Sand with 80 grit (or coarser) sand paper	1) Synthetic Wood Finish - follow manufacturer's instructions - or - 1) A-A-1800 Spar Varnish 2) A-A-1800 Spar Varnish 3) A-A-1800 Spar Varnish 4) A-A-1800 Spar Varnish 5) A-A-1800 Spar Varnish	- 1.0-2.0 1.0-2.0 1.0-2.0 1.0-2.0 1.0-2.0	34, 35

Notes

1. Do not paint galvanized or stainless steel anchor, chain, or ground tackle.

2. An extra coat of the topcoat may be required, particularly when brushing or rolling, to achieve proper dry film thickness or to get complete color coverage of the primer underneath.

3. Initially dip armored electric cables in the epoxy primer. After pulling the cables, touch up the primer and follow with topcoat. Do not paint identification labels.

4. Apply in accordance with NSTM Ch. 634 for Navy Certification. All flight decks shall be applied and maintained in accordance with NSTM Ch. 634. Color coating flight decks for other than required markings is not authorized. Flight decks shall not be applied by ships work force. However, ships force may make repairs to flight decks and apply flight deck nonskid to any other portion of the weather deck as necessary for personnel safety. Nonskid material is rolled on over primer within 48 hours for best adhesion. On WMEC 210's the flight deck material shall be extended forward to frame 98 for added personnel safety.

5. Power tool cleaning to bare metal (SSPC-SP 11) may be used in areas that cannot be accessed by abrasive blasting or waterjetting.

6. Inorganic zinc paints cause metal fume fever when cut or burned with a torch.

7. With the exception of Ameron Dimetcote 302H, do not use inorganic zinc on water-jetted surfaces.

8. A mist coat is 1.0-2.0 mils (wet film thickness) of paint applied to promote adhesion or compatibility between unlike materials for spray applications only.

9. Water-based inorganic zinc may only be applied when ambient air and substrate temperature are above 50 degrees F, in order for the water to evaporate completely and form a continuous coating. Water based coatings will not dry at relative humidity above 80 percent.

10. An Organic Zinc coating may be used to replace inorganic zinc for repair/maintenance of inorganic zinc systems.

11. All inaccessible voids that bear against the shell shall be welded tight, tested for tightness, and treated by filling and draining with a rust preventive compound conforming to MIL-C-16173, Grade 3. These include rudders, skegs, sealed void spaces at the stem and voids in the bilges or voids constantly exposed to salt water. Inaccessible voids on steel weather decks shall be prime coated wherever possible before welding of the closure plate and shall be tested for tightness. No further treatment is required. Examples are masts, yards, booms, davits, boxed-in foundations, and boxed-in bulwark structures.

12. Coat the working surfaces of machinery or the surfaces of winch and capstan drums that contact line with an Inorganic Zinc (2.5-3.5 mils), Solvent Cutback Corrosion Preventative Compound, MIL-C-16173 Grade 3, or Thin Film Corrosion Preventative Compound, MIL-C-81309 Type II, Class I.

13. Refer to Chapter 11. Cutters and Boats Colors - Exterior and Interior for painting of safety markings. Apply one coat of MIL-PRF-24635 Silicone Alkyd at 3 mils DFT for color warning bands.

14. Transducer diaphragms are fouling resistant and should only be painted when it is determined, in conjunction with the servicing electronics facility, that the protection of antifouling paint is required.

15. This antifoulant system is a modification of requirements in MIL-PRF-24647 to provide a 10 year system with periodic touch up on a 2-5 year dry-dock cycle. The primer coat and antifoulant is applied over the previous coat of epoxy while still tacky, which is defined as that curing (drying) stage when a fingertip pressed lightly against the film leaves only a slight impression and none of the film sticks to the finger. Cutters and boats painted with ablative paint should be washed with high pressure water (approximately 3000 psi, do not exceed 5000 psi) immediately after being removed from the water to prevent fouling from drying on the paint. When dry-docking for repainting, the defective areas shall be prepared to near white metal and touched up with epoxy. The entire hull should never be abrasive blasted to bare metal unless the entire bottom coat has failed or failure is inevitable in the immediate future.

16. Apply one coat of Epoxy Polysiloxane or MIL-PRF-24635 Silicone Alkyd at 3 mils DFT for the draft marks.

17. MIL-P-15931 vinyl antifoulant may be used to maintain/touch-up/repair an existing epoxy/MIL-P-15931 vinyl antifoulant system, but shall not be applied to new construction or an underwater body taken down to bare metal.

18. For coating purposes, the bilge keel, sea chest, gratings, and skegs are treated as part of the underwater body.

19. Ablative Paint is required on all steel cutters and boats which use antifoulant unless specifically excluded by the MLC's. These coatings have a proven record of cost reduction by extending dry-dock intervals, reducing fuel consumption and reducing painting costs. Life span for these coatings is 9-12 years with periodic touch up on a 2-5 year basis. Areas where the primer is worn through on the rudders, stabilizing fins, bow and above the props should be reprimed. When preparing these surfaces, it is a good idea to clean chloride ions out of the corrosion with a high pressure water blast or steam cleaning before grit blasting. Ablative antifoulant paint wears away differentially on the hull and it is color coded to show the high wear areas which will be at the bow, stern, and boot top areas. When repainting, use the original manufacturer's product to make repairs. Ablative paint should be built back up to the original 10 mil overall thickness below the boot-top and 15 mils on the boot-top. Adding 10 mils of paint over the entire hull at each dry docking will result in excessive film thickness. Ablative paint is applied directly to the epoxy primer while it is still tacky. There is no intermediate coat between the epoxy primer and the ablative paint. Intermediate coats will accomplish nothing and increase the probability that the ablative paint will delaminate.

20. Sea chest, sea chest strainer plates, grid cooler hull recesses for WLR cutters and barges will be coated with a MIL-PRF-24647 Copper Ablative, Type I, Class 1A/Epoxy coating system for zebra mussel control.

21. Fill deep pitting with manufacturers filling compound prior to coating.

22. Total removal of antifouling coatings is not required. Total dry film thickness encountered during removal may exceed specified thicknesses.

23. Contact the manufacturer for application instructions and require the manufacturer's technical representative to be present while the coating is applied. The final coat shall have an almost gloss or wet sheen finish. Areas with a flat finish must be repainted to a wet sheen finish. Fouling release coatings must not be scraped or cleaned with a stiff brush. Once scratched, the topcoat must be reapplied to prevent fouling adhesion.

24. With the Antifoulant, Non-copper option, the underwater body will be white with a black boot-top. In this case, the boot-top is defined as extending six inches below the design water line.

25. Blistered material should be removed, flushed clean with water, thoroughly dried out, and built back up with a 100% solids epoxy chemically resistant filler. Avoid introducing dirt or abrasive blasting grit in to the fiberglass as this may stimulate additional blisters. Structurally damaged areas should be reinforced with a 100% solids chemically resistant epoxy resin. To retard blistering, wash the hull with Adhesion Promoter/Cleaner. Topcoat to 15 mils DFT with 100% solids epoxy tank coating which is chemically resistant. Epoxy resin should contain no water soluble components.

26. Apply the first coat of ablative antifouling paint while the epoxy is still tacky.

27. Do not paint zinc (or other sacrificial anodes). Paint areas beneath all sacrificial anodes the same as the underwater body.

28. For non MIL-PRF-24667 systems, spread #8-16 Garnet or MIL-A-22262 Inert Abrasive Grit over the last epoxy coat when wet. Let it dry for 8 hours and sweep off the excess. Then apply Epoxy Polysiloxane or MIL-PRF-24635 Silicone Alkyd Enamel topcoat.

29. Units may opt to apply a coat of inorganic or organic zinc primer prior to applying this system. If inorganic zinc is preferred, it must be covered with a mist coat, 1.0-2.0 (wet film thickness) of high build epoxy prior to applying the full high build epoxy primer coat. Do not apply inorganic zinc to flight decks.

30. Polyurethane primers, membranes, color toppings, and non-skid are not allowed, even if listed on QPL-24667.

31. Type III non-skid deck coverings with an intermediate underlayment coat should only be used on decks that undergo a great deal of flexing or uneven decks where flatness is required.

32. Slip resistant sheets have been authorized for the 41 UTB, 47 MLB, and 87 WPB. It shall be installed in accordance with the appropriate class drawing, 41UT-1901-2, 47B MLB-634-010, and 87-WPB-634-1, respectively.

33. The safety markings are alternating yellow and black stripes at 45 degrees to the bulwark for a distance of two feet.

34. Do not paint since paint will prevent the detection of cracks and splits.

35. The commercial equivalent to A-A-1800 Spar Varnish may be used.

36. If the surface to be glass bead blasted has been previously painted, the paint may be removed by waterjetting or brushblasting with a very fine aluminum oxide, garnet, or equivalent inert material.

37. The satin aluminum finish shall be defined as having: 1) a surface profile which does not exceed 2.5 mils as measured by TESTEX Press-O-Film Replica Tape (X-Coarse 1.5-4.5 mils) and 2) spherically shaped indentations with a diameter less than or equal to 0.2 mm as measured by an optical comparator such as a Fowler 7X comparator with a #7 reticle.

38. Grit blasting is the best method to prepare the surface, however, it may not be possible to grit blast due to configuration or other restraints. Review manufacturer's instructions to determine other acceptable surface preparation methods.

39. The epoxy polysiloxane system shall be used for all new construction. The silicone alkyd system should only be selected for maintaining an existing silicone alkyd system or as a lower cost option when superior performance is not a requirement.

40. A High Turbulence Coating that is capable of being applied underwater shall be used for any temporary repairs to the underwater body or appendages where bare metal has been exposed. These coatings are not antifoulants and should be removed and replaced with the standard underwater body coating system at the next drydock.

APPENDIX B. CUTTERS AND BOAT INTERIOR PAINTING SYSTEMS

A. Vessel Coating Systems - Interior. This appendix presents the required coatings for various interior areas and components of Coast Guard cutters and boats. The coating systems for each area are presented in tabular form. The tables include the surface preparation, primer, intermediate coat if any, and topcoat. The various coatings used for a particular application should be regarded as a system. The coating system shall be obtained from a single manufacturer to ensure that the individual components are compatible and maximize performance. Thickness references apply to the dried film and is abbreviated as DFT (dry film thickness). Subject matter in this chapter is listed alphabetically. References are by paragraph heading and include:

1. Bilges and Cofferdams.
2. Bulkheads.
   a. Bulkheads, Firezone
   b. Bulkheads and Overheads, Uninsulated Aluminum
   c. Bulkheads and Overheads, Uninsulated Steel
   d. Bulkheads and Overheads, Uninsulated Metal (wet areas)
   e. Bulkheads and Overheads, Uninsulated Steel (appearance not a factor)
   f. Bulkheads and Overheads, Uninsulated Aluminum (appearance not a factor)
3. Chain Lockers
4. Condensation, Space Subjected to
5. Deckplates
   a. Deckplates, Steel
   b. Deckplates, Aluminum
6. Decks, Metal Interior and Non-skid Areas
   a. Steel and Aluminum Decks (wet areas)
   b. Steel and Aluminum Decks (dry areas)
   c. Metal Decks, Non-Skid Tread
7. Door, Joiner
8. Electric Cable, Armored
9. Electronics Equipment
10. Furniture and Galley Equipment
11. Inaccessible Areas
    a. Inaccessible Areas, Steel
    b. Inaccessible Areas, Galvanized Steel and Aluminum
12. Insulation Surfaces
13. Ladders, Stainless Steel, Galvanized Steel and Aluminum
14. Machinery, Interior
    a. Machinery, Operating Temperatures Under 200°F
    b. Machinery, Operating Temperatures Over 200°F
15. Piping, Interior
    a. Piping, Insulated and Uninsulated, Under 200°F
    b. Piping, Uninsulated, Over 200°F
16. Plastic Surfaces
17. Tanks and Voids
    a. Tanks and Voids, General
    b. Ballast Tanks
    c. Fuel/JP-5 Tanks, Service, Storage, Overflow, Drain
    d. Grey Water, Sewage, and CHT Tanks
    e. Lube Oil and Fuel Tanks, Unballasted with water extraction systems
    f. Potable Water Tank
18. Transducer Hull Rings
19. Wood, Interior
    a. Wood, Painted Interior
    b. Wood, Stained and Varnished Interior

Warning

PERSONNEL INVOLVED IN THE APPLICATION OF PAINTS, PRIMERS, VARNISHES, OR SIMILAR TREATMENTS, OR THE PREPARATION OF SURFACES FOR THE APPLICATION OF PAINT OR PAINT PRODUCTS, SHALL BE FAMILIAR WITH THE CONTENTS OF CHAPTER 2 OF THIS MANUAL, THE INFORMATION CONTAINED ON ALL APPLICABLE MATERIAL SAFETY DATA SHEETS, AND TECHNICAL GUIDE: PRACTICES FOR RESPIRATORY PROTECTION, COMDTINST M6260.2 (series). PERSONNEL SHALL ALSO BE FAMILIAR WITH THE ENVIRONMENTAL ISSUES ADDRESSED IN CHAPTER 3 OF THIS MANUAL.

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
BILGES, COFFERDAMS, AND FOREPEAKS					
Bilges, Cofferdams, and Forepeaks, Steel	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Bilge Epoxy Coating System Primer 2) Bilge Epoxy Coating System Topcoat	6.0-7.0 6.0-7.0	1, 14
	II	Non-Machinery Spaces: SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) - or - SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2") - and - Machinery Spaces: SSPC-SP 11 (1.0) or SSPC-SP 12/NACE NO. 5 (To "WJ-2" and "SC-2")	1) Bilge Epoxy Coating System Primer 2) Bilge Epoxy Coating System Primer	6.0-7.0 6.0-7.0	
	III	Same as Option II	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	
Bilges, Aluminum			Do not paint		
BULKHEADS					
Bulkheads, Firezone, Aluminum		Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) MIL-PRF-46081 Intumescent Epoxy 3) MIL-PRF-46081 Intumescent Epoxy	5.0-6.0 5.0-6.0 5.0-6.0	2
Bulkheads, Firezone, Steel	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) MIL-PRF-46081 Intumescent Epoxy 3) MIL-PRF-46081 Intumescent Epoxy	5.0-6.0 5.0-6.0 5.0-6.0	2
	II	Same as Option I	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Intumescent Type II, Class 1 3) MIL-PRF-24596 Water Based Intumescent Type II, Class 1	5.0-6.0 5.0-6.0 5.0-6.0	
Bulkheads and Overheads,	I	Power tool clean using non-metallic abrasive padding, to remove all coatings	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant,	5.0-6.0 1.0-2.0	3, 4

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
Uninsulated Aluminum		and contamination	Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	1.0-2.0	
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant 3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0 1.0-2.0	
Bulkheads and Overheads, Uninsulated Steel	I	SSPC-SP 6/NACE No. 3 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	5.0-6.0 1.0-2.0 1.0-2.0	4
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant 3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0 1.0-2.0	
Bulkheads and Overheads, Uninsulated Metal- (Wet areas such as washrooms, water closets, shower space, food prep areas and exits to weather)		Steel SSPC-SP 11 (1.0) - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	
Bulkheads and Overheads, Uninsulated Steel- (Appearance not a factor, i.e., voids) and Insulated Steel	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc	2.5-3.5	4
	II	SSPC-SP 6/NACE No. 3 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	
Bulkheads and		Brush blast to bare metal with clean, fine	1) High Build Epoxy	5.0-6.0	

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
Overheads, Uninsulated Aluminum- (Appearance not a factor) and Insulated Aluminum		aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.0-1.5)	2) High Build Epoxy	5.0-6.0	
CHAIN LOCKERS					
		SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc	2.5-3.5	4
CONDENSATION, SPACE SUBJECTED TO					
	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant (5.0 wet film thickness) 3) Extended Vermiculite ASTM C-516 (apply while previous coat is still wet) 4) DOD-E-24607 Chlorinated Alkyd Fire Retardant 5) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 - - 1.0-2.0 1.0-2.0	5
	II	Same as Option I	1) High Build Epoxy 2) Ceramic Insulation Coating 3) Ceramic Insulation Coating	5.0-6.0 10.0-15.0 10.0-15.0	
DECKPLATES					
Deckplates, Steel		Underside and edges: SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-2.5) Top (unpainted): Wire Brush	1) Inorganic Zinc 1) Coat with lube oil weekly and wipe off excess	2.5-3.5	4
Deckplates, Stainless Steel/ Aluminum			Do not paint		
DECKS, METAL INTERIOR AND NON-SKID AREAS					
Steel and Aluminum Decks -		Steel: SSPC-SP 11 (1.0) - and -	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
wet areas, food preparation areas, exit areas, and areas subject to condensation		Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination			
Steel and Aluminum Decks - dry areas and low wear areas		Steel: SSPC-SP 3 - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	
Metal Decks, Non-Skid Tread		Steel: SSPC-SP 11 (1.0) - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) MIL-D-17951 Tread Material	-	
DOOR, JOINER					
	I	Steel: SSPC-SP 3 - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	5.0-6.0 1.0-2.0 1.0-2.0	4
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant 3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0 1.0-2.0	
ELECTRIC CABLE, ARMORED					
	I	Clean with Adhesion Promoter/Cleaner. Break gloss with sandpaper as required.	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	5.0-6.0 1.0-2.0 1.0-2.0	4
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0	

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
			3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	1.0-2.0	
ELECTRONICS EQUIPMENT					
Electronics Equipment					6
FURNITURE AND GALLEY EQUIPMENT					
	I	Steel: SSPC-SP 3 - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	5.0-6.0 1.0-2.0 1.0-2.0	4, 7
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant 3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0 1.0-2.0	
INACCESSIBLE AREAS					
Inaccessible Areas, Steel	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-2.5)	1) Inorganic Zinc	2.5-3.5	4, 8
	II	Same as Option I	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	
Inaccessible Areas, Galvanized Steel and Aluminum		Roughen mechanically or brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to A-A-59316, Type I & IV / (1.0-1.5)	1) High Build Epoxy 2) High Build Epoxy	5.0-6.0 5.0-6.0	8
INSULATION SURFACES					
Insulation Surfaces, Fiberglass Sheet/ Closed Cell PVC Foam	I	Clean with Adhesion Promoter/Cleaner. Break gloss with sandpaper as required.	1) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	1.0-2.0 1.0-2.0	4
	II	Same as Option I	1) DOD-E-24607 Chlorinated Alkyd Fire Retardant	1.0-2.0	

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
			2) DOD-E-24607 Chlorinated Alkyd Fire Retardant	1.0-2.0	
LADDERS, STAINLESS STEEL, GALVANIZED STEEL AND ALUMINUM					
			Do not paint		
MACHINERY, INTERIOR					
Machinery, Operating Temperatures Under 200°F, Unmachined surfaces		Steel: SSPC-SP 3 - and - Aluminum: Power tool clean using non-metallic abrasive padding, to remove all coatings and contamination	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	9
Machinery, Steel, Operating Temperatures Over 200°F	I	SSPC-SP 3	1) TT-P-28 Heat Resisting Aluminum Paint 2) TT-P-28 Heat Resisting Aluminum Paint	1.0-2.0 1.0-2.0	9
PIPING, INTERIOR					
Piping, Insulated and Uninsulated, Under 200°F		SSPC-SP 3	1) High Build Epoxy 2) MIL-PRF-24635 Silicone Alkyd, Type II, Cl. 1	5.0-6.0 2.0-3.0	
Piping, Uninsulated, Over 200°F		SSPC-SP 3	1) TT-P-28 Heat Resisting Aluminum Paint 2) TT-P-28 Heat Resisting Aluminum Paint	1.0-2.0 1.0-2.0	
PLASTIC SURFACES					
		Lightly roughen; all extraneous matter shall be removed by washing with Adhesion Promoter /Cleaner. Glazed surfaces shall be sanded to promote adhesion.	1) High Build Epoxy 2) High Build Epoxy	Mist Coat 2.0-3.0	
TANKS AND VOIDS					
Tanks and Voids, General		SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B) 2) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B)	5.0-6.0 5.0-6.0	10, 11, 14
Ballast Tanks	I	SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B) 2) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B)	5.0-6.0 5.0-6.0	10, 11, 14

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
	II	Same as Option I	1) MIL-PRF-23236 Salt Water Only (Type IV, Class 2, Grade A/B) 2) MIL-PRF-23236 Salt Water Only (Type IV, Class 2, Grade A/B)	5.0-6.0 5.0-6.0	
	III	Same as Option I	1) Primer: MIL-PRF-23236 Salt Water Only, 100% Solids, Edge-Retentive (Type IV, Class 2, Grade A/B) 2) Topcoat: MIL-PRF-23236 Salt Water Only, 100% Solids, Edge-Retentive (Type IV, Class 2, Grade A/ MIL-PRF-23236 Grade A when storing, applying, and curing at a temperature range of 20 to 50 degrees F.B)	Follow Manuf. Instructions	
Fuel/JP-5 Tanks, Service, Storage, Overflow, Drain		SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B) 2) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B)	5.0-6.0 5.0-6.0	10, 11, 14
Grey Water, Sewage, and CHT Tanks		SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5)	1) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B) 2) MIL-PRF-23236 General Use - Fuel and Salt Water (Type IV, Grade A/B) -or- 1) MIL-PRF-23236 Salt Water Only (Type IV, Class 2, Grade A/B) 2) MIL-PRF-23236 Salt Water Only (Type IV, Class 2, Grade A/B)	5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0	10, 11, 14
Lube Oil and Fuel Tanks, Unballasted with Water Extraction Systems		For new construction, remove mill scale with steel shot	Apply a heavy coat of lube oil		
Potable Water Tank		Steel: SSPC-SP 10/NACE No. 2 using grit conforming to MIL-A-22262 / (1.5-3.5) Aluminum: Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming	Potable Water Tank Coating-NSF Approved (See manufacturer's product data sheets for number of coats to achieve total specified DFT) - or - Potable Water Tank Coating-NEHC Approved (three contrasting coats required)	10.0-12.0 (Total) 8.0-12.0 (Total)	12, 13

Area or Compartment to be Finished		Surface Preparation / (Anchor Profile in mils)	Coating System	Min DFT (mils)	Notes
		to A-A-59316, Type I & IV / (1.5-2.5)			
TRANSDUCER HULL RINGS					
Interior Surfaces		Same surface preparation as the Bilge	Use the same coating system as the Bilge		
WOOD, INTERIOR					
Wood, Painted Interior	I	Remove any loose paint by scraping, sanding, or milling the surface. Apply commercial wood paste filler as necessary to fill dents, holes, and cracks. Allow 18 hrs for drying.	1) High Build Epoxy 2) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A 3) MIL-PRF-24596 Water Based Fire Retardant, Type I, Class 1, Grade A	5.0-6.0 1.0-2.0 1.0-2.0	
	II	Same as Option I	1) High Build Epoxy 2) DOD-E-24607 Chlorinated Alkyd Fire Retardant 3) DOD-E-24607 Chlorinated Alkyd Fire Retardant	5.0-6.0 1.0-2.0 1.0-2.0	
Wood, Stained and Varnished Interior		Remove varnish as necessary by scraping or sanding. Sand surface smooth, wipe clean.	1) TT-S-711 Interior Wood Stain 2) A-A-1800 Spar Varnish 3) A-A-1800 Spar Varnish 4) A-A-1800 Spar Varnish	- 1.0-2.0 1.0-2.0 1.0-2.0	

Notes

1. Bilges susceptible to ballast damage shall be coated with 20 mils of Amercoat 238 or equivalent abrasion resistant epoxy tank coating from MIL-PRF-23236.

2. On existing well bonded coatings, the two coats of intumescent epoxy may be applied over the cleaned old coating.

3. Paint aluminum only as required to prevent corrosion. Always prime aluminum before painting to avoid paint failure.

4. Water-based coatings may only be applied when ambient air and substrate temperature are above 50 degrees F., in order for the water to evaporate completely and form a continuous coating. Water-based coatings will not dry at relative humidity above 80 percent.

5. These coating systems shall not be used to replace thermal or anti-sweat insulation on any piping systems.

6. In general, electronics equipment shall not be painted in the field. Minor touch ups of exposed surfaces may be made using the instructions provided in the equipment technical or service manual. Paint of original matching color shall be used. Information on the proper paint and color can be

obtained from the manufacturer. In cases where the equipment requires complete repainting, arrangements shall be made with the servicing MLC Electronics Support Unit.

7. Corrosion resistant steel furniture and galley equipment, decorative plastic surfaces such as those on table tops, porcelain surfaces and interior bright aluminum furniture and galley equipment are not to be painted.

8. All inaccessible voids that bear against the shell shall be welded tight, tested for tightness, and treated by filling and draining with a rust preventive compound conforming to MIL-C-16173, Grade 3. These include rudders, skegs, sealed void spaces at the stem and voids in the bilges or voids constantly exposed to salt water.

9. Working metal surfaces shall not be painted. They shall be coated with a Solvent Cutback Corrosion Preventive Compound, MIL-C-16173, Grade 3, or Thin Film Corrosion Preventive Compound, MIL-C-81309, Type II, Class 1.

10. Drying times between coats and final system cure for specified tank coatings other than potable water tanks shall be in accordance with manufacturer's recommendations.

11. Use a coating system qualified to MIL-PRF-23236 Grade A when storing, applying, and curing at a temperature range of 20 to 50 degrees F. Use a coating system qualified to MIL-PRF-23236 Grade B when storing, applying, and curing at a temperature range of 51 to 100 degrees F.

12. All potable water tank coatings must be approved by either the National Sanitation Foundation (NSF) or Naval Environmental Health Center (NEHC).

13. Drying time between coats for potable water tank coatings, including stripe coat, shall be not less than 24 hours at a minimum temperature of 77 degrees F. Final system curing prior to putting tanks back in service shall be not less than 7 days at a minimum temperature of 77 degrees F.

14. Stripecoat is required on all edges, welds, corners, crevices, etc. after the initial primer coat.

APPENDIX C. COATINGS AUTHORIZED FOR USE ON CUTTERS AND BOATS

A. Paint and Coating Approval Procedures.

1. Ships operated by the United States Coast Guard may experience operating conditions significantly more demanding than those seen by their Navy or commercial counterparts. Coatings that perform suitably in those applications may fail prematurely in CG service, leading to excessive recoating and maintenance costs. For these reasons, the CG has established its own list of approved coatings, and this list is included in Section 5 of this Appendix C. The CG accepts military specification (mil spec) and Qualified Products List (QPL) coatings for those applications and areas where their past performance has been acceptable. However, constant advances in coating technology create new, high-performance coatings that are likely to produce significant performance enhancement and/or cost savings. Therefore the CG has also approved commercial coatings for those applications and areas where Mil-Spec/QPL coatings have not performed well, and has placed them on the list of approved coatings.

2. All requests from manufacturers for coating approvals shall be directed to the Office of Naval Engineering (G-SEN) for approval. The address is:

   Commandant (G-SEN)
   United States Coast Guard
   2100 Second Street SW
   Washington, DC 20593

3. Requests for approval shall be for complete systems, from the first coating on the substrate to the topcoat. If the requesting manufacturer does not produce all of the required components for a system, acceptable products from other manufacturers should be listed. Requests from manufacturers for coating approvals shall be submitted in writing and shall include:

   a. A point of contact within the company, including title, street address, phone, fax, and e-mail.

   b. A brief description of the system, e.g., the intended use of the coating system, the number of separate coatings, and for each coating its name, chemical type, requirements for surface preparation, mixing, application, and thickness, and the minimum and maximum times for drying, intervals between coats, and recoating.

   c. A Product Data Sheet for each of the coatings in the coating system.

   d. A Material Safety Data Sheet for each of the coatings in the coating system.

   e. Other federal approvals of the system or its components, such as mil spec. QPL, U. S. Maritime Administration (MARAD), or Military Sealift Command (MSC).

   f. Additional relevant information, such as state and local approvals and certifications, and results of laboratory and accelerated tests.

4. The following are requirements for all coatings in CG service:

   a. EPA registration for antifouling coatings.

b. Approval from the Naval Environmental Health Center (NEHC), Norfolk, VA or from NSF International (formerly the National Sanitation Foundation), Ann Arbor, MI for potable water tank coatings.

c. Volatile Organic Content (VOC) limits of 400 grams/Liter for antifouling coatings and 340 g/L for all other coatings.

5. The following are banned from CG service.

a. Coatings containing lead. (Lead-free is defined in 16 CFR 1303-Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint as 0.06% or less lead by weight in the dry paint film.)

b. Coatings containing coal-tar derivatives.

c. Coatings containing hexavalent chromium compounds, for example, zinc chromate and other chromates.

d. Antifouling coatings containing organotin compounds, for example, tributyl tin (TBT).

e. Coatings containing asbestos.

6. Written notice of product approval will be sent to the manufacturer's point of contact, and to the Coast Guard Maintenance Logistics Centers. The product will be added to the list of approved coatings in the next revision of this Manual.

7. Approvals are subject to revocation should it be determined that the coating is not performing satisfactorily.

8. Manufacturers are advised that all laboratory testing shall be the manufacturer's responsibility and cost. The CG reserves the right to send a representative to any test site to inspect test panels, test setups, test equipment, data sheets, etc. at any time during test periods.

B. Approval for Reformulated Products. When a manufacturer reformulates a product previously approved by the CG, the manufacturer shall submit, in addition to the data stipulated in section C.1.c above, a letter explaining what has been changed and the reasons for the change. The CG will determine what steps will be necessary to extend approval. A reformulated coating must have a different product name or number than the originally approved product.

C. Approval for Renamed Products. When a manufacturer renames a product previously approved by the CG, and the change is in name or number only, not composition, the CG will extend approval to the product under its new name, provided that the manufacturer:

1. Submits written notification to the CG of the change in name or number.

2. Warrants that the formulation has not changed.

3. Submits the data required by section C.1.c.

D. Generic Material Class Performance Requirements.

1. Adhesion Promoter/Cleaner. A water-based alkaline cleaner for use in preparation for painting. It is intended for use on fiberglass and closed-cell polyvinyl chloride (PVC) insulation, painted and plastic surfaces, and bare metal. An equivalent material to the products specified herein shall meet the following criteria:

    a. Water-based cleaner.

    b. Promotes adhesion between substrate and paint and between coats of paint.

    c. Contains no phosphates, halogens, chlorinated solvents or petroleum distillates, and is biodegradable.

    d. Leaves no residue when rinsed with fresh water.

2. Anti-Abrasion Coating, Ice Breaker, Salt Water <350' and Fresh Water. A coating with extremely high resistance to abrasion that is intended for use on the bow and forward portions of icebreaker hulls and is suitable for use in salt and fresh water. An equivalent coating to the products specified herein shall meet the following criteria:

    a. Proven record (at least three years) of usage as an underwater coating for non-polar icebreakers.

    b. Abrasion resistant, anti-corrosive epoxy, with a minimum of 50% solids.

    c. Available in a minimum of two colors, one of which must be red.

    d. Applicable in a minimum of two coats, with a total thickness of not less than 14 mils mean dry film thickness.

    e. Other salient characteristics:

        (1) Abrasion resistance, Taber (ASTM D4060, 1 kg, CS-17 wheel): 50 mg weight loss max.

        (2) Adhesion, Elcometer (ASTM D4541): 1000 psi min.

3. Anti-Abrasion Coating, Ice Breaker, Salt Water >350'. A coating with unusually high resistance to abrasion that is intended for use on the bow and forward portions of polar icebreaker hulls. It will have low adhesion to ice and low frictional resistance. An equivalent coating to the products specified herein shall meet the following criteria:

    a. Proven record (at least three years) of usage as an underwater coating for polar icebreakers.

    b. Can operate in temperatures as low as -60 degrees F.

    c. Abrasion resistant, anti-corrosive epoxy, with a minimum of 90% solids.

    d. Available in a minimum of two colors, black and red.

    e. Applicable in a single coat with a total thickness greater than 30 mils mean dry film thickness.

4. Antifoulant, Non-copper. An antifouling coating that contains biocides for prevention of marine growth and is compatible with aluminum hulls. An equivalent coating to the products specified herein shall meet the following criteria:

   a. Received EPA registration.

   b. Contains no materials that can cause galvanic corrosion of aluminum.

   c. Has a proven record (at least two years) of use as an underwater aluminum hull coating system.

   d. Has equal or better resistance to mechanical damage from blunt objects than conventional antifouling systems.

5. Bilge Epoxy Coating System. An anti-corrosive epoxy coating system for application in bilges and forepeaks with a primer that can be applied to wet or damp surfaces and an edge retentive topcoat. An equivalent coating system to the products specified herein shall meet the following criteria:

   a. Applicable by brush, roller, or spray.

   b. No dew point restrictions - applicable at relative humidity of 10% to 100%.

   c. It can be applied on waterjetted surfaces with minimum conditions as follow:

      a. SSPC-SP 12/NACE No. 5
         i. Visual Surface Preparation: WJ-3
         ii. Nonvisual Surface Preparation: SC-2
      b. SSPC-VIS 4/NACE VIS 7: Moderate Flash Rusting (M)

   d. Essentially 100% solids and few or no VOCs (< 20 mg/l).

   e. Edge retentive.

   f. Non-flammable.

   g. Good chemical resistance.

   h. Proven record (a minimum of two years) of use as a bilge/forepeak system.

6. Epoxy Polysiloxane. A durable coating with superior gloss and color retention that is used as the topcoat for exterior applications. An equivalent coating to the products specified herein shall meet the following criteria:

   a. It can be applied to bare or primed steel, galvanized steel, aluminum, epoxy primer, organic zinc primer, and inorganic zinc silicate primer.

   b. Can be applied by brush, roller, or spray.

   c. Other salient characteristics:

      (1) Elongation (ASTM D522): 10 % minimum

      (2) Impact resistance (ASTM D2794): 100 inch-pounds min.

(3) Adhesion (Elcometer, ASTM D4541): 2000 psi min.

(4) Taber Abrasion (ASTM D4060, CS-17 wheel, 1 kg load, 1000 cycles): 50 mg max.

(5) 60º Gloss retention (2000 hrs QUV): 10 gloss units max. Color change (1000 hours QUV): 3 CIELAB units max.

7. Fouling Release System. A nontoxic coating for boat hulls that resists attachment of fouling. The coating has a low-energy surface, and its primary mechanism for releasing fouling does not rely on dissolving, polishing, eroding, or reducing in thickness. An equivalent coating to the products specified herein shall meet the following criteria:

   a. The coating, applied and cured as directed by the manufacturer, shall be allowed to foul for 30 days in subtropical waters. When exposed to flowing seawater at 22 knots for 30 minutes, the coating shall release at least 80% of the settled fouling. The area covered by residual fouling shall be measured and recorded. This cycle shall be repeated six times. At the conclusion of each cleaning, the area covered by residual fouling shall not be greater than at any previous cleaning.

   b. Have received EPA concurrence that registration is not required.

   c. Easily cleaned by low pressure washing (<1000 psi) or by light wiping with sponges or soft cloth.

8. High Build Epoxy. A two-component epoxy coating intended for general use as an all-purpose high-performance coating that is qualified for use under MIL-PRF-23236 or as an anticorrosive under MIL-PRF-24647. All colors are authorized for general use.

9. High Turbulence Coating. A coating that resists removal under turbulent conditions which is used as a topcoat to protect against cavitation erosion on appendages of the underwater body of ships, especially structures aft of the propeller such as the rudder, struts and fins. An equivalent coating to the products specified herein shall meet the following criteria:

   a. Proven record (a minimum of three years) of use as a coating system for high turbulent/cavitation-prone surfaces.

   b. Other salient characteristics:

      (1) Maximum rate of cavitation erosion (modified ASTM G32): 40 micrometers/hour

      (2) Nominal incubation time (modified ASTM G32): 30 minutes minimum

10. Inorganic Zinc. A self-curing, inorganic zinc-rich primer for use on properly prepared steel surfaces. This high-solids, VOC-compliant, inorganic zinc-rich primer protects steel galvanically and halts sub-film corrosion. When damaged, it continues to protect the underlying steel by cathodic protection. It will withstand severe weather conditions and aggressive exposures. This primer may be top-coated or used without topcoat, for instance, on buoy decks. An equivalent coating to the products specified herein shall meet the following criteria:

a. Although optimal relative humidity may be higher, the coating must be able to cure at a relative humidity down to 50%.

b. Other salient characteristics:

(1) Color: Gray (Green-Gray is acceptable)

(2) Metallic zinc content: 80% minimum by weight in dry film

(3) Adhesion (ASTM D4541): 1000 psi min

(4) Flexibility: No cracks when bent 180º over a 1-inch mandrel

(5) Impact resistance (ASTM D2764): 60 inch-pounds min.

11. Inorganic Zinc, Modified. A self-curing, inorganic zinc-rich primer for use on properly prepared steel surfaces. This high-solids, VOC-compliant, inorganic zinc-rich primer protects steel galvanically and halts sub-film corrosion. When damaged, it continues to protect the underlying steel by cathodic protection. It will withstand severe weather conditions and aggressive exposures. This primer must be top-coated. An equivalent coating to the products specified herein shall meet the following criteria:

a. It can be applied on waterjetted surfaces.

b. Other salient characteristics:

(1) Metallic zinc content: 50% minimum by weight in dry film

(2) Adhesion (ASTM D4541): 1000 psi min

(3) Flexibility: No cracks when bent 180º over a 1-inch mandrel

(4) Impact resistance (ASTM D2764): 60 inch-pounds min.

12. Organic Zinc. An epoxy-type anticorrosive primer for use on properly-prepared steel surfaces exposed to severe industrial or marine environments. This primer must be top-coated to attain maximum protective qualities. An equivalent coating to the products specified herein shall meet the following criteria:

a. Applicable by brush, roller, or spray.

b. Other salient characteristics:

(1) Metallic zinc content: 80 % by weight minimum in dry film

(2) Adhesion (ASTM D4541): 1000 psi min.

(3) Flexibility: No cracks when bent 180º over a 1-inch mandrel

(4) Impact resistance (ASTM D2764): 60 inch-pounds min.

(5) Surface tolerance: Manufacturer will warrant performance on surfaces cleaned by water-jet to WJ-2 and SC-2 standards

13. Potable Water Tank Coating. An epoxy-type coating suitable for use in tanks and pipes that contain drinking water. The coating is also suitable for use in food processing facilities. An equivalent coating to the products specified herein shall meet the following criteria:

    1. The coating must be certified to meet the current National Primary and Secondary Drinking Water Regulations issued by the US Environmental Protection Agency. The coating shall be certified by the Naval Environmental Health Center (NEHC), Norfolk, VA or by NSF International (formerly the National Sanitation Foundation), Ann Arbor, MI.

    2. Other salient characteristics:

        (1) Adhesion (ASTM D4541): 500 psi minimum

        (2) Abrasion resistance (ASTM D4060, CS 17 wheel, 1 kg weight, 1000 cycles): 200 mg maximum

        (3) Chemical resistance (ASTM D714): No deterioration in 20% sodium hydroxide, 3% sodium chloride, 3% sulfuric acid, and gasoline (nonmethanol)

        (4) Material extracted by drinking water: Certification to ANSI/NSF Std 61

14. Rust Deoxidizing Primer. A primer for temporary repair of steel when optimum surface preparation is not practical. The primer encapsulates existing rust and delays formation of additional rust. An equivalent coating to the products specified herein shall meet the following criteria:

    a. Serving as a primer, it must be compatible with High Build Epoxy and Epoxy Polysiloxane.

    b. Other salient characteristics:

        (1) Recoat time: At least 18 hours at 25 ºC

        (2) Service life: Six months minimum

15. Slip Resistant Sheets. Slip resistance is provided by sheets of abrasive particles held in a tough, durable binder to a film backing. The reverse side is covered with a pressure-sensitive adhesive and a removable protective liner. The self-adhesive sheets are used with an edge sealer on properly-primed steel or aluminum exterior surfaces on cutters and boats to provide traction to men and equipment under wet and dry conditions. An equivalent self-adhesive material to the products specified herein shall meet the following criteria:

    a. Color: Black

    b. Adhesion (MIL-PRF-17951)

        (1) Shear strength (7 days aging) 10 pounds minimum

        (2) Strip strength: 0.75 pounds minimum

    c. Minimum coefficient of friction (MIL-PRF-17951)

(1) Static (Rubber): 1.2 dry, 1.2 wet, 0.9 oily

(2) Static (Leather): 1.1 dry, 1.1 wet

(3) Dynamic (Rubber): 1.2 dry, 1.2 wet, 0.8 oily

(4) Dynamic (Leather): 0.9 dry, 1.1 wet

(5) Service Life: 30 months

(6) Proven record (a minimum of two years) of use as a slip resistant system for ship/boat weather decks operating in rough ocean seas.

E. CG Approved Coatings/Materials.

1. Generic Categories

General Material Class	Coating	FED-STD-595 Color
ADHESION PROMOTER/CLEANER (Use following or similar material.)		
	Ameron Prep 88	-
ANTI-ABRASION COATING, ICEBREAKER, SALT WATER <350' AND FRESH WATER		
	Ameron Amerlock 400	Gray / Red
	Ameron Amercoat 238	Black / Red
	International Intershield 350 (KZA 350/KZA 352 / KZA 351) – (For immersed areas, the first coat must be KZA 350-Silver Gray)	Silver Gray / Black / Red
ANTI-ABRASION COATING, ICEBREAKER, SALT WATER >350'		
	International Intershield 163 Inerta 160 (ERA163/ERA 160)	Black / CG Red
ANTIFOULANT, NON-COPPER		
	E Paint SN-1	Black / Gray / White
ANTI-SEIZE COMPOUND (MIL-T-22361 may also be used.)		
	Ultra Safety Systems Ultra Tef-Gel (NSN: 8030-01-450-4009 / 1.0 oz / EA)	-
BILGE EPOXY COATING SYSTEM		
Primer	Euronavy Eurobasic ES301K (Temp. >59 deg F)	Light Gray, Dark Gray, Red Oxide, Light Green (White can only be used as topcoat, not as a primer)
	Euronavy Eurobasic ES301L (Temp. from 41-59 deg F)	Light Gray, Dark Gray, Red Oxide, Light Green (White can only be used as topcoat, not as a primer)
Topcoat	Euronavy EuroGuard ES301S	Light Grey, Red Oxide
CERAMIC INSULATION COATING		
	Span-World Temp-Coat Type "F"	White

General Material Class	Coating	FED-STD-595 Color
EPOXY POLYSILOXANE		
	Ameron PSX-700	Various
FOULING RELEASE SYSTEM		
	International Intersleek System	
	Intergard (FPL 274-FPA 327 / FPJ 034-FPA 327)	Red / Gray
	Intersleek Tie Coat BXA 386/BXA 390/BXA 391	Gray
	Intersleek Finish BXA 819/BXA820/BXA 821	Black
HIGH BUILD EPOXY (General purpose epoxies from MIL-PRF-24647 anti-corrosives and MIL-PRF-23236)		
	Ameron Amercoat 230	Various
	Ameron Amercoat 235	Various
	Ameron Amercoat 236	Various
	Ameron Amercoat 385	Various
	Hempel Hempadur 4514	Various
	Hempel Hempadur 4515	Various
	International Intergard (264) FP Series	Various
	International Intertuf (262) KH Series	Various
	Sherwin-Williams Duraplate 235 B67-235 Series/B67V235	Various
	Sherwin-Williams Epoxy P23 Series/P23VQ80	Various
HIGH TURBULENCE COATING		
	Ameron Amercoat 238	Black / Red
	Ameron Amerlock 400	Black / Red
	Hempel Hempadur MultiStrength 35530	Black / Red
	Somay Hycote 151 Epoxy (Can be applied underwater)	Black / Red
	Somay Hycote 165 Epoxy	Black / Red
	International Interzone 1000	Black / Red
	Jotun Marathon 4000 Series	Black / Red
INORGANIC ZINC (DOD-P-24648 inorganic zinc may also be used)		
	Ameron Dimetcote 9HS	Green
	Hempel Galvosil 1568-19830	Gray
	Sherwin-Williams Zinc Clad IIHS B69VZ1/ B69VZ3/B69D11	Gray-Green
INORGANIC ZINC, MODIFIED		
	Ameron Dimetcote 302H	Green
ORGANIC ZINC		
	Ameron Amercoat 68HS	Red-Gray
	Hempel Hempadur 1736-19830	Red-Gray
	International Interzinc 75V (EPA075V)	Red
	Jotun Barrier MZ-4 / V13F4	Yellow-Green
	Sigma Sigmacover Zinc Primer II 7402	Red-Brown
PAINT REMOVER/STRIPPER (Use following or similar material.)		
	Dumond Chemical, Inc. Peel-Away 7	-
POTABLE WATER TANKS (Must be NSF or NEHC approved)		

General Material Class	Coating	FED-STD-595 Color
	Ameron Amercoat 133 (NSF approved ≥ 1000 gal.)	Off-white/Red
	Ameron Amercoat 233H (NSF approved ≥ 1000 gal.)	Buff/Light Blue/Off-White
	Ameron Amerlock 400 (NSF approved ≥ 1000 gal.)	Ivory/ Off-White/ RT-1805 Blue/ White
	Freecom CeramKote 54 (NSF approved ≥ 50 gal.)	Black/White/Gray/Blue/Red/ Yellow/Orange/Green or any combination
	International 5747/5748 (Primer) (NEHC approved) International 5753/5754 (Topcoat)	Green White
	International Interline 785 - (7530/7536) (NSF approved ≥ 100 gal.)	White/Beige
	Sherwin-Williams (NEHC approved) Tankguard No. 1 N11G100/N11V100 Tankguard No. 3 N11W100/N11V102	 Green White
	Jotun 264-(D51/F51/W51) (NSF approved ≥ 1000 gal.)	Buff/Gray/White
RUST DEOXIDIZING PRIMER (Use following or similar material.)		
	Total Rust and Corrosion Control RDP (NSN: 8030-01-356-8690 / 5 gal / CO)	-
SLIP RESISTANT SHEETS		
	3M Safety-Walk Coarse Slip Resistant Surfacing (authorized for 41 UTB and 87 WPB)	Black
	3M Safety-Walk General Purpose Slip Resistant Surfacing	Black
	3M Safety-Walk Primer	-
	3M Safety-Walk Edge Sealing Compound No. 5569	-
SYNTHETIC WOOD FINISH (Use following or similar material.)		
	Akzo Nobel Sikkens Cetol Marine	Satin
	Akzo Nobel Sikkens Cetol Marine Gloss	Gloss Overcoat
	Flood Deks Olje #1	Matte
	Flood Deks Olje #2	Gloss Overcoat

2. Military/Federal Specification. Although National Stock Numbers are provided for convenience, any products that are listed on the Qualified Products List (QPL) for a given military/federal specification may be used. If there is no QPL for a given military/federal specification, any product certified as meeting all requirements of that specification may be used.

MIL-SPEC	Coating	FED-STD-595 Color	National Stock No.	Quantity	U/I
TT-P-28 ALUMINUM HEAT RESISTING PAINT					
	1200°F nominal	Aluminum	8010-01-344-5121	1.0 gal	GL
	1200°F nominal	Aluminum	8010-01-344-5122	5.0 gal	CN
TT-R-248 PAINT AND LACQUER REMOVER, SOLVENT TYPE					
		-	8010-00-943-7128	1.0 gal	GL
		-	8010-00-515-2258	5.0 gal	CN
TT-F-340 PLASTIC WOOD FILLER					
		Natural	8030-00-262-9171	4.0 oz	CN

		Natural	8030-00-262-9171	1.0 lb	LB
		Light Mahogany	8030-664-7088	4.0 oz	CN
		Walnut	8030-664-7088	4.0 oz	CN
TT-E-489 ALKYD GLOSS ENAMEL (MIL-E-24635 does not have NSNs for all required colors. TT-E-489 can be used as a substitute for MIL-E-24635 in the following colors only)					
	Brown, Gloss	10080	8010-00-598-5470	1.0 qt	QT
	Brown, Gloss	10080	8010-00-286-7737	1.0 gal	GL
	Bright Green, Gloss	14260	8010-000-779-9598	1.0 qt	QT
	Bright Green, Gloss	14260	8010-000-530-5563	1.0 gal	GL
	Bright Green, Gloss	14260	8010-000-616-7490	5.0 gal	CN
	Gold, Gloss	17043	8010-001-040-5786	1.0 qt	QT
	Dark Purple, Gloss	17100	8010-01-040-3761	1.0 qt	QT
TT-S-711 STAIN; OIL TYPE, WOOD, INTERIOR					
		Cherry	8010-00-165-4422	1.0 qt	QT
		Dark Mahogany	8010-00-281-2075	1.0 gal	GL
		Dark Oak	8010-00-165-8628	1.0 qt	QT
		Dark Oak	8010-00-281-2072	1.0 gal	GL
		Dark Walnut	8010-00-281-2076	1.0 gal	GL
		Light Oak	8010-00-597-8226	1.0 qt	QT
		Light Oak	8010-00-166-0746	1.0 gal	GL
		Light Walnut	8010-00-281-2074	1.0 gal	GL
		Mahogany	8010-00-161-7264	1.0 pt	PT
		Mahogany	8010-00-165-8627	1.0 qt	QT
		Maple	8010-00-281-2077	1.0 qt	QT
		Maple	8010-00-598-7669	1.0 gal	GL
		Red Mahogany	8010-00-281-2071	1.0 gal	GL
		Walnut	8010-00-597-8225	1.0 gal	GL
A-A-1800 SPAR VARNISH OIL					
	(TT-V-119 Replacement)	-	8010-00-251-6980	5.0 gal	CN
	(TT-V-119 Replacement)	-	8010-00-597-7856	1.0 gal	GL
	(Low VOC)	-	8010-00-160-5852	1.0 gal	GL
MIL-C-16173 CORROSION PREVENTION COMPOUNDS, SOLVENT CUTBACK, COLD APPLICATION, THIN FILM					
	Grade 3, Soft Film, Water Displacing	-	8030-00-244-1296	1.0 gal	GL
	Grade 3, Soft Film, Water Displacing	-	8030-00-244-1293	5.0 gal	CN
MIL-D-17951 DECK COVERING, LIGHTWEIGHT NONSLIP (TREAD MATERIAL)					
	6.0" Width, 24.0" Length	Black	7220-00-205-0389	-	EA
MIL-R-19907 GLASS REINFORCED PLASTIC LAMINATE (FIBERGLASS) REPAIR KIT					
		-	2090-00-372-6064	-	KT
MIL-T-22361 ANTI-SEIZE THREAD COMPOUND, ZINC DUST-PETROLATUM					
		-	8030-00-292-1102	8.0 oz	TU
MIL-PRF-23236 PAINT COATING SYSTEMS, FUEL AND SALT WATER BALLAST TANKS					
General Use - Fuel and Salt Water (Type IV, Grade A and B)					
	Ameron Amercoat 90HS	-	-	-	-

	Ameron Amercoat 395	-	-	-	-
	Ameron Amercoat 395FD	-	-	-	-
	Ameron Amercoat 395FD w/ 861 Accelerator	-	-	-	-
	Ameron Amercoat 244HS	-	-	-	-
	International Intergard FP Series	-	-	-	-
	International Intergard KB Series	-	-	-	-
	Jotun Valspar Sovapon 264 Series	-	-	-	-
General Use - Fuel and Salt Water (Type IV, Grade B)					
	Ameron Amercoat 236	-	-	-	-
	Esgard Ultraguard 203	-	-	-	-
	Jotun 8F3/8W3	-	-	-	-
	Jotun 550F25/550W3	-	-	-	-
	Jotun 590F25/590W3	-	-	-	-
	Sherwin-Williams N11-100 Series	-	-	-	-
	Sherwin-Williams 5001 Primer/5006 Barrier	-	-	-	-
	Sigma Primer 5470/Finish 5471	-	-	-	-
Salt Water Only (Type IV, Class 2, Grade A and B)					
	Ameron Amercoat 234QC	-	-	-	-
	Ameron Amercoat 235	-	-	-	-
Salt Water Only (Type IV, Class 2, Grade B)					
	Ameron Amercoat 385	-	-	-	-
	International Intergard 180 Series	-	-	-	-
Salt Water Only, 100% Solids, Edge-Retentive (Type IV, Class 2, Grade A)					
	Jotun Primer: 591F25/591T8 (Wintergrade) Jotun Topcoat: 591W3/591T8 (Wintergrade)	Gray White	- -	- -	- -
Salt Water Only, 100% Solids, Edge-Retentive (Type IV, Class 2, Grade B)					
	Jotun Primer: 591F25/591T100 Jotun Topcoat: 591W3/591T100	Gray White	- -	- -	- -
	Sherwin-Williams Primer: Dura-Plate UHS B62H210/B62V210 Sherwin-Williams Topcoat: Dura-Plate UHS B62W210/ B62V210 Dura-Plate UHS B62G210/ B62V210	 Gold White Green	 - 8010-01-467-5599 8010-01-467-6308	 - 5.0 gal 5.0 gal	 - KT KT
	Sherwin-Williams Primer: Dura-Plate UHS 235 B67H235/B67V235 Sherwin-Williams Stripecoat/Topcoat: Dura-Plate UHS B62W210/ B62V210 Dura-Plate UHS B62G210/ B62V210	 Buff White Green	 8010-01-467-5526 8010-01-467-5599 8010-01-467-6308	 5.0 gal 5.0 gal 5.0 gal	 KT KT KT
	Sherwin-Williams Primer: Seaguard 5001 Epoxy Primer N11-200 Seaguard 5001 Epoxy Primer N11-200 Sherwin-Williams Topcoat: Dura-Plate UHS B62W210/ B62V210 Dura-Plate UHS B62G210/ B62V210	 Red Red White Green	 8010-01-467-5597 8010-01-467-5598 8010-01-467-5599 8010-01-467-6308	 2.0 gal 10.0 gal 5.0 gal 5.0 gal	 KT KT KT KT
	Sigma Primer: Sigmaguard BT Primer 5404 Sigmaguard BT Primer 5404 Sigma Stripecoat/Topcoat: Sigma Sigmaguard BT 5411-5000	 Amber Amber Gray	 8010-01-470-7107 8010-01-470-7113 8010-01-470-8105	 1.0 gal 5.0 gal 1.0 gal	 KT KT KT

	Sigma Sigmaguard BT 5411-5000	Gray	8010-01-470-7126	5.0 gal	KT
	Sigma Sigmaguard BT 5411-S674	Aqua Green	8010-01-470-8108	1.0 gal	KT
	Sigma Sigmaguard BT 5411-S674	Aqua Green	8010-01-470-8110	5.0 gal	KT
	Sigma Sigmaguard BT 5411-7000	White	8010-01-470-7129	1.0 gal	KT
	Sigma Sigmaguard BT 5411-7000	White	8010-01-470-7124	5.0 gal	KT
DOD-PRF-24176 CEMENT, EPOXY, METAL REPAIR & HULL SMOOTHING					
	Ameron Amercoat 140 Epoxy Repair Compound	Gray	-	-	-
	A. W. Chesterton ARC 10	Gray	-	-	-
	A. W. Chesterton ARC 858	Gray	-	-	-
	Belzona 1311 Ceramic R-Metal	Gray	-	-	-
	Belzona 1111 Super Metal	Gray	-	-	-
	Belzona 1211 E-Metal	Gray	-	-	-
	Chem Seal CS 2725 Epoxy Bonding Compound	Gray	-	-	-
	Enecon Epoxit 6003/403	Gray	-	-	-
	Enecon Metalclad Duralloy	Gray	-	-	-
	Enecon Metalclad CeramAlloy CP	Gray	-	-	-
	International Intergard 822 Epoxy Filler	Red	-	-	-
	ITW Devcon Aluminum Putty F	Aluminum	-	-	-
	ITW Devcon Ceramic Repair Putty	Dark Blue	-	-	-
	ITW Devcon Plastic Steel Putty (A)	Gray	-	-	-
	ITW Devcon Titanium Putty	Gray	-	-	-
	ITW Philadelphia Resins Repair Compound	Blue	-	-	-
	Thortex Cerami-Tech EG	Gray	-	-	-
	Thortex Metal-Tech EG	Gray	-	-	-
MIL-PRF-24596 NONFLAMING FIRE-PROTECTIVE COATING COMPOUNDS					
	Rosewood	22519	8010-01-208-5832	1.0 gal	GL
	Beach Sand	22563	8010-01-206-4712	1.0 gal	GL
	Beach Sand	22563	8010-01-208-7772	5.0 gal	CN
	Sun Glow	23697	8010-01-208-7774	5.0 gal	CN
	Clipper Blue	24516	8010-01-208-1775	1.0 gal	GL
	Clipper Blue	24516	8010-01-208-7773	5.0 gal	CN
	Pastel Green	24585	8010-01-208-1779	1.0 gal	GL
	Pastel Green	24585	8010-01-208-1780	5.0 gal	CN
	Pastel Blue	25526	8010-01-208-7776	1.0 gal	GL
	Pastel Blue	25526	8010-01-209-1155	5.0 gal	CN
	Bulkhead Gray	26307	8010-01-208-1781	1.0 gal	GL
	Bulkhead Gray	26307	8010-01-208-7778	5.0 gal	CN
	Yellow Gray	26400	8010-01-208-1777	1.0 gal	GL
	Pearl Gray	26493	8010-01-208-1782	1.0 gal	GL
	Pearl Gray	26493	8010-01-209-3195	5.0 gal	CN
	Green Gray	26496	8010-01-209-1154	1.0 gal	GL
	Green Gray	26496	8010-01-208-1776	5.0 gal	CN
	Soft White	27880	8010-01-208-1778	1.0 gal	GL
	Soft White	27880	8010-01-208-7777	5.0 gal	CN
DOD-E-24607 NONFLAMING INTERIOR CHLORINATED ALKYD ENAMEL					
	Rosewood	22519	8010-01-344-5086	1.0 gal	GL
	Rosewood	22519	8010-01-344-5097	5.0 gal	CN
	Beach Sand	22563	8010-01-344-5085	1.0 gal	GL
	Beach Sand	22563	8010-01-344-5096	5.0 gal	CN
	Sun Glow	23697	8010-01-344-5088	1.0 gal	GL

	Sun Glow	23697	8010-01-344-5099	5.0 gal	CN
	Clipper Blue	24516	8010-01-344-5087	1.0 gal	GL
	Clipper Blue	24516	8010-01-344-5098	5.0 gal	CN
	Pastel Green	24585	8010-01-344-5090	1.0 gal	GL
	Pastel Green	24585	8010-01-344-5101	5.0 gal	CN
	Pastel Blue	25526	8010-01-344-5095	1.0 gal	GL
	Pastel Blue	25526	8010-01-344-5106	5.0 gal	CN
	Bulkhead Gray	26307	8010-01-344-5091	1.0 gal	GL
	Bulkhead Gray	26307	8010-01-344-5102	5.0 gal	CN
	Yellow Gray	26400	8010-01-344-5093	1.0 gal	GL
	Yellow Gray	26400	8010-01-344-5104	5.0 gal	CN
	Pearl Gray	26493	8010-01-344-5094	1.0 gal	GL
	Pearl Gray	26493	8010-01-344-5105	5.0 gal	CN
	Green Gray	26496	8010-01-344-5092	1.0 gal	GL
	Green Gray	26496	8010-01-344-5103	5.0 gal	CN
	Soft White	27880	8010-01-344-5089	1.0 gal	GL
	Soft White	27880	8010-01-344-5100	5.0 gal	CN
MIL-PRF-24635 SILICONE ALKYD ENAMEL [Use following NSNs or procure directly from manufacturer listed on most current QPL-24635-(series).]					
	Brown, Gloss	10080	See TT-E-489		
	Tan, Gloss	10324	8010-01-433-8367	1.0 qt	QT
	Tan, Gloss	10324	8010-01-433-8365	1.0 gal	GL
	Spar, Gloss	10371	8010-01-396-6804	1.0 qt	QT
	Spar, Gloss	10371	8010-01-360-9307	1.0 gal	GL
	Red, Gloss	11105	8010-01-396-6803	1.0 qt	QT
	Red, Gloss	11105	8010-01-396-6798	1.0 gal	GL
	Red, Gloss	11105	8010-01-349-9006	5.0 gal	CN
	International Orange, Gloss	12197	8010-01-360-9306	1.0 gal	GL
	CG Red, Gloss	12199	8010-01-360-9305	1.0 gal	GL
	Orange, Gloss	12246	8010-01-433-8361	1.0 qt	QT
	Orange, Gloss	12246	8010-01-433-8381	1.0 gal	GL
	Yellow, Gloss	13538	8010-01-396-6805	1.0 gal	GL
	Yellow, Gloss	13538	8010-01-349-9005	5.0 gal	CN
	Yellow, Lusterless	33538	See TT-E-489		
	Chartreuse, Semigloss	23814	See TT-E-489		
	Dark Green, Gloss	14062	8010-01-349-9007	5.0 gal	CN
	Bright Green, Gloss	14260	See TT-E-489		
	Light Green, Gloss	14449	8010-01-433-8370	1.0 qt	QT
	Light Green, Gloss	14449	8010-01-433-8369	1.0 gal	GL
	Dark Blue, Gloss	15044	8010-01-433-8371	1.0 qt	QT
	Dark Blue, Gloss	15044	8010-01-433-8374	1.0 gal	GL
	Blue, Gloss	15123	8010-01-396-6797	1.0 qt	QT
	CG Blue, Gloss	15182	8010-01-396-6796	1.0 qt	QT
	CG Blue, Gloss	15182	8010-01-360-9304	1.0 gal	GL
	Light Blue, Gloss	15200	8010-01-433-8382	1.0 qt	QT
	Light Blue, Gloss	15200	8010-01-433-8373	1.0 gal	GL
	Dark Gray, Gloss	16081	8010-01-433-8384	1.0 qt	QT
	Dark Gray, Gloss	16081	8010-01-433-8379	1.0 gal	GL
	Blue Gray, Gloss	16099	8010-01-360-8068	1.0 gal	GL
	Blue Gray, Gloss	16099	8010-01-374-8954	5.0 gal	CN
	Gray, Gloss	16187	8010-01-356-2940	1.0 gal	GL

	Light Gray, Gloss	16376	8010-01-375-2175	1.0 gal	GL
	Black, Gloss	17038	8010-01-350-5239	1.0 gal	GL
	Black, Gloss	17038	8010-01-344-6695	5.0 gal	CN
	Black, Semigloss	27038	8010-01-344-5320	1.0 gal	GL
	Black, Lusterless	37038	8010-01-356-2938	1.0 gal	GL
	Black, Lusterless	37038	8010-01-344-6703	5.0 gal	CN
	Gold, Gloss	17043	See TT-E-489		
	Dark Purple, Gloss	17100	See TT-E-489		
	Purple, Gloss	17142	8010-01-433-8375	1.0 qt	QT
	Purple, Gloss	17142	8010-01-433-8388	1.0 gal	GL
	White, Semigloss	27886	8010-01-382-1810	1.0 gal	GL
	CG White, Gloss	17925	8010-01-397-3935	1.0 gal	GL
MIL-PRF-24647 ANTICORROSIVE AND ANTIFOULING SHIP HULL PAINT SYSTEM					
Anticorrosives					
	Ameron Amercoat 230	Gray	8010-01-419-2430	5.0 gal	KT
	Ameron Amercoat 230	Red	8010-01-270-8161	5.0 gal	KT
	Ameron Amercoat 235	Gray	8010-01-359-5513	1.0 gal	KT
	Ameron Amercoat 235	Gray	8010-01-359-7235	5.0 gal	KT
	Ameron Amercoat 235	Red	8010-01-359-7236	1.0 gal	KT
	Ameron Amercoat 235	Red	8010-01-316-6741	5.0 gal	KT
	Hempel Hempadur 4515-1148	Gray	8010-01-419-2434	5.0 gal	KT
	Hempel Hempadur 4515-5063	Red	8010-01-419-2431	5.0 gal	KT
	Hempel Hempadur 4514-1148 Low Temp	Gray	8010-01-419-2432	5.0 gal	KT
	Hempel Hempadur 4514-5063 Low Temp	Red	8010-01-419-2427	5.0 gal	KT
	International Intergard FPJ034/FPA327 Summer Grade	Light Gray	8010-01-241-9721	5.0 gal	KT
	International Intergard FPL274/FPA327 Summer Grade	Red	8010-01-268-7583	5.0 gal	KT
	International Intergard FPJ034/FCA321 Winter Grade	Light Gray	8010-01-241-9723	5.0 gal	KT
	International Intergard FPL274/FCA321 Winter Grade	Red	8010-01-268-7584	5.0 gal	KT
	International Intertuf KHA302/KHA062 Summer Grade	Gray	8010-01-421-2963	5.0 gal	KT
	International Intertuf KHA303/KHA062 Summer Grade	Red	8010-01-421-2964	5.0 gal	KT
	International Intertuf KHA302/KHA414 Winter Grade	Gray	8010-01-421-2967	5.0 gal	KT
	International Intertuf KHA303/KHA414 Winter Grade	Red	8010-01-421-2966	5.0 gal	KT
	Sherwin Williams P23AQ81/P23VQ80	Gray	8010-01-467-5556	5.0 gal	CN
	Sherwin Williams P23RQ82/P23VQ80	Red	8010-01-467-5555	5.0 gal	CN
	Sherwin Williams P23AQ61/P23VQ80 Low Temp	Gray	8010-01-467-5558	5.0 gal	CN
	Sherwin Williams P23RQ62/P23VQ80 Low Temp	Red	8010-01-467-5557	5.0 gal	CN
Antifoulants					
	Ameron ABC #3	Black	8010-01-210-7812	1.0 gal	GL
	Ameron ABC #3	Black	8010-01-210-7813	5.0 gal	CN
	Ameron ABC #3	Red	8010-01-211-4815	5.0 gal	CN
	Hempel Olympic 7660-1999	Black	8010-01-419-2428	5.0 gal	CN

	Hempel Olympic 7660-5063	Red	8010-01-419-2435	5.0 gal	CN
	International Interviron BRA640	Red	8010-01-339-8708	5.0 gal	CN
	International Interviron BRA642	Black	8010-01-339-8707	5.0 gal	CN
	Sherwin Williams P30BQ12	Black	8010-01-467-5561	5.0 gal	CN
	Sherwin Williams P30RQ10	Red	8010-01-467-5559	5.0 gal	CN
DOD-P-24648 PRIMER COATING, ZINC DUST PIGMENTED (INORGANIC ZINC)					
	Type I, Class 1, Composition B (water-based)	36231	8010-01-350-2068	1.0 gal	KT
	Type I, Class 1, Composition B (water-based)	36231	8010-01-349-8055	4.0 gal	KT
MIL-PRF-24667 NON-SKID COATING SYSTEM					
	Primers (For use with Type I, II, III, and IV systems) Dark Gray Dark Gray Light Buff Light Buff AST MS-10C AST MS-7C Ameron Amercoat 137	 26008 26008 22516 22516	 8010-01-397-3986 8010-01-397-3810 8010-01-397-3987 8010-01-397-3811	 1.0 gal 5.0 gal 1.0 gal 5.0 gal	 KT KT KT KT
	Type I, Comp G, High Durability, Rollable, General Use Abrasive Deck Coating AST MS-400G AST MS-440G AST MS-660G UV Resistant Epoxy/Low Solar Absorbing Ameron Amercoat 138HR	36076	8010-01-397-3802	5.0 gal	KT
	Type II, Comp G, Standard Durability, Roll or Trowel, General Use Abrasive Deck Coating AST MS-375G AST MS-440G AST MS-660G UV Resistant Epoxy/Low Solar Absorbing Ameron Amercoat 138HR	36076	8010-01-397-3806	5.0 gal	KT
	Type III, Comp G, Standard Durability, Rollable Resilient Abrasive Deck Coating AST MS-1600 Flexible Epoxy Intermediate Membrane (Use with AST MS-880G or AST MS-660G UV/LSA)	Dark Gray			
	Type IV, Comp G, Standard Durability, Sprayable, General Use Abrasive Deck Coating AST MS-375G AST MS-2000 Ameron Amercoat 138HR	36076	8010-01-441-5852	5.0 gal	KT
	Color Toppings Dark Gray Red White Yellow AST MS-200 Ameron Amercoat 929	 36076 31136 37875 33538	 8010-01-397-3816 8010-01-397-3815 8010-01-397-3812 8010-01-397-3814	 5.0 gal 5.0 gal 5.0 gal 5.0 gal	 KT KT KT KT

MIL-PRF-46081 THERMAL INSULATING COATING COMPOUND (INTUMESCENT)					
	Pearl Gray	26493	8010-00-228-0628	1.0 gal	KT
	White	27780	8010-00-228-0618	1.0 gal	KT
	White	27780	8010-00-258-7087	5.0 gal	KT
A-A-50598 PHOTOLUMINESCENT MARKING KIT					
	Marking Stencil Set, Surface Ship Kit	-	7520-01-371-0126	-	SE
	Coating Compound Kit	-	8010-01-367-2377	10.0 gal	KT
	Coating Compound Kit	-	8010-01-367-2378	5.0 gal	KT
MIL-C-81309 CORROSION PREVENTIVE COMPOUND, WATER DISPLACING, ULTRA-THIN FILM					
	Type II - Soft Film, Class 1 - Nonpressurized Container	-	8030-00-213-3279	1.0 gal	GL
	Type II - Soft Film, Class 1 - Nonpressurized Container	-	8030-00-262-7358	5.0 gal	CN

F. Procurement Information.

1. Government Services Administration (GSA). The most convenient methods for ordering coatings and supplies through GSA are found in Chapter 4 Painting Organization and Supervision. Following are GSA resources to place orders or get questions answered:

   a. GSA Customer Service is available at 816-926-7315.

   b. Access to GSA Advantage! may be obtained at www.gsaadvantage.gov. For questions call the GSA Advantage helpline toll-free at 877-472-3777.

   c. For up-to-date Multiple Award Schedule information visit the Schedules E-Library at www.fss.gsa.gov. For ordering assistance or for additional information, contact the GSA, Hardware and Appliances Center Customer Service at 816-926-7315.

   d. Fax or mail a MIPR to the address below for a 48 hour turn around. For questions, call GSA.

      General Services Administration
      Federal Supply Service (6FEI)
      1500 East Bannister Road
      Kansas City, MO 64131
      816-926-6757 / Fax: 816-926-7971

   e. To submit a standard MISTRIP requisition, a Form DD 1348-6 may be faxed or mailed to the above address.

2. Vender Information. The following phone numbers are provided for the venders listed in CG Approved Coatings or elsewhere in this manual. The Federal Supply Service (FSS) Multiple Award Schedule contract number is provided where available.

   American Safety Technologies
   565 Eagle Rock Avenue
   Roseland, NJ 07068
   973-403-2600 / Fax: 973-403-1108

   Ameron Performance Coatings

13010 Morris Road, Suite 400
Alpharetta, GA 30004
501-455-4500 / Fax: 501-455-4069
FSS: GS-10F-8896H expires 31 May 2003

A. W. Chesterton Company
225 Fallon Road
Stoneham, MA 02180
781-481-2234 / Fax: 781-438-2535

Belzona Inc.
2000 N. W. 88 Court
Miami, FL 33172
305-594-4994 / Fax: 305-599-1140

Chem Seal Products
11120 Sherman Way
Sun Valley, CA 91352
818-982-1650 / Fax: 818-765-5603

Dumond Chemicals, Inc.
1501 Broadway
New York, NY 10036
212-869-6350 / Fax: 212-764-5762
FSS: GS-10F-8899H expires 31 May 2003

Enecon Corp.
700 Hicksville Road
Enecon Center Suite 110
Bethpage, NY 11714
516-349-0022 / Fax: 516-349-5522

E Paint Company
25 Research Road
E. Falmouth, MA 02536
508-540-4412 / Fax: 508-495-3210

Esgard, Inc.
515 Debonnaire Road
Scott, LA 70583
337-234-6327

Euronavy Marine & Industrial Maintenance Coatings
P.O. Box 23433
Ft. Lauderdale, FL 33307
954-484-2003/Fax: 954-484-8793
(Euronavy ES301 products are distributed by Sherwin-Williams)

The Flood Company
1212 Barlow Road, P.O. Box 2535
Hudson, OH 44236-0035

330-650-4070 / Fax: 330-650-1453

Hempel Coatings (USA), Inc.
600 Conroe Park North Drive
Conroe, TX 77303
409-523-6000 / Fax: 409-523-6073

International Paint Inc.
Customer Order Service Dept.
6001 Antoine Street
Houston, TX 77091
800-654-7692

ITW Devcon
30 Endicott Street
Danvers, MA 01923
978-777-1100 / Fax: 978-774-0516

ITW Philadelphia Resins
130 Commerce Drive
Montgomeryville, PA 18936
215-855-8450 / Fax: 215-855-4688

Jotun Paints, Inc.
9203 Highway 23
P.O. Box 159
Belle Chasse, LA 70037
504-394-3538 / Fax: 504-394-3726

Sherwin-Williams Company
Marine Customer Service Representative
226 Talmadge Road
Edison, New Jersey 08818
877-877-7115
FSS: GS-10F-8004J expires 31 Jan 2003

Sigma Coatings USA
1500 Harbor Blvd.
Weehawken, NJ 07087
201-866-8400 / Fax: 201-866-7701

Sikkens Wood Finishes
Akzo Nobel Coatings Inc. Customer Service
1845 Maxwell Street
Troy, MI 48084
248-637-0400 / Fax: 248-637-5252

Somay Products, Inc.
4301 N.W. 35th Avenue
Miami, Florida 33142-4382
305-633-6333 / Fax: 305 638-5524

Span-World Dist.
P.O. Box 725
LaPlace, LA 70069-0725
504-651-2911 / Fax: 504-651-2964

Thortex America Inc.
12 Iron Bridge Drive
Collegeville, PA 19426
610-831-0222 / Fax: 610-831-1910

Total Rust & Corrosion Control Inc.
1575 Old Alabama Road Suite 207-180
Roswell, GA 30076-2101
228-831-8701 / Fax: 228-831-1939

Turco Products, Inc.
Subsidiary of Henkel Surface Technologies (800-521-1355)
2700 Temple Avenue, Suite B, Long Beach, CA 90806
562-981-8300 / Fax: 562-981-8303

Ultra Safety Systems
3755 Fiscal Court
Riviera Beach, FL 33404
561-845-1086 / Fax: 561-844-8566

3M Safety Walk General Purpose Slip Resistant Surfacing (Pre-Cut or Rolls), Primer, and Edge Sealer are available from:

Louisiana Association for the Blind
1750 Claiborne Avenue
Shreveport, LA 71103-4189
318-635-6471 / Fax: 318-635-8902

3. Procurement of Miscellaneous Items.

a. Military/Federal Specifications can be obtained at no charge online from the following DOD web site: http://astimage.daps.dla.mil/online/ Registration is required.

b. FED-STD-595B color samples, fan deck, individual color chips, and sets of color chips are on sale by GSA at the following address:

General Services Administration
Federal Supply Service Bureau
Specification Section
Suite 8100
470 East L'Enfant Plaza, SW
Washington, DC 20407
(202) 755-0325 or 0326

(1) Surface preparation specifications and visual standards are available from:

The Society for Protective Coatings
40 24th Street, 6th Floor
Pittsburgh, PA 15222-4656
412-281-2331 / Fax: 412-281-9992
www.sspc.org

NACE International
P.O. Box 201009
Houston, TX 77216-1009
281-228-6223 / Fax: 281-228-6329
http://www.nace.org

(2) Decals (numerals, letters, and Coast Guard emblems) are still available from UNICOR as listed in contract #DTCG23-96-D-ECV058 although the contract has expired:

UNICOR Federal Prison Industries
3150 Horton Road
Fort Worth, TX 76119
800-827-3168/817-413-3206/817-413-3207
www.unicor.gov

(3) Decals (numerals, letters, and Coast Guard emblems), controlled substance contraband seizure logos, and photoluminescent materials are available from:

Brace Enterprises
P.O. Box 292406
Davie, FL 33329
954-723-0435 / Fax: 954-723-0436
www.braceenterprise.com

(4) Photoluminescent materials are available from:

Tidewater Emblems, Ltd.
1816 Potters Road
P.O. Box 3234
Virginia Beach, VA 23454
757-428-1170 / Fax: 757-425-5697