

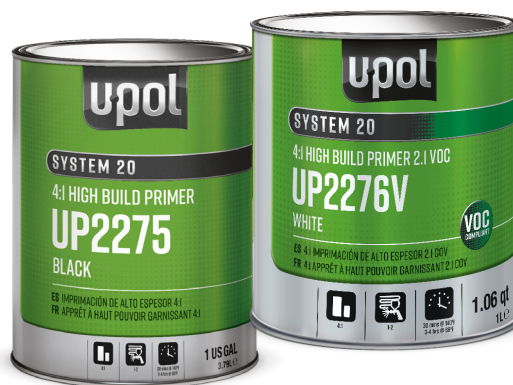


DRIVING SURFACE PERFECTION™

SYSTEM 20 Primers Mixing Guide

U-POL Gray Shade System is an economical tool to achieve specific shades of gray undercoat resulting in savings on basecoat usage. Through easy mixing of our white, gray and black primers, the Gray Shade System helps to reduce the basecoat film build required to achieve the correct color match to the OEM finish.

- Apply less coats of basecoats to achieve opacity
- Reduces topcoat film build required
- Reduces basecoat application time
- Improves color reproduction
- Reduces paint defects and rework associated with excessive film build
- Saves time, labor and energy costs



Mixing Guide

U-POL Gray Shade System is an economical tool to achieve specific shades of gray undercoat resulting in savings on basecoat usage. Through easy mixing of primers, the Gray Shade System helps to reduce the basecoat film build required to achieve the correct color match to the OEM finish.

1. Identify the desired U-POL Gray Shade System for the basecoat being applied.
2. Mix the U-POL Gray Shade System formula as per the mixing ratio in the table below. Stir thoroughly.
3. Refer to the SYSTEM 20 Primers technical data sheets (TDS) for preparation of the substrate and hardener addition.
4. Apply the U-POL Gray Shade System primer over the repair area and allow flash off as per the TDS.

Gray Shade System	Mixing Ratio		
	White	Gray	Black
	100%		
		100%	
	75%		25%
		50%	50%
			100%



DRIVING SURFACE PERFECTION™

SYSTEM 20 Mixing Guide

for 150ml Primer

Gray Shade	Weight in Grams			
	White	Gray	Black	System 20 Hardener
	248			35
		251		35
	186		58	35
		125	117	35
			233	35

Gray Shade	Volume in ml			
	White	Gray	Black	System 20 Hardener
	150			38
		150		38
	113		38	38
		75	75	38
			150	38

for 400ml Primer

Gray Shade	Weight in Grams			
	White	Gray	Black	System 20 Hardener
	662			95
		668		95
	496		155	95
		334	311	95
			622	95

Gray Shade	Volume in ml			
	White	Gray	Black	System 20 Hardener
	400			100
		400		100
	300		100	100
		200	200	100
			400	100

for 800ml Primer

Gray Shade	Weight in Grams			
	White	Gray	Black	System 20 Hardener
	1323			189
		1336		189
	992		311	189
		668	662	189
			1243	189

Gray Shade	Volume in ml			
	White	Gray	Black	System 20 Hardener
	800			200
		800		200
	600		200	200
		400	400	200
			800	200



SYSTEM 20 4:1 HIGH BUILD PRIMER



DRIVING SURFACE PERFECTION
TECHNICAL DATA SHEET

2.1 VOC

Version: 1.0

TECHNICAL DATA SHEET & PROCESS GUIDE

Multipurpose primer offering the functionality of '3 products in 1'. Mix 4:1 for a primer filler, 4:1:1 for a primer surfacer or 4:1:2 for a primer sealer.

- Use for spot repair and large panels.
- Excellent build and surface leveling properties.
- Easy to sand wet or dry.
- Can be applied direct to metal, over most plastics and over unsanded E-coat, aluminum and galvanized.
- Tintable with up to 10% with urethane mixing base

Available Colors • Gray • White • Black

TECHNICAL DATA



	Base	Mixed 4:1
Viscosity		50 - 70 s/ ZAHN#2
Solid content	76.10%	71.20%
Specific gravity g/cm ³	1.64	1.53

APPLICATION GUIDE

IMPORTANT: FOR PROFESSIONAL USE ONLY. Read full instructions before use. This product contains hazardous materials and therefore appropriate personal protective equipment should always be used.

- Substrates**
- Original Paint
 - Galvanized steel*
 - Aluminum*
 - Mild Steel
 - Polyester Fillers
 - E-coat
 - Fiberglass, SMC



- Tools Required**
- SYSTEM 20 Solvent/Water-Based Degreasers
 - HVLP Gravity Gun
 - P180 - P600 Grit Sandpaper
 - MAXIMUM Painters Overalls



Surface Preparation

	Bare Steel	Aluminum*	Galvanized*	Original Paint	Body Filler	Fiberglass, SMC
	UP2012/21/22	UP2012/21/22	UP2012/21/22	UP2012/21/22	UP2012/21/22	UP2002
	P180	P180	P180	P220	P220	P220

For best results, good preparation is essential: Clean and degrease removing dirt, oil, grease and wax with a cleaning solution, like **SYSTEM 20 Solvent-Based (UP2012/22)** or **SYSTEM 20 Water-Based (UP2002) Degreaser** before and after sanding (please be aware of your local solvent-cleaning VOC regulations). Dry thoroughly before applying **SYSTEM 20 4:1 High Build Primer 2.1 VOC**.

**Aluminum and galvanized steel components must be primed with 1-2 light coats of ACID#8 Acid Etch Primer and allowed to dry for 20 minutes before applying SYSTEM 20 4:1 High Build Primer 2.1 VOC.*



SYSTEM 20 4:1 HIGH BUILD PRIMER



DRIVING SURFACE PERFECTION
TECHNICAL DATA SHEET

2.1 VOC

Version: 1.0

TECHNICAL DATA SHEET & PROCESS GUIDE

Hardener Selection

Temperature °F	Hardener	Parat Number
50 - 80°F	SYSTEM 20 Fast Hardener 2.1 VOC	UP2381, UP2382
60 - 90°F	SYSTEM 20 Standard Hardener 2.1 VOC	UP2391, UP2392, UP2395
70 - 100°F	SYSTEM 20 Slow Hardener 2.1 VOC	UP2371, UP2372

U-POL GREY-SHADE

U-POL GREY-SHADE is an economical tool to achieve specific shades of grey undercoat resulting in savings on basecoat usage. Use this mixing guide to achieve different shades of grey using White, Grey or Black.

GREY SHADE Mixing Ratio					
White UP2277V, UP2276V	100%		75%		
Grey UP2251V, UP2253V		100%		50%	
Black UP2275V, UP2274V			25%	50%	100%



Mixing Ratio

Primer:Hardener:Reducer

High Build Primer

4:1:-

Primer Surfacer

4:1:1

Wet-on-Wet Sealer

4:1:2

Mixing by Weight (grams)

SYSTEM 20 4:1 High Build Primer

200

200

200

SYSTEM 20 2.1 VOC Hardener

35

35

35

"Fast Zero-VOC Reducer"

—

26

55



Viscosity ZAHN#2 / sec

Working Pot-Life @ 70°F

50 - 70

20 - 22

16 - 18

1 - 2 hours

1 - 2 hours

2 - 3 hours



Compliant HVLG Gravity Gun

Gun tip size

1.7 - 2.0 mm

1.4 - 1.7 mm

1.3 - 1.4 mm

Air Pressure at the gun

26 - 29 PSI

26 - 29 PSI

26 - 29 PSI



Coats

Dry Film Build

1 - 2 coats

2 - 3 coats

1 - 2 coats

180 µm (7 MIL)

100 - 120 µm (4 - 5 MIL)

30 - 60 µm (1 - 2 MIL)



Flash-off @ 70°F

Between coats

15 mins

10 mins

10 mins



Drying Times

Sandable @ 70°F

3 - 4 hours

3 - 4 hours

2 - 3 hours

Sandable @ 140°F

20 - 30 mins

20 - 30 mins

20 - 30 mins

Sandable IR @ 140°F

15 mins

15 mins

15 mins



Sanding

Dry Sanding / Abrasive

P320

P400 P500 - P600

P500 - P600 if required

Wet Sanding / Abrasive

P320 - P400

P500 - P600

P500 - P600 if required



SYSTEM 20 4:1 HIGH BUILD PRIMER



DRIVING SURFACE PERFECTION
TECHNICAL DATA SHEET

2.1 VOC

Version: 1.0

TECHNICAL DATA SHEET & PROCESS GUIDE



Over Painting

SYSTEM 20 4:1 HIGH BUILD PRIMER 2.1 VOC can be directly topcoated with most solvent and water-based basecoats or solid colors.

STORAGE & VOC INFORMATION



Shelf Life

2 years from date of manufacture in sealed original containers.

Recommended Storage Temperature 40°F - 75°F

Recommended Application Temperature As per the Hardener Selection table above

Equipment Cleaning Clean gun immediately after use with a VOC compliant thinner or gunwash. Please check your local VOC regulations.

Important Remarks

Do not use activated product beyond pot life. Activated material should not be returned to the original can of non-activated material. After 10 minutes standing, the coating may need mild agitation to reliquify before 2nd and 3rd coat applications.

	SYSTEM 20 4:1 HIGH BUILD PRIMER 2.1 VOC - BLACK As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener 2.1 VOC	
	VOC Regulatory	267 g/l	2.2 lbs/gal	248 g/l
VOC Actual	198 g/l	1.6 lbs/gal	167 g/l	1.4 lbs/gal
Percent Solids	74.1% by weight	52.2% by volume	68.5% by weight	49.2% by volume
Volatiles	25.9% by weight		31.5% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	13.2% by weight	25.9% by volume	20.0% by weight	32.6% by volume
HAPS %	6.1% by weight		5.2% by weight	
Density	1551 g/l	12.9 lbs/gal	1462 g/l	12.2 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"		As Applied 4:1:2 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"	
VOC Regulatory	234 g/l	1.9 lbs/gal	234 g/l	1.9 lbs/gal
VOC Actual	126 g/l	1.1 lbs/gal	110 g/l	0.9 lbs/gal
Percent Solids	58.4% by weight	40.5% by volume	53.4% by weight	35.5% by volume
Volatiles	41.6% by weight		46.6% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	32.1% by weight	46.0% by volume	37.9% by weight	52.8% by volume
HAPS %	4.1% by weight		3.8% by weight	
Density	1326 g/l	11.1 lbs/gal	1269 g/l	10.6 lbs/gal



SYSTEM 20 4:1 HIGH BUILD PRIMER





DRIVING SURFACE PERFECTION
TECHNICAL DATA SHEET

2.1 VOC

Version: 1.0

TECHNICAL DATA SHEET & PROCESS GUIDE

	SYSTEM 20 4:1 HIGH BUILD PRIMER 2.1 VOC - GRAY As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener 2.1 VOC	
	VOC Regulatory	266 g/l	2.2 lbs/gal	248 g/l
VOC Actual	201 g/l	1.7 lbs/gal	170 g/l	1.4 lbs/gal
Percent Solids	76.0% by weight	53.3% by volume	70.4% by weight	50.2% by volume
Volatiles	24.0% by weight		29.6% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	11.7% by weight	24.3% by volume	18.5% by weight	31.3% by volume
HAPS %	6.3% by weight		5.4% by weight	
Density	1638 g/l	13.7 lbs/gal	1531 g/l	12.8 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"		As Applied 4:1:2 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"	
VOC Regulatory	222 g/l	1.8 lbs/gal	222 g/l	1.8 lbs/gal
VOC Actual	118 g/l	1.0 lbs/gal	105 g/l	0.9 lbs/gal
Percent Solids	57.9% by weight	40.7% by volume	53.6% by weight	36.2% by volume
Volatiles	42.1% by weight		46.4% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	33.3% by weight	46.9% by volume	38.3% by weight	52.8% by volume
HAPS %	3.9% by weight		3.6% by weight	
Density	1342 g/l	11.2 lbs/gal	1289 g/l	10.7 lbs/gal

	SYSTEM 20 4:1 HIGH BUILD PRIMER 2.1 VOC - WHITE As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener 2.1 VOC	
	VOC Regulatory	266 g/l	2.2 lbs/gal	248 g/l
VOC Actual	203 g/l	1.7 lbs/gal	171 g/l	1.4 lbs/gal
Percent Solids	76.1% by weight	53.8% by volume	70.5% by weight	50.2% by volume
Volatiles	23.9% by weight		29.5% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	11.4% by weight	23.7% by volume	18.2% by weight	30.8% by volume
HAPS %	6.0% by weight		5.2% by weight	
Density	1634 g/l	13.6 lbs/gal	1528 g/l	12.7 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"		As Applied 4:1:2 with SYSTEM 20 Standard Hardener 2.1 VOC and a "Fast Zero-VOC Reducer"	
VOC Regulatory	234 g/l	1.9 lbs/gal	234 g/l	1.9 lbs/gal
VOC Actual	129 g/l	1.1 lbs/gal	113 g/l	0.9 lbs/gal
Percent Solids	60.3% by weight	41.5% by volume	55.4% by weight	36.3% by volume
Volatiles	39.7% by weight		44.7% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	30.3% by weight	44.8% by volume	36.0% by weight	51.7% by volume
HAPS %	4.1% by weight		3.8% by weight	
Density	1374 g/l	11.4 lbs/gal	1311 g/l	10.9 lbs/gal

REORDER CODE

Order Code	Size	Product
UP2276V	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - White 2.1 VOC
UP2277V	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - White 2.1 VOC
UP2251V	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Gray 2.1 VOC



SYSTEM 20 4:1 HIGH BUILD PRIMER



DRIVING SURFACE PERFECTION
TECHNICAL DATA SHEET

2.1 VOC

Version: 1.0

TECHNICAL DATA SHEET & PROCESS GUIDE

UP2253V	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Gray 2.1 VOC
UP2274V	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Black 2.1 VOC
UP2275V	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Black 2.1 VOC
UP2002	5L Bottle	SYSTEM 20 Water-Based Degreaser 25 g/l (0.2 lbs/gal) VOC
UP2012	5L Tin	SYSTEM 20 Fast Drying Solvent-Based Degreaser
UP2022	5L Tin	SYSTEM 20 Slow Drying Solvent-Based Degreaser
UP2381	1L Tin	SYSTEM 20 Fast Hardener 2.1 VOC
UP2382	2.5L Tin	SYSTEM 20 Fast Hardener 2.1 VOC
UP2391	1L Tin	SYSTEM 20 Standard Hardener 2.1 VOC
UP2392	2.5L Tin	SYSTEM 20 Standard Hardener 2.1 VOC
UP2395	250ml Tin	SYSTEM 20 Standard Hardener 2.1 VOC
UP2371	1L Tin	SYSTEM 20 Slow Hardener 2.1 VOC
UP2372	2.5L Tin	SYSTEM 20 Slow Hardener 2.1 VOC
UP0323	1-pack Gun	MAXIMUM HVLP Gravity Spray Gun 1.3 mm tip
UP0324	1-pack Gun	MAXIMUM HVLP Gravity Spray Gun 1.4 mm tip
UP0326	1-pack Gun	MAXIMUM HVLP Gravity Spray Gun 1.7 mm tip
UP0327	1-pack Gun	MAXIMUM HVLP Gravity Spray Gun 2.0 mm tip
UP0420	M	MAXIMUM Painters Overalls
UP0421	L	MAXIMUM Painters Overalls
UP0422	XL	MAXIMUM Painters Overalls
UP0423	XXL	MAXIMUM Painters Overalls
UP0424	XXXL	MAXIMUM Painters Overalls