

2K High Solids Polyurethane Primer

W43181A / HSP-528

W43181A / HSP-528 is especially designed to give excellent corrosion resistance and polyurethane performance over properly prepared steel substrates while allowing fast topcoat times with polyurethane topcoats.

The W43181A / HSP-528 primer features fast dry-to-topcoat times and improved productivity in a wide variety of applications. It is force dry capable either as a primer only or as a primer/topcoat system, has excellent corrosion resistance and does not contain lead or chromium pigments.

Features and benefits:

- Fast wet-on-wet topcoat times with Polyurethane topcoats
- Excellent corrosion resistance
- 3.5 VOC compliant
- True 2-component product to allow plural mixing
- Shares catalysts with Polyurethane topcoats

Associated Products:

- W43181A 2K High Solids Polyurethane Primer - Gray
- HSP-528 2K High Solids Polyurethane Primer - Buff
- AUE-3501 2K High Solids Polyurethane Hardener
- GXH1086 Polyurethane Hardener
- GXH1080 Polyurethane Hardener

Physical Constants: *All values are theoretical, depend on color and are Ready-to-Spray. Actual values could vary slightly due to manufacturing variability.*

	W43181A	W43181A w/ AUE-3501	W43181A w/ GXH1086	W43181A w/ GXH1080	HSP-528	HSP-528 w/ AUE-3501	HSP-528 w/ GXH1086
Percent solids (by weight)	73.9%	76.0%	75.0%	74.4%	77.8%	79.6%	78.5%
Percent solids (by volume)	52.9%	57.60%	56.0%	55.3%	58.4%	63.0%	61.3%
HAPs	≤ 0.5 lbs/gal	≤ 0.5lbs/gal	≤ 0.5lbs/gal	≤ 0.5lbs/gal	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal
Photo-chemically reactive	No	No	No	Yes	No	No	No
Volume Ratio	As is	9 : 1	8 : 1	8 : 1	As is	8 : 1	7 : 1
Applicable Use Category	Primer Sealer	Primer Sealer	Primer Sealer	Primer Sealer	Primer Sealer	Primer Sealer	Primer Sealer
VOC Actual	394 (g/L) 3.29 (lbs/gal)	355 (g/L) 2.96 (lbs/gal)	367 (g/L) 3.06 (lbs/gal)	375 (g/L) 3.13 (lbs/gal)	352 (g/L) 2.94 (lbs/gal)	314 (g/L) 2.62 (lbs/gal)	328 (g/L) 2.74 (lbs/gal)
VOC Regulatory (less water less exempt)	393 (g/L) 3.28 (lbs/gal)	354 (g/L) 2.95 (lbs/gal)	366 (g/L) 3.06 (lbs/gal)	374 (g/L) 3.12 (lbs/gal)	353 (g/L) 2.95 (lbs/gal)	314 (g/L) 2.62 (lbs/gal)	328 (g/L) 2.74 (lbs/gal)
Density	1513 (g/L) 12.61 (lbs/gal)	1479 (g/L) 12.33 (lbs/gal)	1467 (g/L) 12.23 (lbs/gal)	1467 (g/L) 12.23 (lbs/gal)	1586 (g/L) 13.22 (lbs/gal)	1539 (g/L) 12.83 (lbs/gal)	1526 (g/L) 12.72 (lbs/gal)
Volatiles wt. %	26.1	24.0	25.0	25.6	22.2	20.4	21.5
Water wt. %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exempt wt. %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water vol. %	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exempt vol. %	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Flashpoint
W43181A = 91°F, HSP-528 = 91°F, AUE-3501 = 355°F
GXH1086 = 102°F, GXH1080 = 81°F

W43181A / HSP-528

Directions for Use

Substrate Preparation:

The surface to be coated must be free of all contamination (including dust, dirt, oil, grease, and oxidation). A chemical treatment (or conversion coating) will improve adhesion and performance properties of the finished coat. Variability can occur with substrates, preparation, application method or environment. We recommend that adhesion and system compatibility be checked prior to full application. We recommend that the customer trial the product for adhesion and compatibility using all substrates.

Metal	Direct to Substrate
Cold Rolled Steel	Excellent
Hot Rolled Steel	Excellent
Galvaneal	Excellent
Galvanized	Excellent
Aluminum	Not Recommended
Plastic / Fiberglass	Surface should be free of all contamination. Because of the variability of plastic/ fiberglass substrates, coating performance should be confirmed on the actual plastic/fiberglass substrate being used.

Note: For improved performance between this primer and CPC topcoats please see the CPC Primer/Topcoat compatibility chart (CPCTB01).

* It is recommended that the customer should trial the product for adhesion and compatibility using all substrates.

Mix Directions:



Mix Directions: Thoroughly agitate component A on mechanical shaker prior to mixing. Stir thoroughly before and occasionally during use. Do not use an accelerator. Product not intended for immediate use should be kept in a lined container.



Thinning: Not normally required, but up to 10% by total volume of Q60 (MEK), Q70 (MAK), or Q80 (Xylene) may be used. Addition of solvents will increase VOC of the sprayed product.



Blend Ratio:	W43181A w/ AUE-3501	W43181A w/ GX1086	W43181A w/ GX1080	HSP-528 w/ AUE-3501	HSP-528 w/ GX1086
	9 : 1	8 : 1	8 : 1	8 : 1	7 : 1

Pot Life @ 77°F (25°C): 1 – 2 hours

Spray Viscosity Range: #3 Zahn 12 – 20 seconds

Shelf Life: (Primer Only) 4 years unopened, 2 years opened

Application Equipment:



Conventional with or without pressure pot: 1.3 needle/nozzle, 50 – 60 psi at the gun
 HVLV with or without pressure pot: 1.3 needle/nozzle, 10 psi output at the tip or per manufacturer's recommendation.
 Airless: No recommendation
 Air-Assisted Airless: .009 - .013 tip, 800 – 1200 psi fluid pressure, 40 psi atomization.
 Brush or Roll: Not recommended
 Electrostatic: Additional solvent may be needed to effectively apply this product electrostatically.

Application:



Apply: 1 – 2 medium coats with a 10 – 15 minute flash between coats.

	W43181A w/ AUE-3501	W43181A w/ GX1086	W43181A w/ GX1080	HSP-528 w/ AUE-3501	HSP-528 w/ GX1086
Recommended Wet Film Build:	1.8 – 3.3 mils	1.8 – 3.2 mils	1.8 – 3.1 mils	1.6 – 2.8 mils	1.7 – 2.9 mils
Recommended Dry Film Build:	1.0 – 1.8 mils				
Square Foot Coverage @ 1 mil no loss:	887	899	924	1011	983

Dry Times:



Air Dry @ 77°F 50% RH: Apply only when air, product, and surface temperature is above 50°F (10°C) and when the surface temperature is at least 5°F (3°F) above the dew point.
 To Touch*: 30 – 45 minutes
 To Handle*: 1 – 2 hours
 To Topcoat** After 10 minutes, but before 6 hours @ 77°F (25°C). After 6 hours, sanding is required
 Recoat** After 10 minutes, but before 6 hours @ 77°F (25°C). After 6 hours, sanding is required
 Force Dry @ 160°F** Allow 10 minutes air dry then force dry 20 minutes @ 160°F.

* Paint film is not fully cured for 7 days. Drying time listed may vary, depending upon film build, color selection, temperature, humidity and degree of air movement.

** After 6 hours or force dry, the coating must be mechanically abraded and cleaned prior to topcoating.

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Technical Data*

Performance Properties:

Test	ASTM Method	Results
Pencil	D3363	3H
Adhesion	D3359	5B
60° Gloss	D523	20 - 40
Impact (direct/indirect)	D2794	80 / 10 in·lbs
In Service Temperature Limit		250°F

Weather Resistance:

*System Tested:
Bonderite 1000
W43181A
AUE-360/AUE-3501*

	ASTM Method	Results
Salt Spray – 1000 hours	B117	
Corrosion Creep	D1654	5A
Scribe Blisters	D714	4F
Face Blisters	D714	8D
Humidity – 1000 hours	D2247	
5 Minute Recovery Adhesion	D3359	4A – 5A
1 Hour Recovery Adhesion	D3359	4A – 5A
24 Hour Recovery Adhesion	D3359	4A – 5A

All tests results assume proper cure and preparation of test substrates. Unless otherwise stated, all results were obtained spraying product direct to metal on Bonderite 1000.

* The application and performance property data above are believed to be reliable based on laboratory findings. It is for the buyer to satisfy itself on the suitability of the product for its particular use. Variation in environment, procedures of use, or extrapolation of data may cause unsatisfactory results.

Miscellaneous:

Safety:



These materials are designed for application only by professional, trained personnel, using proper equipment under controlled conditions and are not intended for sale to the general public.

Safe application of paints and coatings requires knowledge of equipment, materials and individual training. Directions and precautionary information on both equipment and products should be carefully read and strictly observed for personal safety and property protection. Consideration must be given to eliminate conditions, which may generate hazardous atmospheres during spray application or subject operators or bystanders to injury or illness.

Special precautions must be taken when utilizing spray equipment, particularly airless equipment. High-pressure injection of coatings into the skin by airless equipment may cause serious injury requiring immediate medical attention at a hospital. Treatment advice may also be obtained from Poison Centers.

Air quality should be maintained with adequate ventilation; applicators can achieve additional protection by wearing respirators and other protective garments such as gloves and overalls. In all cases, wear protective eye equipment. During the application of all coatings materials, all flames, welding and smoking must be prohibited. Explosion proof equipment must be used when coating these materials in confined areas.

PRECAUTIONARY INFORMATION

Before using the products listed herein, carefully read each product label and follow directions for its use. Please read and observe all warnings and precautionary information on all product labels. Prevent all contact with skin and eyes and breathing of vapors and spray mist. Repeated inhalation of high vapor concentrations may cause a series of progressive effects including irritation of the respiratory system, permanent brain and nervous system damage and possible unconsciousness and death in poorly ventilated areas. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

KEEP OUT OF THE REACH OF CHILDREN

MEDICAL RESPONSE

Emergency Medical or Spill Control Information (412) 434-4515; CANADA (514) 645-1320
Have label information available.



Material Safety Data Sheets for the PPG products mentioned in this publication are available through your PPG Distributor.

For additional information regarding this product, see the MSDS AND LABEL information.

PPG Industries Commercial Coatings

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