

# Formula 152 Topcoat (MIL-DTL-24441 Type IV)



## Epoxy

**PRODUCT DESCRIPTION** A two pack epoxy finish. Exhibits excellent abrasion, chemical and solvent resistance.

**INTENDED USES** For use as a tough cosmetic finish for above/below water areas.  
For use at Newbuilding, Maintenance & Repair or On Board Maintenance.

**PRODUCT INFORMATION**

<b>Colour</b>	5902-White (FSC#27886)
<b>Finish/Sheen</b>	20 min
<b>Part B (Curing Agent)</b>	5911
<b>Volume Solids</b>	62% ±2% (ASTM D2697-86)
<b>Mix Ratio</b>	1 volume(s) Part A to 1 volume(s) Part B
<b>Typical Film Thickness</b>	125 microns dry (202 microns wet), 100 - 150 microns dry practical range equivalent to 161 - 242 microns wet
<b>Theoretical Coverage</b>	4.96 m <sup>2</sup> /litre at 125 microns dft, allow appropriate loss factors
<b>Method of Application</b>	Airless Spray, Brush, Conventional Spray, Roller
<b>Flash Point (Typical)</b>	Part A 37°C; Part B 39°C; Mixed 37°C (Setaflash) (ASTM D-3278)
<b>Induction Period</b>	2 hours @ 10 - 16°C; 1.5 hours @ 16 - 21°C; 0.5 hours above 21°C.

<b>Drying Information</b>	5°C	10°C	25°C	35°C
Touch Dry [ASTM D1640 7.5.1]	6 hrs	5.5 hrs	3 hrs	45 mins
Hard Dry [ASTM D1640 7.7]	25 hrs	18 hrs	6 hrs	6 hrs
Pot Life			6 hrs	

<b>Overcoating Data - see limitations</b>	<b>Substrate Temperature</b>							
	5°C		10°C		25°C		35°C	
<b>Overcoated By</b>	Min	Max	Min	Max	Min	Max	Min	Max
Formula 152 Topcoat (MIL-DTL-24441 Type IV)	25 hrs	7 days	18 hrs	7 days	6 hrs	7 days	6 hrs	5 days

**REGULATORY DATA** **VOC** 340 g/lit (2.84 lb/US Gal) as supplied (EPA Method 24)

**Note:** VOC values are typical and are provided for guidance purposes only. These may be subject to variation depending on factors such as differences in colour and normal manufacturing tolerances.

**MIL SPEC** MIL-DTL-24441C/31A(SH), Type IV

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### SYSTEMS AND COMPATIBILITY

Consult your International Paint representative for the system best suited for the surfaces to be protected.

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### SURFACE PREPARATIONS

Paint only clean, dry surfaces. Remove all grease, oil, soluble contaminants and other foreign matter by "solvent cleaning" (SSPC-SP1).

#### **Unpainted surfaces:**

Prepare surface and apply recommended primer. Apply one or more coats of Formula 152 Topcoat (MIL-DTL-24441 Type IV) as specified. (Consult the relevant primer data sheet for surface preparation and overcoating information.)

#### **Previously Painted Surfaces:**

Remove all mill scale, loose rust, loose paint and other foreign matter by "Hand or Power Tool Cleaning" (SSPC-SP2 or SP3, respectively).

Sand or 'Brush Blast' (SSPC-SP7) any hard glossy areas until dull. Spot prime bare areas as recommended and apply one or more coats of Formula 152 Topcoat (MIL-DTL-24441 Type IV) as specified. Consult the relevant primer data sheet for specific surface preparation and overcoating information. Check integrity of existing coating system and apply a representative test patch to confirm compatibility. Consult your International Paint representative for procedures.

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## Marine Coatings

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<b>APPLICATION</b>	Apply by conventional or airless spray. Application by other methods, brush or roller, may require more than one coat and is suggested for small areas only. Strain material through a minimum 60 mesh screen before application. Apply at 203 microns wet which will yield 125 microns dry film thickness. Consult the following equipment recommendations or utilize suitable equal.
<b>Mixing</b>	Material is supplied in 2 containers as a unit. Always mix a complete unit in the proportions supplied. (1) Agitate Part A with a power agitator, (2) Agitate Part B with a power agitator, (3) Combine entire contents of Part A and B and mix thoroughly with a power agitator. Allow the coating the appropriate sweat-in period.
<b>Thinner</b>	DO NOT THIN BEYOND YOUR STATE'S COMPLIANCY. Material is supplied at spray viscosity and normally does not need thinning. If thinning is necessary, thin up to a maximum of 8 ounces (237 ml) per gallon with International 5822 thinner.
<b>Airless Spray</b>	Minimum 28:1 ratio pump; 0.015" - 0.019" (381-483 microns) orifice tip; 3/8" (9.5 mm) ID high pressure material hose, 60 mesh tip filter.
<b>Conventional Spray</b>	DeVilbiss MBC-510 gun E tip and 704 air cap; 3/8" (9.5mm) ID material hose; double regulated pressure tank with oil and moisture separator.
<b>Brush</b>	Use appropriate size China bristle brush.
<b>Roller</b>	Use All Purpose Roller cover with 3/8" (9.5 mm) smooth to medium nap. Prewash roller cover to remove loose fibres prior to use.
<b>Cleaner</b>	International 5822
<b>Work Stoppages and Cleanup</b>	Clean all equipment immediately after use with International 5822 or International GTA415 (USA) thinner. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. Do not exceed pot life limitations. All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.
<b>Welding</b>	In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation. In North America do so in accordance with instruction in ANSI/ASC Z49.1 "Safety in Welding and Cutting."

## SAFETY

**All work involving the application and use of this product should be performed in compliance with all relevant national Health, Safety & Environmental standards and regulations.**

**Prior to use, obtain, consult and follow the Material Safety Data Sheet for this product concerning health and safety information. Read and follow all precautionary notices on the Material Safety Data Sheet and container labels. If you do not fully understand these warnings and instructions or if you can not strictly comply with them, do not use this product. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapour concentrations within safe limits and to protect against toxic or oxygen deficient hazards. Take precautions to avoid skin and eye contact (ie. gloves, goggles, face masks, barrier creams etc.) Actual safety measures are dependant on application methods and work environment.**

### EMERGENCY CONTACT NUMBERS:

USA/Canada - Medical Advisory Number 1-800-854-6813

Europe - Contact (44) 191 4696111. For advice to Doctors & Hospitals only contact (44) 207 6359191

R.O.W. - Contact Regional Office

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### LIMITATIONS

Apply in good weather when air and surface temperatures are above 5°C. Surface temperatures must be at least 3° C above dew point. For optimum application properties, bring material to 21-27°C prior to mixing and application. Unmixed material (in closed containers) should be maintained in protected storage between 4-38°C.

If more than 7 days elapses between coats, apply 25-50 microns of tack coat of any MIL-DTL-24441 product before topcoating.

Overcoating information is given for guidance only and is subject to regional variation depending upon local climate and environmental conditions. Consult your local International Paint representative for specific recommendations. Technical and application data herein is for the purpose of establishing a general guideline of the coating and proper coating application guidelines. Test performance results were obtained in a controlled laboratory environment and International Paint makes no claim that the exhibited published test results, or any other tests, accurately represent results actually found in all field environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection, verification of performance and use of the coating.

UNIT SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	10 US gal	5 US gal	5 US gal	5 US gal	5 US gal
For availability of other unit sizes consult International Paint					
UNIT SHIPPING WEIGHT (TYPICAL)	Unit Size	Unit Weight			
	10 US gal	128.6 lb			
STORAGE	Shelf Life	24 months minimum from date of manufacture when maintained in protected storage at 4-38° C. Subject to reinspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.			

**WORLDWIDE AVAILABILITY** Consult International Paint.

### IMPORTANT NOTE

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. We hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local representative that this data sheet is current prior to using the product.

This Technical Data Sheet is available on our website at [www.international-marine.com](http://www.international-marine.com) or [www.international-pc.com](http://www.international-pc.com), and should be the same as this document. Should there be any discrepancies between this document and the version of the Technical Data Sheet that appears on the website, then the version on the website will take precedence.

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