

Hempel (USA) Inc.

Hempel's Antifouling Olympic HI76600, Tin Free Ablative Antifouling Paint

PRODUCT DESIGNATIONS

Antifouling Olympic HI76600

MIL-PRF-24647

If this product is to be applied as part of a coating system, all components of the system must be as listed on the QPL.

This NAVSEA-REVIEWED ASTM F-718 data sheet is the only data sheet approved for use when utilizing this coating for U.S. Navy preservation projects. NAVSEA's review covers only the application process for the material. The review does not denote the material as a qualified product, nor does it constitute an approval for purchase/procurement of the material. For products on the Qualified Products List (QPL) for this MILSPEC, please refer to <https://qpldocs.dla.mil/search/default.aspx>.

Questions regarding modifications or updates of this ASTM F-718 shall be directed toward:

NSWCPD

NSWCPD_ASTM_F718.fct@navy.mil

ASTM F 718

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

I. GENERIC TYPE AND DESCRIPTION: Antifouling Olympic HI76600 is a tin free ablative antifouling bottom paint, based on polyamide polymer and containing cuprous oxide. Date: 01/07/2020

Specification Number: MIL-PRF-24647

NOTE: For Type/Grade/Class/Application information see QPD-24647, Type II, Class 1, Grade A, Application 2/3 and Type II, Class 1, Grade B, Application 1/2/3

II. MANUFACTURERS DATA:

- (a) MANUFACTURER: HEMPEL (USA), Inc.
- (b) PRODUCT DESIGNATION: HEMPEL'S ANTIFOULING OLYMPIC HI76600
- (c) COLOR(S): Red/51110 and Black/19990
- (d) USES: As an antifouling on the underwater hull and boot-top coating of ships
- (e) TECHNICAL SERVICE REPRESENTATIVE: 936-523-6000 Technical Services or local Representatives

III. PROPERTIES:

- (a) PERCENT VOLUME SOLIDS (ASTM D2697): 65 +/- 1 %
- (b) PERCENT WEIGHT SOLIDS (ASTM D2369): 85.4 +/- 1 %
- (c) FLASH POINT (ASTM D93):
 - Single Component: 78.8 °F (26 °C)
- (d) WEIGHT PER VOLUME (ASTM D1475):
 - Single Component: 17.7 lb/gal (2.1 kg/L)
- (e) PERCENT EDGE RETENTION, IF REQUIRED BY APPLICABLE SPECIFICATION (N/A): N/A %
- (f) SHELF LIFE: 60 Months @ 77 °F (25 °C)
- (g) VISCOSITY (FTMS141a428):
 - Single Component : 93 KU @ 25 °C (77 °F)
- (h) PACKAGING: Five-gallon pail
- (i) NUMBER OF COMPONENTS: 1
- (j) GLOSS (ASTM D523): <15 (flat) GU
- (k) STORAGE REQUIREMENTS: TEMPERATURE: 59 °F (15 °C) MIN. 86 °F (30 °C) MAX.

ADDITIONAL PAINT STORAGE REQUIREMENTS: Store in accordance with local regulations and NAVSEA Standard Item 009-32. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

- (l) VOLATILE ORGANIC COMPOUNDS (VOCS- EPA TEST METHOD 24): 3.2 (Red) / 2.77 (Black) lb/gal (338 (Red) / 332 (Black) g/L)
- (m) WEIGHT PER AREA OF DRY FILM AT 1 MIL THICKNESS: 0.01434 lb/sq. ft. (68.5g/m²)

- (n) SPECIAL PROPERTIES: Product contains Fibers to help reduce and eliminate cracking.

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

- (a) INITIAL CLEANLINESS: For existing antifouling remove possible oil and grease etc. with suitable detergent, followed by high pressure fresh water cleaning for a thorough removal of any possible weak structure of leached antifouling. Allow the surface to dry before coating.
- (b) TOUCH-UP CLEANLINESS: Ensure the area is clean and dry and it's temperature is above the dewpoint to avoid condensation.
- (c) PROFILE (NA): NA mils MIN. NA mils MAX.
- (d) SPECIAL INSTRUCTIONS: Existing antifouling: Remove possible oil and grease, etc with suitable detergent, followed by high pressure fresh water cleaning for a thorough removal of any possible weak structure of leached antifouling. Allow the surface to dry before coating. Sealer: Whether to use a sealer coat/tiecoat or not depend on the type and condition of the existing antifouling.
At later redocking direct overcoating – after very proper cleaning and thorough removal of possible loose outer layer – can as a general rule only take place with itself or similar ablative antifoulings. After the high pressure fresh water cleaning of the old ablative antifouling it is essential that it becomes through dry before painting.
- (e) PRIMER REQUIREMENTS: Apply over approved anticorrosive primers, Hempadur 47183 tiecoat or intact clean and dried compatible antifouling or Olympic 76600. Refer to the approved primer ASTM F718 for proper overcoating guidelines.
- (f) MAXIMUM ALLOWABLE CONDUCTIVITY (N/A):

N/A
- (g) MAXIMUM DEGREE OF FLASH RUSTING ALLOWED: N/A

SPECIAL SAFETY PRECAUTIONS: Refer to Safety Data Sheet (SDS)

V. MIXING PROCEDURES

- (a) MIXING RATIOS BY WEIGHT: N/A
BY VOLUME: N/A
- (b) INDUCTION TIME: N/A Minutes
- (c) RECOMMENDED CLEANING SOLVENT (NO THINNING ALLOWED): Hempel's 08080
- (d) POT LIFE: N/A
- (e) SPECIAL INSTRUCTIONS: This product contains heavy particles. Stir well before use.

VI. APPLICATION:

- (a) ENVIRONMENTAL LIMITATIONS:
SUBSTRATE TEMPERATURE: 23°F (-5°C) MIN. 120°F (49°C) MAX.
AMBIENT TEMPERATURE: 32°F (0°C) MIN. 104°F (40°C) MAX.
DIFFERENCE ABOVE THE DEW POINT: 5 °F (3 °C)
MAXIMUM PERCENT RELATIVE HUMIDITY: 85 %

- (b) FILM THICKNESS (SSPC PA2-73T): PER COAT:
 4.6 mils WET MIN. 10.7 mils WET MAX.
 3.0 mils DRY MIN. 7.0 mils DRY MAX.
 TOTAL SYSTEM:
 Dependent on primer selection and antifouling scheme

(c) DRY TIMES (ASTM D1640):

Minimum Overcoat Window:

19 Hours @ 50 °F (10°C)
 11 Hours @ 68 °F (20°C)
 8 Hours @ 86 °F (30°C)

Maximum Overcoat Window:

There is no maximum Hours @ 50 °F (10°C)
 There is not maximum Hours @ 68 °F (20°C)
 There is no maximum Hours @ 86 °F (30°C)

Dry to Handle:

24 Hours @ 50 °F (10°C)
 14 Hours @ 68 °F (20°C)
 10 Hours @ 86 °F (30°C)

Dry to Service:

(Immersion) 27 Hours @ 50 °F (10°C)
 (Immersion) 15 Hours @ 68 °F (20°C)
 (Immersion) 12 Hours @ 86 °F (30°C)

Graphs included on page 4 or additional information included on page N/A

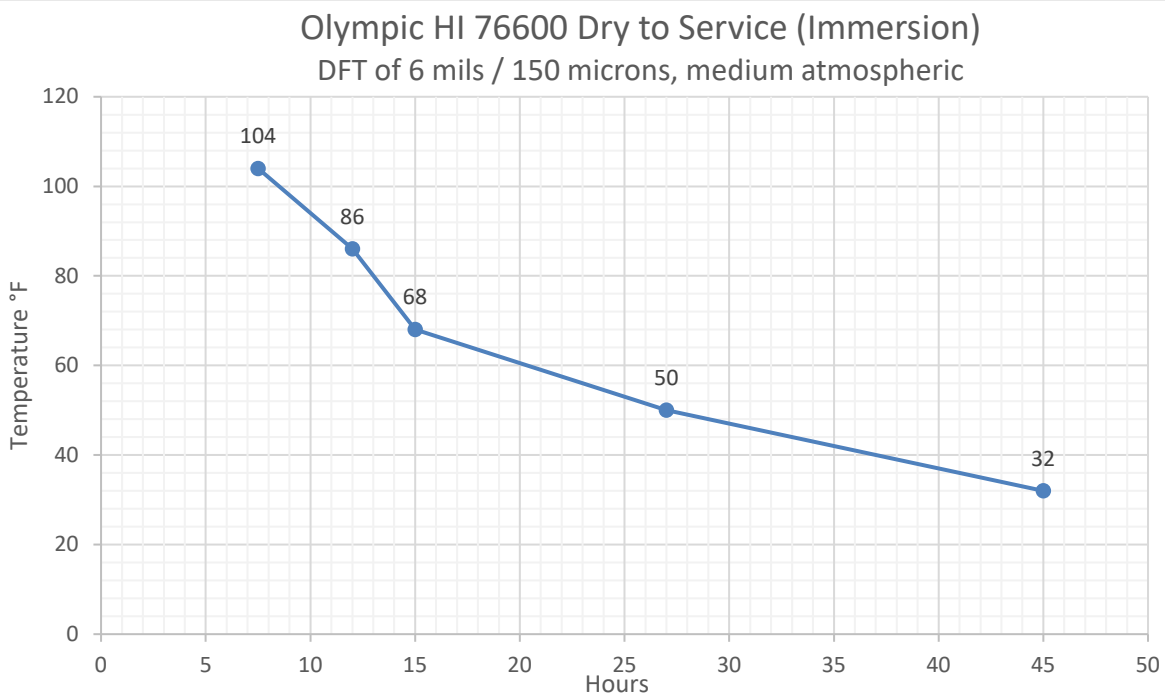
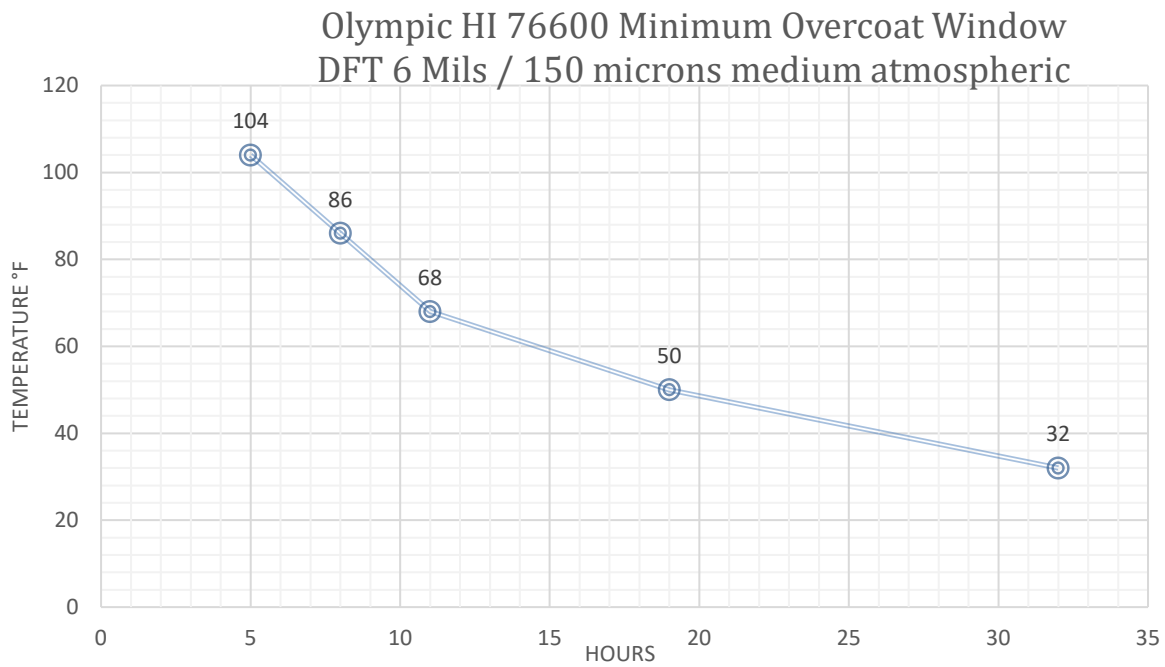
- (d) EQUIPMENT REQUIREMENTS: (INCLUDE PREFERRED, SUITABLE AND NOT SUITABLE REQUIREMENTS) -
 Airless spray equipment. Pump ratio: 45:1 (minimum) Pump output: 3+ gallons/minute (theoretical) Input pressure: 80 psi (minimum) Sprayhoses: Max 300 feet, 1/2" internal diameter, max 100 feet, 3/8" internal diameter, max 20 feet, 1/4" internal diameter Filter: 60mesh Nozzle size: .023"-.027" Fan angle: 60 degrees. Brush and roll for small areas only.

- (e) SPECIAL INSTRUCTIONS: To spray complicated surfaces, smaller nozzles should be used. After finishing the application, clean the equipment immediately with HEMPEL'S 08080. Increasing hose diameter may increase paint flow thereby improving the spray fan. If longer hoses are necessary, it may be necessary to raise the pump ratio to 60:1, maintaining the high output capacity of the pump. Airless spray data are indicative and subject to adjustment. Before recoating after exposure in a contaminated environment, clean the surface thoroughly by high-pressure fresh water hose and allow to dry. *CAUTION SHOULD BE TAKEN THAT SURFACE TEMPERATURE IS AT LEAST 5°F (3°C) ABOVE DEW POINT.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS: Although there is no "maximum" overcoat window care should be taken after prolonged exposure to polluted atmosphere. Remove accumulated contamination by high pressure fresh water cleaning and allow to dry before applying next coat. Please consult with you local Hempel representative.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR NON-CRITICAL APPLICATIONS: Although there is no "maximum" overcoat window care should be taken after prolonged exposure to polluted atmosphere. Remove accumulated contamination by high pressure fresh water cleaning and allow to dry before applying next coat. Please consult with you local Hempel representative.

GRAPHS FOR POT LIFE AND CURE TIMES:



ADDITIONAL DATA/INSTRUCTIONS:

I. GENERIC TYPE AND DESCRIPTION: NA

II. MANUFACTURERS DATA: NA

ASTM F 718

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

III. PROPERTIES: NA

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS: NA

V. MIXING PROCEDURES: NA

VI. APPLICATION: NA