

## TECHNICAL SPECIFICATION N° GR24E/20

Under water area and appendages GELCOAT - EPOXY - CARBON FIBRE



POLISHING ANTIFOULING PROFESSIONAL EXPLORER

**DRY DOCKING INTERVAL** 

**24 mois** 

Specification N°	GR24E/20	Désignation	Under water area and appendages GELCOAT - EPOXY - CARBON FIBRE
Original emission	September 2018	Application method	Roller or brush
Brings up-to-date origin	November 2020	Antifouling	Polishing Antifouling Professional Explorer
Writter	S. Llorens	Dry Docking Interval	24 mois

underwatersystems.fr

### **TECHNICAL SPECIFICATION N° GR24E/20**

**Under water area and appendages GELCOAT - EPOXY - CARBON FIBRE** 



#### Position under water area and appendages

### Under water area and appendages GELCOAT - EPOXY - CARBON FIBRE ORY DOCKING INTERVAL 24 months > POLISHING ANTIFOULING PROFESSIONAL EXPLORER

#### Surface preparation

Remove oil and grease, etc...with PROFESSIONAL DEGREASER. All under water area to be by high-pressure fresh water cleaned (min 250 bar) to remove salts and contamination. When the surface is dry : block sand with 180-220 grit paper move dust or sweep blasting in order to obtain roughness surface. Clean thorough and allow to dry completely.

#### Applicaton method



### **Roller or Brush**

Steps	Code	Product	Color	Coats	DFT per coat (µ)	WFT per coat (µ)	Theoretical spreading rate (m²/L)	Overco	ating 23°C	Overco	ating 15°C	Overco	ating 10°C	Thinner
								Min.	Max.	Min.	Max.	Min.	Max.	
1	EPGREY	PROFESSIONAL EPOXY PROTECT	GREY	FC or TU	60	120	9	3h	1 month	8h	1 month	12h	1 month	ETCLEAR 5%
Ļ	EPGREY	PROFESSIONAL EPOXY PROTECT	GREY	FC or TU	60	120	9	Зh	1 month	8h	1 month	12h	1 month	ETCLEAR 5%
2	EPWHITE	PROFESSIONAL EPOXY PROTECT	WHITE	FC or TU	60	120	9	3h	1 month	8h	1 month	12h	1 month	ETCLEAR 5%
Z	EPWHITE PROFESSIONAL EPOXY PROTECT	WHITE	FC or TU	60	120	9	3h	1 month	8h	1 month	12h	1 month	ETCLEAR 5%	
3	PPGREY	PROFESSIONAL PRIMER PROTECT	GREY	FC or TU	50	140	8,3	3h	1 month	3h	1 month	6h	1 month	AFTCLEAR 5%
	EBLACK ENAVY EWHITE 4 ERED EGREY	PROFESSIONAL EXPLORER	BLACK NAVY WHITE RED GREY	FC	60	120	8,8	6h	*	18h	*	20h	*	
4		PROFESSIONAL EXPLORER		FC	60	120	8,8	6h	*	18h	*	20h	*	
EGRE		PROFESSIONAL EXPLORER	GREEN	FC	60	120	8,8	*	*	*	*	*	*	
5	Drying time before undocking													
Э	<b>23°C</b> - 8h <b>15°C</b> - 24h <b>10°C</b> - 28h													

\* No maximum overcoating interval, but after prolonged exposure to polluted atmosphere, remove accumulated contamination by high pressure fresh water cleaning.



# **PROFESSIONAL EPOXY PROTECT**

Two-component epoxy primer

### **TECHNICAL DATA SHEET**

DESCRIPTI Thinner / C	<b>ON</b> Cleaner	Quick-drying, high performance epoxy primer that is easy to apply. It is suitable for substrates requiring a very high level of protection, above and below the waterline (steel, aluminium, composites, carbon and wood). Can be used on zones both in and out of the water. Optimised formula to allow for a longer period between coats. <b>Thinner:</b> PROFESSIONAL EPOXY THINNER <b>Cleaner:</b> Use PROFESSIONAL EPOXY THINNER for equipment cleaning.
Surface conditions		<b>Steel / Alloy / Iron / Lead / Aluminium:</b> For Aluminium, Lead and Zinc/Galvanised Steel. Degrease with PROFESSIONAL DEGREASER. Sand using 60-120 grade paper. For Steel, grit blast to Sa 2.5 - near white surface metal. Clean thoroughly and allow to dry completely.
		<b>Wood/Plywood</b> : Degrease with PROFESSIONAL DEGREASER. Sand smooth with 80-180 then 280 grade paper. Remove sanding dust by brushing or dusting. Wipe down with PROFESSIONAL DEGREASER and allow to dry completely.
		<b>GRP, EPOXY, CARBON FIBRE</b> : Degrease with PROFESSIONAL DEGREASER. Sand using 180-220 grade paper. Clean thoroughly and allow to dry completely.
INSTRUCT	IONS FOR USE	
	Mixing	<b>Mixing</b> Stir or shake individual components thoroughly. Add Curing Agent to the Base, stir and leave for 10 minutes to allow dispersion. <b>Other</b> For maximum performance to be achieved, the curing temperature should be above 10°C.
A + B	Mixing ratio	3/1
<u></u> μm	Dry Film Thickness (DFT)	60 microns dry by roller/brush (120 microns wet) 130 microns dry by airless spray gun (290 microns wet)
RECOMME		
Ő	Conditions	<b>Temperature:</b> 15-35°C (10°C min) <b>Ventilation and Humidity Control:</b> Ensure adequate ventilation during use
	Application Methods	Airless spray gun, roller, brush. <b>Airless spray gun:</b> Pressure 165 bar. <b>Tip Size:</b> 1880-2680
	Number of Coats	1-5 by roller depending on substrate and use 1-3 by airless spray gun depending on substrate and use



# **PROFESSIONAL EPOXY PROTECT**

Two-component epoxy primer

PHYSICAL	PROPERTIES		
	Drying Times (touch dry)	1 hour: at 23°C	
	Overcoating Times (with itself)	APPLICATION WITH ROLLER OR BRUSH 3 hours min – 1 month max: at 23°C 8 hours min. – 1 month max: at 15°C 12 hours min. – 1 month max: at 10°C	APPLICATION WITH AIRLESS SPRAY GUN 16 hours min – 1 month max: at 23°C 24 hours min. – 1 month max: at 15°C 30 hours min. – 1 month max: at 10°C
	Overcoating Times (with Polishing Antifouling Professional Explorer, Hard Antifouling Professional Racing ou Professional Epoxy Protect)	3 hours min. – 7 hours max: at 23°C* 6 hours min. – 8 hours max: at 15°C* 10 hours min. – 24 hours max: at 10°C* *without sanding. If exceeded, apply one coat of PROFESSIONAL PRIMER PROTECT and PROFESSIONAL EXPLORER or PROFESSIONAL RACING.	6 hours min. – 14 hours max: at 23°C* 8 hours min. – 18 hours max: at 15°C* 14 hours min. – 30 hours max: at 10°C* *without sanding. If exceeded, apply one coat of PROFESSIONAL PRIMER PROTECT and PROFESSIONAL EXPLORER or PROFESSIONAL RACING.
M <sup>2</sup>	Theoretical spreading rate	<b>By roller/brush:</b> 9m²/L per coat <b>By airless spray gun</b> : 3.3m²/L per coat	
VOC	Volatile Organic Compounds	VOC (As Supplied): 464 g/L	
3	Colours	Base (Component A): Grey or White Curing (Component B): Clear	
	Storage	Exposure to air and extremes of temperat For the full shelf life of this product to be re use the container is firmly closed and the and 35°C. Keep out of direct sunlight. This product should be kept in securely clo	ure should be avoided. ealized ensure that between temperature is between 5°C osed containers.
	Transportation	This product should be kept in securely clean	osed containers during transport.
	Compatibility / Substrates	Suitable for all listed substrates (cf Surface Do not apply over one pack products.	e conditions).
	Shelf Life	2 years	
	Safety Precautions	Comply with all local safety, disposal and Safety Data Sheet (MSDS) and label of th the products. The MSDS's are available o given in this sheet is not exhaustive and c <b>Disposal:</b> Do not discard tins or pour pair provided. It is best to allow paints to harde cannot be disposed of through the municip Disposal of remainders must be arranged	transportation regulations. Check the Material le individual products carefully before using n our website or on request. The information can be modified when necessary. Int into water courses, use the facilities en before disposal. Remainders of this product pal waste route or dumped without permit. for in consultation with the authorities.



## **PROFESSIONAL PRIMER PROTECT**

One-component tie coat primer

### **TECHNICAL DATA SHEET**

DESCRIPTIO	N	Quick-drying, one-component tie coat primer for application on all substrates in underwater zones. This primer is very easy to use, and can also be used as an insulating coat over a previous antifouling product whose type is not known. Apply one or more coats depending on the level of protection required. Can be used on underwater zones.
Thinner / C	leaner	Thinner: PROFESSIONAL THINNER Cleaner: PROFESSIONAL THINNER
Surface cor	nditions	<b>Steel / Alloy / Iron / Lead / Aluminium:</b> For Aluminium, Lead and Zinc/Galvanised Steel. Degrease with PROFESSIONAL DEGREASER. Sand using 60-120 grade paper. For Steel, grit blast to Sa 2.5 – near white surface metal. Clean thoroughly and allow to dry completely.
		<b>Wood/Plywood</b> : Degrease with PROFESSIONAL DEGREASER. Sand smooth with 80-180 then 280 grade paper. Remove sanding dust by brushing or dusting. Wipe down with PROFESSIONAL DEGREASER and allow to dry completely.
		<b>GRP, epoxy, carfon fibre:</b> Degrease with PROFESSIONAL DEGREASER. Sand using 180-220 grade paper. Clean thoroughly and allow to dry completely.
		OLD / AGED ANTIFOULING: In Good Condition: Remove loose material. Wash down with fresh water. Allow to dry. In Poor Condition: Remove.
INSTRUCTI	ONS FOR USE	
	Mixing	Stir well before use.
<b>1</b> μm	Dry Film Thickness (DFT)	50 microns dry by brush/roller (140 microns wet) 70 microns dry by airless spray gun (210 microns wet)
APPLICATI	ON RECOMMENDATIONS	
Ś	Conditions	Temperature: 15-35°C
	Application Methods	Airless spray gun, roller, brush.

Airless spray gun: Pressure: 211 bar. Tip Size: 2180-2680.

Number o	f Coats

1-6 by roller depending on substrate1-4 by airless spray gun depending on substrate



# **PROFESSIONAL PRIMER PROTECT**

One-component tie coat primer

#### **PHYSICAL PROPERTIES**

	Drying Times (touch dry)	1 hour: at 23°C
	Overcoating Times (with itself)	<b>3 hours minimum – 1 month maximum</b> : at 23°C <b>3 hours minimum – 1 month maximum</b> : at 15°C <b>5 hours minimum – 1 month maximum</b> : at 10°C
	Overcoating Times (with Polishing Antifouling Professional Explorer, Hard Antifouling Professional Racing ou Professional Epoxy Protect)	3 hours minimum – 1 month maximum: at 23°C 3 hours minimum – 1 month maximum: at 15°C 6 hours minimum – 1 month maximum: at 10°C
M <sup>2</sup>	Theoretical spreading rate	By roller/brush: 8.3m²/L per coat By airless spray gun: 4.4m²/L per coat
voc	Volatile Organic Compounds	VOC (As Supplied) 585 g/L
٩	Colours	Grey

#### **GENERAL INFORMATION**

$\Box$	Storage	Exposure to air and extremes of temperature should be avoided. For the full shelf life of this product to be realized ensure that between use the container is firmly closed and the temperature is between 5°C and 35°C. Keep out of direct sunlight. This product should be kept in securely closed containers.
	Transportation	This product should be kept in securely closed containers during transport.
	Compatibility / Substrates	Suitable for all listed substrates (cf Surface conditions). Do not overcoat with 2-component products.
	Shelf Life	2 years
	Safety Precautions	Comply with all local safety, disposal and transportation regulations. Check the Material Safety Data Sheet (MSDS) and label of the individual products carefully before using the products. The MSDS's are available on our website or on request. The information given in this sheet is not exhaustive and can be modified when necessary.
		<b>Disposal:</b> Do not discard tins or pour paint into water courses, use the facilities provided. It is best to allow paints to harden before disposal. Remainders of this product cannot be disposed of through the municipal waste route or dumped without permit. Disposal of remainders must be arranged for in consultation with the authorities.



## POLISHING ANTIFOULING PROFESSIONAL EXPLORER

High performance polishing antifouling

### **TECHNICAL DATA SHEET**

DESCRIPTION	High performance antifouling product. Its controlled polish rate makes the application of multiple coats unnecessary. Its formula offers protection for up to 24 months and it can be applied up to 6 months before launch. Suitable for application to all substrates below the waterline, including aluminium (hull, propeller, thruster).
Thinner / Cleaner	<b>Thinning:</b> Thinning is not recommended. Antifouling performance can be compromised if correct dry film thickness is not applied. For spray application, PROFESSIONAL THINNER can be used to ease application. <b>Cleaner:</b> PROFESSIONAL THINNER
Surface conditions	<ul> <li>PREVIOUSLY ANTIFOULED SURFACE:</li> <li>In Good Condition: All fouling and contamination must be thoroughly removed including the leached layer. Use high pressure fresh water wash (3000 psi/207 bar) and/or scraping and wet sanding with typically 80/120 grade paper. Do not dry sand. If old antifouling is incompatible or unknown, seal with PROFESSIONAL PRIMER PROTECT. In Poor Condition: Remove all traces of antifouling.</li> <li>PRIMERS: All preparation for bare substrates is covered on the appropriate primer datasheet.</li> <li>BARE GRP, EPOXY, CARBON FIBRE: Prime with PROFESSIONAL EPOXY PROTECT or PROFESSIONAL PRIMER PROTECT. STEEL/ALUMINIUM/LEAD/WOOD: Prime with PROFESSIONAL EPOXY PROTECT or PROFESSIONAL PRIMER PROTECT.</li> </ul>

#### **INSTRUCTIONS FOR USE**

	Mixing	Thoroughly stir until product is mixed to a uniform consistency before use.
	Immersion Time	8 hours minimum at 23°C
		24 hours minimum at 15°C
		28 hours minimum at 10°C
		Maximum 6 months
<b>1</b> μm	Dry Film Thickness (DFT)	60 microns dry by roller/brush(120 microns wet) 90 microns dry by airless spray gun (160 microns wet)

#### **APPLICATION RECOMMENDATIONS**

Ö	Conditions	<b>Temperature :</b> 15-35°C <b>Ventilation and Humidity Control :</b> Ensure adequate ventilation during use. Substrate temperature should be 3°C above dew point and maximum 35°C.
	Application Methods	Airless spray gun, roller, brush <b>Airless spray gun :</b> Pressure 176-220 bar / 2500-3200 psi. <b>Tip size:</b> 517-521
	Number of Coats	<ul> <li>By roller/brush</li> <li>Apply 2 coats of 60 microns dry for 12 months (Total DFT of 120 microns) or 3 coats of 60 microns dry for 24 months (Total DFT of 180 microns).</li> <li>By airless spray gun (Professional only)</li> <li>Apply 1 coat of 90 microns dry for 12 months (Total DFT of 90 microns) or 2 coats of 90 microns dry for 24 months (Total DFT of 180 microns).</li> <li>In all schemes, apply an extra stripe coat in areas of high wear such as chines, rudders, sterngear and any leading edges.</li> </ul>



## POLISHING ANTIFOULING PROFESSIONAL EXPLORER

High performance polishing antifouling

PHYSICAL P	ROPERTIES	
	Drying Times (touch dry)	30 minutes: at 23°C
	Minimum Overcoating Times (with itself)	6 hours: at 23°C 18 hours: at 15°C 20 hours: at 10°C
M <sup>2</sup>	Theoretical spreading rate	<b>By roller/brush:</b> 8.8m²/L per coat <b>By airless spray gun:</b> 6m²/L per coat
voc	Volatile Organic Compounds	VOC (As Supplied) 424 g/L average VOC (EU Solvent) 298 g/Kg average EU Solvent Emissions Directive (Council Directive 1999/13/EC)
3	Colours	Black Navy White Red Grey Green True colour will develop after immersion
GENERAL IN	IFORMATION	
$\square$	Storage	Exposure to air and extremes of temperature should be avoided. For the full shelf life of this product to be realized ensure that between use the container is firmly closed and the temperature is between 5°C and 35°C. Keep out of direct sunlight. This product should be kept in securely closed containers.To prevent premature failure, ensure the correct amount of paint is applied using the coverage as a guide. Product temperature should be minimum 5°C and maximum 35°C. Ambient temperature should be minimum 5°C and maximum 35°C.
	Transportation	I his product should be kept in securely closed containers during transport
	Compatibility / Substrates	Suitable for all listed substrates (cf Surface conditions) including suitably primed Aluminium/Alloy and Zinc-sprayed surfaces. Can be applied direct over most types of antifoulings, provided they are in sound condition, with the exception of PTFE antifoulings.
	Shelf Life	2 years
	Safety Precautions	Contains biocides. Antifoulings should only be wet sanded. Never dry sand or burn off old antifoulings. Comply with all local safety, disposal and transportation regulations. Check the Material Safety Data Sheet (MSDS) and label of the individual products carefully before using the products. The MSDS's are available on our website or on request. The information given in this sheet is not exhaustive and can be modified when necessary. <b>Disposal:</b> Do not discard tins or pour paint into water courses, use the facilities provided. It is best to allow paints to harden before disposal. Remainders of this product cannot be disposed of through the municipal waste route or dumped without permit. Disposal of remainders must be arranged for in consultation with the authorities.