# ENVIROBASE®

## **Product Information**

## **ENVIROBASE<sup>®</sup> High Performance Waterborne Basecoat**

#### **Product Description**

*Envirobase* High Performance is a premium waterborne color system for use in repair and repainting of motor vehicles. Industry leading color capability is easily achieved when applied as part of a two or three-stage basecoat/ clearcoat paint process. Mixed *Envirobase* High Performance color reproduces the original OEM solid, metallic, mica, or XIRALLIC<sup>®</sup> paint finish of virtually all OEM manufacturer's worldwide.

*Envirobase* High Performance products are engineered to reduce volatile organic compounds (VOC) and will exceed all of today's legislative VOC restrictions throughout the United States and Canada.

*Envirobase* High Performance waterborne color system is also capable of producing internal colors for under the hood as well as interior color repair. For additional information, see *Envirobase* product bulletins EB145 for internal color and EB511 for interior color.

#### **Preparation of Substrate**



Starting with original OE finishes or over recommended undercoats on new parts.

In all cases, wash all surfaces to be painted with soap and water. Final clean with an appropriate waterborne cleaner. Ensure that the substrate is thoroughly cleaned and dried before starting repair.



Apply *Envirobase* High Performance after sanding with European P800-P1200 / US 500-600 grade paper.



Wash off residue and dry thoroughly before re-cleaning with appropriate waterborne substrate cleaner. The use of a tack rag is recommended.

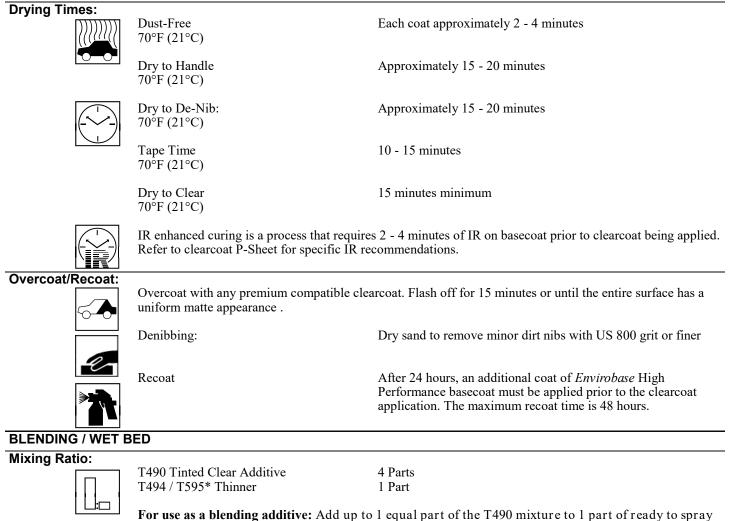
- Before mixing, gently hand shake bottles of the *Envirobase* High Performance toners for a few seconds before use. Do not place toners or mixed color on shaker or mechanically agitate.
- Mixed *Envirobase* High Performance color should be thoroughly hand-stirred before application. If not used immediately it should be hand-stirred again before use.
- Use nylon 125 micron paint filters specially designed for use with waterborne paint materials.



APPLICATION GU	-					
Mixing Ratio:	<i>Envirobase</i> High Performance Color T494/T595* Thinner		1 Part basecoat 10% by volume for solid color 20% by volume for metallic / pearl color 30% by volume for tinted mid-coat color			
		OR				
$\prod_{i=1}^{n}$	<i>Envirobase</i> High Performance Color T492 Adjuster† T493 Modifier‡ (optional)		1 Part solid color 10% by volume of mixed color 5% by volume of mixed color			
	<i>Envirobase</i> High Performance Metallic / Pe T492 Adjuster† T493 Modifier‡ (optional)	earl Color	1 Part metallic / pearl color 10% by volume of mixed color 5% by volume of mixed color			
			+10% by volume of mixed color			
	<i>Envirobase</i> High Performance Tinted Mid-C T492 Adjuster† T493 Modifier‡(optional)	Coat Color	1 Part mid-coat color 10% by volume of mixed color 5% by volume of mixed color			
	T494/T595* Thinner		+20% by volume of mixed color			
	* T595 is for use in high heat, low humidity conditions	only. See thinner selec	ction guide on page 8 for additional information.			
			h as bumpers and fascias. It will not affect color or potlife. DO ds DIN4. Final reduction with T494 may vary from 0 - 30%.			
	vehicles that experience rough road conditions such as	sustained driving off p	with the highest level of film integrity. It is recommended for aved roads. It will not affect color however potlife is reduced to Reduce with T494 as needed to obtain 23-28 seconds DIN4. T494			
Pot Life:	Un-activated, 90 days stored in sealed plastic containers. Activated, pot life is 1 hour at 70°F (21°C). Hand stir well before using. Do Not mechanically shake.					
	Always strain before use (nylon 125 micron is recommended).					
Additives:	Reduce with T494 as needed to obtain 23-23	8 seconds DIN4 cu	ıp.			
	Fluid Tip:	1.2 - 1.4 mm or e	avivalant			
Spraygun Setup:	Spray Viscosity:		DIN4 at 70°F (21°C)			
Spray Pressure:		Color Coat	Control Coat			
	HVLP at the air cap	\$ \$	ş			
	Compliant at the spray gun \$Spray gun pressure will vary by manufacturer. Refer t Bulletins & Product Index tab for manufacturer's setup	o DOX440 Waterborn	§ e Gun Setup Chart on ppgrefinish.com <i>Envirobase /</i> Technical			
Application:	All repairs:		ats plus control coat¶			
	2 - 5 coverage coars plus control coat					
	Horizontal surfaces may benefit from two control coats. Vertical surfaces may only require one control coat. Check vertical surfaces after first control coat and decide if a second control coat is needed.					
	¶A control coat is not required for solid colors.					
lash Off:	Between Coats:	2 - 4 minutes with	h air dryers to achieve a matte finish			
70°F (21°C)	Final Flash off:		t, allow basecoat to dry naturally. Force drying at is not necessary.			
	Note: Use recommended air drying equipment, hand held blowers or wall mounted units. Do not use spray gun for dehydrating basecoats.					

Note: Temperature, humidity, air movement and film build affect dry times. The best results are achieved with increased temperature and air movement with minimal film builds.

#### APPLICATION GUIDE (cont'd):



color and fade into the prepared blend panel.

**For use as a wet bed:** Apply 1 medium light coat of the T490 mixture to the blend panel and or the entire repair panel and allow to dry. Wet bed will appear blue when wet but dries translucent. Once dry, apply color.

\* T595 is for use in high heat, low humidity conditions only. See thinner selection guide on page 6 for additional information.

Mixing Ratio:	Ground Coat		Pearl Coat			
-	Mixed color	1 part	Mixed Color	1 part		
	T492 (optional)†	10%	T492 (optional) <sup>†</sup>	10%		
	T494/T595* Thinner	10%**	T494/T595* Thinner	20%**		
	T493 Modifier‡(optional)	5%	T493 Modifier‡(optional)	5%		
	DO NOT add more than 10%. Redu 30%.	uce with T494 as neede	ding edge parts such as bumpers and fascias. It ed to obtain 23-28 seconds DIN4. Final reduction ly. See thinner selection guide on page 8 for ac	on with T494 may vary from 0 -		
	**Note: Percentage by volume. If using T492 Adjuster, see page 2 for proper use.					
	road conditions such as sustained d in conjunction with T492 and DO N 10% -40%.	riving off paved roads. NOT exceed 5%. Redu	evel of film integrity. It is recommended for ve It will not affect color however potlife is reduc ce with T494 as needed to obtain 23-28 second	ed to about 1 hour. Always use		
Pot Life:	Un-activated, 90 days stored Activated, pot life is 1 hour Hand stir well before using.	at 70°F (21°C).				

3 STAGE PEARL P	· · ·						
Spraygun Setup:	Fluid Tip:		4 mm or equ				
	Spray Viscosity:	25 - 28	seconds DI	N4 at 70°F (21°C)			
Spray Pressure:		Color	Coat	Control Coat			
	HVLP at the air cap Compliant at the spray gun	\$ \$		\$ \$			
	§Spray gun pressure will vary by manu	facturer. Refer to DOX44	0 Waterborne (	·	nish.com <i>Envirobase /</i>		
Application:	Technical Bulletins & Product Index ta Ground Coat	b for manufacturer's setup	Pearl Co	oat			
	<ul> <li>Apply single coats until op</li> <li>Flash off thoroughly betwee</li> <li>Avoid heavy application and</li> </ul>	en coats.	<ul> <li>Red reco</li> <li>Detail</li> </ul>	uce Pearl Coat to 30% mmended options ermine number of coat	-		
	<ul><li>builds.</li><li>Use air movement equipment</li></ul>	ent to dehydrate	<ul><li>pane</li><li>App</li></ul>	ly single light coats			
	basecoat as necessary.			h off thoroughly betwe	een coats.		
	• A control coat is not required for ground coat			ly control coat and alle pearl color layer is no city.	•		
Flash Off:	Flash off until uniformly matte	in appearance	opa	ity.			
70°F (21°C)	Note: Use recommended air dry gun for dehydrating basecoats.		l held blowe	rs or wall mounted un	its. Do not use spray		
Drying Time:	Wait until ground coat is uniformly dry before applying pearl coat Force drying of the control coat is not not						
	MID COAT PROCESS		<b>T</b> <sup>•</sup> 4 11				
Mixing Ratio:	Ground Coat		I inted I	Mid Coat			
	Color T492 (optional)† T494/T595* Thinner T493 Modifier‡(optional)	1 part 10% 20%** 5%		otional)† 95 Thinner odifier‡(optional)	1 part 10% 30%** 5%		
	<ul> <li>†T492 Adjuster enhances the EHP basecoat system for leading edge parts such as bumpers and fascias. It will not affect color or potlife. DO NOT add more than 10%. Reduce with T494 as needed to obtain 23-28 seconds DIN4. Final reduction with T494 may vary from 0 - 30%.</li> <li>* T595 is for use in high heat, low humidity conditions only. See thinner selection guide on page 8 for additional information.</li> </ul>						
	**Note: Percentage by volume. If using	g T492 Adjuster, see page	2 for proper us	e.			
	‡T493 Modifier provides EHP basecoa road conditions such as sustained drivin in conjunction with T492 and DO NOT 10% -40%.	ng off paved roads. It will	not affect colo	r however potlife is reduced	to about 1 hour. Always u		
Pot Life:	Un-activated, 90 days stored in sealed plastic containers. Activated, pot life is 1 hour at 70°F (21°C). Hand stir well before using. Do Not mechanically shake.						
	Always strain before use (nylor	125 micron is recor	nmended).				
Spraygun Setup:	Fluid Tip: Spray Viscosity:		4 mm or eq seconds DI	uivalent N4 at 70°F (21°C)			
Spray Pressure:		Color	Coat	Control Coat			
	HVLP at the air cap Compliant at the spray gun	ş ş	-	§ §			
	§Spray gun pressure will vary by manu Technical Bulletins & Product Index ta			Gun Setup Chart on ppgrefin	nish.com <i>Envirobase /</i>		

§Spray gun pressure will vary by manufacturer. Refer to DOX440 Waterborne Gun Setup Chart on ppgrefinish.com Envirobase / Technical Bulletins & Product Index tab for manufacturer's setup information.

#### 3 STAGE TINTED MID COAT PROCESS (cont'd):

#### Application:

- Ground Coat
- Apply single coats until opacity is achieved.
  - Flash off thoroughly between coats.Avoid heavy application and excessive film
  - builds.Use air movement equipment to dehydrate basecoat as necessary.
  - A control coat is not required for ground coat

#### **Tinted Mid Coat**

- Apply single light coats based on color check panels.
- Flash off thoroughly between coats.
- The mid coat layer is not designed to give opacity.
- Flash off the mid coat until it is uniformly dry before applying clearcoat, approximately 15 minutes.
- A control coat is not required for the tinted midcoat layer.

#### **Minor Repair Guidelines**

#### Dirt nibs or other defects in the Envirobase High Performance paint film may be repaired as follows:

- 1. Allow the surface to completely flash-off.
- 2. Dry sand the defect with P1500/US 800 grade paper or finer or with a fine abrasive pad or in combination with a small amount of SXA330 Wax and Grease Remover as a sanding lubricant.
- 3. Remove sanding dust from the surface by strong air blowing with a clean air supply
- 4. Tack off surface with SX1070 tack rag.
- 5. Re-coat the surface with Envirobase High Performance as normal.

### Compatibility

Low VOC Markets	National Rule Ma	rkets	
<i>Envirobase</i> High Performance EPW115 Waterborne Speed Prime ECP1x A-Chromatic Surfacer <sup>1</sup> ECS2x A-Chromatic LV Sealer EC520 En-V <sup>®</sup> High Production Clearcoat EC530 <i>En-V</i> Performance Clearcoat EC550 <i>En-V</i> Ultra Gloss Clearcoat EC700 Series Clearcoats EC800 Series Clearcoats	<i>Envirobase</i> High Perfor EPW115 Waterborne S ECP1x A-Chromatic Su ECS2x A-Chromatic LV ECS6x A-Chromatic Se EC520 <i>En-V</i> High Prod EC530 <i>En-V</i> Performan EC550 <i>En-V</i> Ultra Glos EC700 Series Clearcoat EC800 Series Clearcoat	peed Prime Infacer <sup>1</sup> V Sealer valer uction Clearcoat uce Clearcoat uce Clearcoat s Clearcoat s	
ONECHOICE <sup>®</sup> SXA103 Aerosol MULTI-PREP <sup>™</sup> SXA1031 Aerosol Etch Prime - Gray <sup>1</sup> (cut throughs only) SXA1050 Aerosol Plastic Adhesion Promoter <sup>1</sup> SX1071 ECOBASE <sup>™</sup> 5.5 Etch Prime <sup>1</sup> SWX350 H <sub>2</sub> O-SO-CLEAN <sup>®</sup> Waterborne Pre Cleaner Plastic Prep System <sup>2</sup> (SU4901, SUA4903) SU470LV 1K Compliant Adhesion Promoter SUA470LV 1K Compliant Adhesion Promoter (Aerosol)	SX1050 Plastic Adhesio SWX350 H <sub>2</sub> O-So-Clean	<i>n</i> Waterborne Pre Cleaner U4901, SU4902, SU4903, SUA4 nt Adhesion Promoter <sup>2</sup> aler rfacer	903)
GLOBAL REFINISH SYSTEM <sup>®</sup> D8188 Glamour LV Clearcoat D8126 CERAMICLEAR <sup>®</sup>	<u>Global Refinish System</u> D800x <sup>1</sup> D8115 D8117	D8150 D8126 D8152	D893 D894
DELTRON <sup>®</sup> DPLV Low VOC Epoxy Primer NCP280 <sup>1</sup> Low VOC Primer Surfacer DC4010 Velocity Premium Clear LV DC4125 <i>CeramiClear</i>	Deltron DPS305x <sup>1</sup> DPS3105 DPLV Epoxy DPLF <sup>1</sup>	K36 DPX801 <sup>2</sup> DC2000 DC4000	DC4125 DCU2002 DCU2021 DCU2042
<sup>1</sup> For optimum performance a 2K primer and sealer must be used. <sup>2</sup> Must be primed or sealed.			

#### **TECHNICAL DATA**

**Theoretical coverage** (RTS), giving 12.7μm (0.5 mils) dry film thickness, 324-786 4sq. ft. per US gallon. **Percent solids by volume RTS** 10.1 - 24.5%

<b>RTS</b> Combinations	Color	Color : T494/T595	Color : T494/T595	Color : T494/T595
Applicable Use Category	Color Coating	Color Coating	Color Coating	Color Coating
Ratio	Packaged	1:10%	1:20%	1:30%
VOC Actual (g/L)	53-125	49-114	47-107	46-99
VOC Actual (lbs./ US gal.)	0.44-1.03	0.41-0.95	0.39-0.89	0.38-0.83
VOC Regulatory (g/L)	257-395	253-399	261-405	266-419
VOC Regulatory (lbs./US gal.)	2.11-3.30	2.15-3.33	2.18-3.38	2.22-3.50
Density (g/L)	993-1231	993-1209	993-1191	993-1177
Density (lbs./US gal.)	8.29-10.27	8.29-10.09	8.29-9.94	8.29-9.82
Volatiles wt. %	58.5-86.2	61.5-87.5	64.3-88.5	66.6-89.40
Water wt. %	50.7-81.0	54.2-82.5	57.3-83.8	59.9-84.9
Exempt wt. %	0.0	0.0	0.0	0.0
Water vol. %	62.5-81.1	65.7-82.6	68.4-83.9	70.6-85.0
Exempt vol. %	0.0	0.0	0.0	0.0
RTS Solids vol. %	13.1-27.0	11.9-24.5	10.9-22.5	10.1-20.8
RTS Solids wt. %	13.8-41.5	12.5-38.5	11.5-35.7	10.6-33.4

<b>RTS</b> Combinations	T490 : T494/T595	Color : T492 : T494/T595	Color : T492 : T494/T595
Applicable Use Category	Uniform Finish Coating	Color Coating	Color Coating
Ratio	4:1	1:10%:10%	1:10%:20%
VOC Actual (g/L)	90	49-108	47-101
VOC Actual (lbs./ US gal.)	0.75	0.41-0.90	0.39-0.84
VOC Regulatory (g/L)	379	255-388	259-393
VOC Regulatory (lbs./US gal.)	3.16	2.13-3.24	2.16-3.28
Density (g/L)	993	996-1194	996-1178
Density (lbs./US gal.)	8.29	8.31-9.96	8.31-9.83
Volatiles wt. %	85.7	63.2-87.2	65.6-88.1
Water wt. %	wt. % 76.7		58.8-83.5
Exempt wt. %	0.0	0.0	0.0
Water vol. %	76.3	67.0-82.5	69.4-83.7
Exempt vol. %	0.0	0.0	0.0
RTS Solids vol. %	13.8	12.2-23.7	11.2-21.9
RTS Solids wt. %	14.3	12.8-36.8	11.9-34.4

#### **TECHNICAL DATA CONTINUED**

RTS Combinations	Color : T492 : T494/T595	Color : T492 : T493 : T494/ T595	T490 : T492 : T493 : T494/ T595 Color Coating	
Applicable Use Category	Color Coating	Color Coating		
Ratio	1:10%:30%	1 : 10% : 5% : 10%	1 : 10% : 5% : 20%	
VOC Actual (g/L)	44-95	61-117	59-110	
VOC Actual (lbs./ US gal.)	0.37-0.79	0.51-0.98	0.49-0.92	
VOC Regulatory (g/L)	262-393	268-385	272-388	
VOC Regulatory (lbs./US gal.)	2.19-3.28	2.24-3.21	2.27-3.24	
Density (g/L)	996-1165	998-1188	998-1173	
Density (lbs./US gal.)	ensity (lbs./US gal.) 8.31-9.72		8.33-9.79	
Volatiles wt. % 67.7-89.0		62.1-84.9	64.5-86.0	
Water wt. %	61.2-84.5 54.0-78.8		56.8-80.2	
Exempt wt. %	Exempt wt. % 0.0		0.0	
Water vol. %	71.4-84.5	64.3-79.2	66.8-80.6	
Exempt vol. %	0.0	0.0	0.0	
RTS Solids vol. %	10.4-20.3	14.1-25.2	13.0-23.3	
RTS Solids wt. %	ds wt. % 11.0-32.2		14.0-35.5	

<b>RTS</b> Combinations	T490 : T492 : T493 : T494/ T595	Color : T492	Color : T492 : T493	
Applicable Use Category	Color Coating	Color Coating	Color Coating	
Ratio	1 : 10% : 5% : 30%	1:10%	1:10%:5%	
VOC Actual (g/L)	56-104	52-116	65-126	
VOC Actual (lbs./ US gal.)	0.47-0.87	0.43-0.97	0.54-1.05	
VOC Regulatory (g/L)	276-389	252-333	265-337	
VOC Regulatory (lbs./US gal.)	2.30-3.25	2.10-2.78	2.21-2.81	
Density (g/L)	998-1161	996-1212	998-1212	
Density (lbs./US gal.)	8.33-9.69	8.31-10.11	8.33-10.05	
Volatiles wt. %	66.6-87.0	60.4-86.0	59.4-83.6	
Water wt. %	59.2-81.4	52.9-80.9	50.9-77.1	
Exempt wt. %	0.0	0.0	0.0	
Water vol. %	68.9-81.8	64.2-81.1	61.4-77.6	
Exempt vol. %	0.0	0.0	0.0	
RTS Solids vol. %	12.1-21.7	13.3-25.9	15.3-27.4	
<b>RTS Solids wt. %</b> 13.0-33.4		14.0-39.6	16.4-40.6	

#### Envirobase High Performance Waterborne Thinner Selection Guide

				Below	w 30% R	elative	Humidit	у			
					TEMP	ERATUR	E				
4	55°F	60°F	65°F	70°F	75°F	80°F	85°F	90°F	95°F	100°F+	<b></b>
	13°C	15°D	18°C	21°C	24°C	27°C	29°C	32°C	35°C	38°C+	
					т494 —					← т595 —	<b>→</b>
				Abov	ve 30% R	elative	Humidit	У		<u> </u>	—
						т494 ——					<b>→</b>
	ing T595 wate lend waterbor			•					0	ecoat.	

#### **Health and Safety**

See Safety Data Sheet and Labels for additional safety information and handling instructions.

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•	The contents of this package may have to be blended with other components before the product can be used. Before opening the packages, be sure you understand the warning messages on the labels and SDS of all the components, since the mixture will have the hazards of all its parts.
	Improper handling and use, for example, poor spray technique, inadequate engineering controls and/or lack of proper Personal Protective Equipment (PPE), may result in hazardous conditions or injury.
<b>•</b>	Follow spray equipment manufacturer's instructions to prevent personal injury or fire.
	Provide adequate ventilation for health and fire hazard control.
	Follow company policy, product SDS and respirator manufacturer's recommendations for selection and proper use of respiratory protection. Be sure employees are adequately trained on the safe use of respirators per company and regulatory requirements.
•	Wear appropriate PPE such as eye and skin protection. In the event of injury, see first aid procedures on SDS.
•	Always observe all applicable precautions and follow good safety and hygiene practices.
Equipment • Cleaning	Clean all mixing equipment immediately after use, preferably using a dedicated waterborne equipment cleaning machine with a final rinse using waterborne thinner. Ensure all equipment is completely dry before storage or use.
Storage & Handling	of <i>Envirobase</i> High Performance
•	<i>Envirobase</i> High Performance tinters, <i>Envirobase</i> High Performance mixed color & waterborne thinner should be stored in a cool, dry place away from sources of heat. During storage and transportation, temperature must be maintained at a minimum of 41°F or +5°C or and a maximum of 120°F or 49°C. Avoid exposure to frost or freezing conditions.
•	<i>Envirobase</i> High Performance should be mixed in clean, dry plastic containers and equipment. Do not use mixing vessels or spray equipment that contains solvent residues. Mixing vessels should ideally be plastic - if metal the container should be stainless steel or have an internal anticorrosion coating.
•	Store waterborne & solvent borne wastes separately. A competent agent with appropriate certification must handle all waterborne wastes. Waste must be disposed of in accordance with all Federal, State, Provincial and local laws and regulations.
•	Blended to spray basecoat color with T493 Modifier has a flash point above 200°F and may be disposed in the waterborne waste stream intended for basecoat color (without activator). The waste disposal facility should be informed that the waste stream contains isocyanates. T493 Modifier handled alone should be disposed in the solvent borne waste stream.
•	The <i>Envirobase</i> High performance waterborne paint residues should be segregated from all other wastes and kept in a separate closed lined container. The <i>Envirobase</i> High Performance waterborne paint residues must be disposed or in accordance with all Federal, State, Provincial and local laws and regulations.

#### Emergency Medical or Spill Control Information: (412) 434-4515; In Canada (514) 645-1320

Materials described are designed for application by professional, trained personnel using proper equipment and are not intended for sale to the general public. Products mentioned may be hazardous and should only be used according to directions, while observing precautions and warning systems listed on label. Statements and methods described are based upon the best information and practices known to PPG Industries. Procedures for applications mentioned are suggestions only and are not to be construed as representations or warranties as to performance, result, or fitness for any intended use, nor does PPG Industries warrant freedom from patent infringement in the use of any formula or process set forth herein.



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