

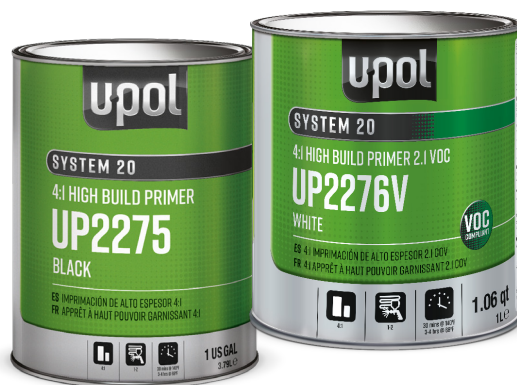


DRIVING SURFACE PERFECTION™

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%



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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

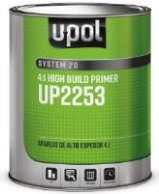
for 800ml Primer

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



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TECHNICAL DATA SHEET

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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	76.20%	71.20%
Specific gravity g/cm ³	1.68	1.54

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
- Mild Steel
- E-coat
- Galvanized steel*
- Polyester Fillers
- Fiberglass, SMC
- Aluminum*
- Polypropylene and most plastics*



Tools Required

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



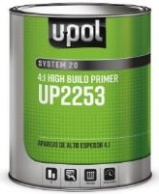
Surface Preparation

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



SYSTEM 20 4:1 HIGH BUILD PRIMER



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*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.

*Plastic components must be prepared with a suitable adhesion promoter such as GRIP #4 1K UNIVERSAL ADHESION PROMOTER AEROSOL. Please refer to the product technical data sheets. For best results over plastic parts, use the Primer Surfacer mix ratio 4:1:1.




Hardener Selection

Temperature °F	Hardener	Part Number
50 - 80°F	SYSTEM 20 Fast Hardener	UP2302, UP2303, UP2305, UP2307
60 - 90°F	SYSTEM 20 Standard Hardener	UP2322, UP2323, UP2325, UP2327
70 - 100°F	SYSTEM 20 Slow Hardener	UP2333, UP2335
>80°F	SYSTEM 20 Extra Slow Hardener	UP2333XS

U-POL GREY-SHADE

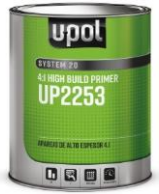
U-POL GREY-SHADE is an economical tool to achieve specific shades of grey undercoat resulting in savings on basecoat usage. Use this mixing guide to achieve different shades of grey using White, Grey or Black.

GREY SHADE Mixing Ratio					
White UP2276, UP2277	100%		75%		
Grey UP2251, UP2253		100%		50%	
Black UP2274, UP2275			25%	50%	100%

	High Build Primer	Primer Surfacer	Wet-on-Wet Sealer
 Mixing Ratio			
Primer:Hardener:Reducer	4:1:-	4:1:1	4:1:2
	Mixing by Weight (grams)		
SYSTEM 20 4:1 High Build Primer	200	200	200
SYSTEM 20 Standard Hardener	29.2	29.2	29.2
SYSTEM 20 Standard Reducer	—	26.8	53.6
 Viscosity ZAHN#2 / sec	50 - 70	20 - 22	16 - 18
Working Pot-Life @ 70°F	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



SYSTEM 20 4:1 HIGH BUILD PRIMER








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	Coats	1 - 2 coats	2 - 3 coats	1 - 2 coats
	Dry Film Build	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
	Over Painting	SYSTEM 20 4:1 HIGH BUILD PRIMER 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 SYSTEM 20 Reducer or gunwash. Please check your local VOC regulations.

Important Remarks

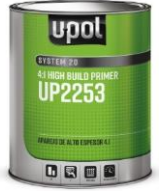
Do not use activated product beyond pot life. Activated material should not be returned to the original can of non-activated material. After 10 minutes standing, the coating may need mild agitation to reliquify before 2nd and 3rd coat applications.



	SYSTEM 20 4:1 HIGH BUILD PRIMER - GRAY As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener	
VOC Regulatory	400 g/l	3.34 lbs/gal	445 g/l	3.7 lbs/gal
VOC Actual	400 g/l	3.34 lbs/gal	445 g/l	3.7 lbs/gal
Percent Solids	72.6% by weight	50.3% by volume	67.7% by weight	46.9% by volume
Volatiles	23.8% by weight		28.8% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	0% by weight	0% by volume	0% by weight	0% by volume
HAPS %	11.1% by weight		12.6% by weight	
Density	1684 g/l	14.0 lbs/gal	1544 g/l	12.9 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer		As Applied 4:1:2 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer	
VOC Regulatory	536 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
VOC Actual	521 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
Percent Solids	60.3% by weight	39.0% by volume		
Volatiles	39.1% by weight		44.3% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	0% by weight	0% by volume	0% by weight	0% by volume
HAPS %	13.9% by weight		14.0% by weight	



SYSTEM 20 4:1 HIGH BUILD PRIMER



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TECHNICAL DATA SHEET

NATIONAL RULE VOC

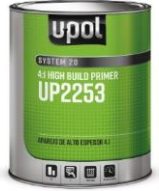
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Density	1372 g/l	11.4 lbs/gal	1313 g/l	10.9 lbs/gal
	SYSTEM 20 4:1 HIGH BUILD PRIMER - BLACK As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener	
VOC Regulatory	402 g/l	3.3 lbs/gal	445 g/l	3.7 lbs/gal
VOC Actual	370 g/l	3.1 lbs/gal	445 g/l	3.7 lbs/gal
Percent Solids	72.3% by weight	50.3% by volume	67.7% by weight	46.8% by volume
Volatiles	27.4% by weight		32.2% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	4% by weight	8% by volume	3.5% by weight	6.4% by volume
HAPS %	10.0% by weight		12.6% by weight	
Density	1684 g/l	14.0 lbs/gal	1460 g/l	12.2 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer		As Applied 4:1:2 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer	
VOC Regulatory	536 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
VOC Actual	521 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
Percent Solids	60.6% by weight	39.0% by volume	54.9% by weight	33.4% by volume
Volatiles	39.1% by weight		44.3% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	3.1% by weight	5.3% by volume	2.8% by weight	4.6% by volume
HAPS %	19.1% by weight		25.0% by weight	
Density	1359 g/l	11.3 lbs/gal	1287 g/l	10.7 lbs/gal



SYSTEM 20 4:1 HIGH BUILD PRIMER



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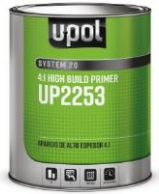
	SYSTEM 20 4:1 HIGH BUILD PRIMER - WHITE As Packaged		As Applied 4:1 with SYSTEM 20 Standard Hardener	
VOC Regulatory	400 g/l	3.34 lbs/gal	445 g/l	3.7 lbs/gal
VOC Actual	400 g/l	3.34 lbs/gal	445 g/l	3.7 lbs/gal
Percent Solids	76.0% by weight	54.2% by volume	71.0% by weight	49.9% by volume
Volatiles	24.0% by weight		29.0% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	0% by weight	0% by volume	0% by weight	0% by volume
HAPS %	11.7% by weight		13.6% by weight	
Density	1691 g/l	14.1 lbs/gal	1549 g/l	12.9 lbs/gal
	As Applied 4:1:1 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer		As Applied 4:1:2 with SYSTEM 20 Standard Hardener and SYSTEM 20 Standard Reducer	
VOC Regulatory	536 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
VOC Actual	521 g/l	4.5 lbs/gal	582 g/l	4.8 lbs/gal
Percent Solids	63.9% by weight	41.6% by volume	58.2% by weight	35.6% by volume
Volatiles	36.1% by weight		41.8% by weight	
Water	0% by weight	0% by volume	0% by weight	0% by volume
Exempt compounds	0% by weight	0% by volume	0% by weight	0% by volume
HAPS %	20.0% by weight		25.5% by weight	
Density	1433 g/l	11.9 lbs/gal	1351 g/l	11.3 lbs/gal

REORDER CODE

Order Code	Size	Product
UP2276	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - White NR VOC
UP2277	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - White NR VOC
UP2251	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Gray NR VOC
UP2253	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Gray NR VOC
UP2274	1L Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Black NR VOC
UP2275	1 US Gallon Tin	SYSTEM 20 4:1 HIGH BUILD PRIMER - Black NR 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
UP2302	500ml Tin	SYSTEM 20 Fast Hardener NR
UP2303	1 QT Tin	SYSTEM 20 Fast Hardener NR
UP2305	2.1L Tin	SYSTEM 20 Fast Hardener NR
UP2307	250ml Tin	SYSTEM 20 Fast Hardener NR
UP2322	500ml Tin	SYSTEM 20 Standard Hardener NR
UP2323	1L Tin	SYSTEM 20 Standard Hardener NR
UP2325	2.5L Tin	SYSTEM 20 Standard Hardener NR
UP2327	250ml Tin	SYSTEM 20 Standard Hardener NR
UP2333	1 QT Tin	SYSTEM 20 Slow Hardener NR
UP2335	2.5L Tin	SYSTEM 20 Slow Hardener NR
UP2333XS	1L Tin	SYSTEM 20 Extra Slow Hardener NR
UP2452	5L Tin	SYSTEM 20 Multifunctional Standard Reducer NR
UP0799	450ml Aerosol	GRIP #4 1K Universal Adhesion Promoter Aerosol
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



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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