

# Duplex Fouling Release System

## PRODUCT DATA/APPLICATION INSTRUCTIONS FOR TIE COAT – 930 SERIES

### (For Marine & Industrial)

- Toughened tie coat layer provides superior adhesion between surface epoxy and Duplex System surface coat
- Provides enhanced durability to Duplex System silicone fouling release surface layer
- Provides longer system life
- Suitable for most vessels in a wide range of operating environments (8-43 knots)
- For lower or higher operating speeds, please inquire

### TYPICAL USES

- Marine and Industrial use where marine growth is a problem
- Where long-life fouling protection in severe service is required
- Where a reduction in operating costs and plant outages is desirable
- Where limiting time in dry dock is desirable
- Where reduced time is desired for maintenance and cleaning
- Where regulations ban or restrict the use of organotin TBT compounds, copper ablative, or other anti-fouling paints

### APPLICATION DATA

Adhere to all application instructions, precautions, conditions and limitations to obtain the maximum performance. For conditions outside the requirements or limitations described, contact your FUJIFILM Hunt Smart Surfaces, LLC representative.

### SURFACE PREPARATION

Coating performance, in general, is proportional to the degree of surface preparation. Refer to Duplex System application instructions.

Dependent upon condition of hull, plant equipment and other existing anti-fouling surfaces, cleaning will vary from high pressure water cleaning to abrasive blasting.

Apply over suitable epoxy primer system.

**Steel/Aluminum/Concrete/Other Surfaces:** Prepare surface in accordance with instructions for epoxy coating to be used.

Any recommendation or suggestion relating to the use of the products made by FUJIFILM Hunt Smart Surfaces, LLC, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable, however, the products and information are intended for use by Buyer's having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

### PHYSICAL DATA

<b>Finish:</b>	Matte	
<b>Color:</b>	Off white	
<b>Components:</b>	2	
<b>Curing mechanism:</b>	Solvent release/chemical reaction	
<b>Volume solids (ASTMD2697):</b>	72% (± 5%)	
<b>Dry film thickness per coat:</b>	6-12 mils (152-305 microns)	
<b>Coats:</b>	1	
<b>Theoretical coverage:</b>	ft <sup>2</sup> /gal	m <sup>2</sup> /L
@ 6-12 mil (152-305 microns)	96-192	2.36-4.72
	Allow for loss in mixing and application	
<b>VOC (EPA 24):</b>	lb/gal	g/L
	2.0	240
<b>Flash point (SETA):</b>	°F	°C
	<-4°	<-20°

### APPLICATION DATA

<b>Applied over:</b>	Prepared and primed steel, aluminum, fiberglass, concrete and other surfaces
<b>Surface preparation:</b>	SSPC-SP6 or SSPC-SP12-WJ2
<b>Method:</b>	Brush, roller or airless spray

#### Application Conditions:

CONDITION	MATERIAL	SURFACE	AMBIENT	HUMIDITY
Normal	60°- 85°F (16°- 29°C)	60°- 85°F (16°- 29°C)	60°- 80°F (16°- 27°C)	30 – 80%
Minimum	40°F (4°C)	40°F (4°C)	40°F (4°C)	30%
Maximum	90°F (32°C)	100°F (38°C)	90°F (32°C)	80%

*This product requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can interfere with proper adhesion. Special application techniques may be required above or below normal application conditions.*

#### Curing Schedule:

(Based on 12 mils, 305 microns dry film thickness)

SURFACE TEMP. & 50% RELATIVE HUMIDITY	DRY TO TOPCOAT WITH SURFACE COAT	CURE BEFORE IMMERSION
40°F (4°C)	2.5 Hours	2 Days
50°F (10°C)	2 Hours	2 Days
60°F (16°C)	1.5 Hours	1 Day
75°F (24°C)	1 Hour	1 Day
90°F (32°C)	1 Hour	1 Day

*Higher film thickness, insufficient ventilation, or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing may interfere with the cure. During high humidity conditions, it is recommended that the application be done while the temperatures are increasing. MAXIMUM topcoat times are 3 days at 75° F (24° C). If the maximum topcoat time has been exceeded, contact your FUJII Hunt Smart Surfaces, LLC representative for surface preparation recommendations prior to the application of topcoat.*

<b>Equipment cleaner:</b>	Hexane
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## APPLICATION EQUIPMENT

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

**Airless spray** – Standard equipment such as Graco King 56-1 Hydra-Spray or larger with a 0.021- to 0.025-inch (0.53 to 0.64mm) fluid tip. Equivalent airless spray equipment by other manufacturers is acceptable.

**Power mixer** – Jiffy mixer powered by an air- or an explosion-proof electric motor

## APPLICATION PROCEDURE

1. Stir material thoroughly and continue stirring during application to insure pigment suspension.
2. Thinning generally not needed. Thin only for workability; no more than 1 pint Hexane per gallon of Duplex Tie Coat. Viscosity measured with #5 Zahn Cup at 8 seconds
3. Apply a wet coat in even, parallel passes; overlap each pass 50 percent to avoid pinholes, bare areas or holidays. Give special attention to weld seams, rough or badly pitted areas. If required, cross spray at right angles. A stripe coat is required on sharp edges, corners and hard to reach areas.
4. For touch-up and repair, utilize the FUJIFILM Hunt Smart Surfaces, LLC Repair procedure. Consult your representative for specific recommendations.
5. **CLEAN APPLICATION EQUIPMENT IMMEDIATELY AFTER USE! Very thorough cleaning with Hexane, leaving no residue, is required to prevent hardening and setting of sprayer ball valves. After cleaning, flush the pump and lines thoroughly with Hexane.**
6. Mixing Ratio: 4:1 (Part A to Part B)
7. Pot Life: Hour at 75°F (24°C)  
*Pot life times will be less at higher temperatures*

## SAFETY PRECAUTIONS

Read material safety data sheet before use. Safety precautions must be strictly followed during storage, handling and use.

**CAUTION** – Improper use and handling of this product can be hazardous to health.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mist concentration within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interior and buildings.

This product is to be used by those knowledgeable about proper application methods. FUJIFILM Hunt Smart Surfaces, LLC makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which FUJIFILM Hunt Smart Surfaces, LLC is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

## SHIPPING DATA

<b>Packaging:</b>	1 gallon and 5 gallon containers (3.78 and 18.93 liters)	
<b>Shipping weight (approx):</b>	1 Gallon Kit 8 lbs (3.6 kg)	5 Gallon Kit 40 lbs (18.1 kg)

Shelf life when stored indoors at 40° to 80°F (4° to 25°C) 1 year from shipment date.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities.

Improper use and handling of this product can be hazardous to health.

## WARRANTY

FUJIFILM Hunt Smart Surfaces, LLC warrants its products to be free from defects in material and workmanship for a period of one year from the applicable delivery date if handled and used in accordance with FUJIFILM Hunt Smart Surfaces, LLC's storage, handling, preparation, application and use instructions and requirements. FUJIFILM Hunt Smart Surfaces, LLC's sole obligation and Buyer's exclusive remedy in connection with any defective products shall be limited, at FUJIFILM Hunt Smart Surfaces, LLC's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the defective products. Any claim under this Warranty must be made by Buyer to FUJIFILM Hunt Smart Surfaces, LLC in writing within (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify FUJIFILM Hunt Smart Surfaces, LLC of such defect as required herein shall bar Buyer from recovery under this Warranty.

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