



SUNFIRE® 3.5 VOC

Low VOC Acrylic Urethane

J6V, JUV, 362, 364 Series

PRODUCT DESCRIPTION:

SUNFIRE® 3.5 Low VOC Acrylic Urethane is a high performance acrylic urethane that has a maximum VOC (Volatile Organic Compound) content of 3.5 pounds/gallon sprayable (420 grams/liter). SUNFIRE® 3.5 Low VOC is available as an intermix system with a wide color selection. SUNFIRE® 3.5 Low VOC has flexible application characteristics enhanced with the addition of R7K7210.

When SUNFIRE® 3.5 Low VOC is used with PRIME-SHIELD™ E2A820/R822/W823, Fleet and Original Equipment Manufacturers have a VOC "system" to comply with regulations limiting coatings to a maximum VOC of 3.5 pounds/gallon (420 grams/liter) of sprayable material. Refer to your local, state, or federal regulatory agencies for further details.

TECHNICAL DATA:

• Mixing ratio by volume	3 : 1 with V6V1123	• Performance after one week air dry	
	3 : 1 : 1 with R7K7210/V6V1123	- Impact Resistance (80 in/lbs)	
• Viscosity (sprayable)		Direct	Pass
#4 Ford Cup at 3 : 1	20-25 sec	Indirect	Pass
#2 Zahn Cup at 3 : 1	23-26 sec	- Flexibility (1/8 conical mendrel)	Pass
#2 Zahn Cup at 3 : 1 : 1	12-20 sec	- Solvent Resistance	Pass
• Flash Point (Average) – Tag Open Cup	80°F	(MEK, Toluene/Gasoline/Oil)	No Effect
• Recommended min dry film thickness (2 coats)	2.0-2.5 mls	- Chemical Resistance (24 hr. contact)	
• Pencil Hardness at 1 week dry	HB - H	10% Hydrochloric Acid	No Effect
• Coverage at 1 mil dry (white)		10% Sulfuric Acid	No Effect
3 : 1 no reduction	922 sq ft/gal	10% Ammonium Hydroxide	No Effect
3 : 1 10% R7K7204	838 sq ft/gal	- Salt Spray Resistance – 250 hours	No Effect
3 : 1 : 1 with R7K7210	738 sq ft/gal	- Humidity Resistance – 100 hours	No Effect
• Max VOC as applied	Total	Less Exempt	• Dielectric strength over steel (white)
	# s/gal	g/l	# s/gal
at 3 : 1	3.48	418	3.48
at 3 : 1 : 1 with R7K7210	2.79	334	3.48
			g/l
			418
			418
			1800 volts/mil (dry)
			90
			80
			80
			• DOI (Average)
			80

SURFACE PREPARATION:

Bare Substrates:

1. Choose appropriate Sherwin-Williams primer and refer to product recommendations.

Prepainted Substrates:

1. Complete body work and priming according to product recommendations for appropriate Sherwin-Williams primer.
2. Finish sand repair area with 320 grit treated sandpaper on a random orbital sander.
3. **Prep entire blend area or panel by water sanding with 1000-1200 grit or scuff with a gray scuff pad and USP-90 Scuffing Gel.**
4. Re-clean thoroughly with R7K156, R7K158 or W4K157.
5. For best results on larger repairs, seal the area to be painted with an appropriate Sherwin-Williams primer (for the above products refer to the appropriate product data page for complete information).

(For the above products refer to the appropriate product data page for complete information.)

MIXING:

1. Stir or shake SUNFIRE® 3.5 Low VOC thoroughly before mixing.
2. Mix 3 parts SUNFIRE® 3.5 Low VOC Color with 1 part SUNFIRE® Low VOC Hardener V6V1123 using air dry system. Add reducer per chart below. Pot life: 2-3 hours at 70°F.
3. To speed out of dust and tape time using air dry system only (V2V1122 or V2V1135): Add 0.5 to 4 ounces of GENESIS® Accelerator GA1097 per sprayable gallon of SUNFIRE 3.5 Low VOC Color. Do not exceed 4 ounces per sprayable gallon. Loss of durability and gloss may occur.
4. In hot and humid environments, for air dry applications, use V2V1135 SUNFIRE® 3.5 Low VOC mixing clear. For optimal appearance in hot weather, add .5 to 4 ounces of R7-K6208 SUNFIRE® Retarder.
5. Stir thoroughly and strain before use.

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TO MAINTAIN 3.5 VOC COMPLIANCE:

If the VOC of Sunfire 3.5 is:		Add up to the following amounts of R7-K7204*		Add up to the following # of combined ounces to a RTS gallon:	
VOC (less exempt of Intermix Color)	VOC RTS (3:1 mix)	# of ounces RTS gallon	Approx. % Reduction	R7-K6208, VIC6008 or GA1097	and R7K7204
3.6	3.05	14.5	11.3	4	8.5
3.7	3.13	12	9.3	4	6
3.8	3.20	9.5	7.4	4	4
3.9	3.28	7	5.4	4	1.5
4.0	3.35	4.5	3.5	3	0
4.1	3.43	2.3	1.7	1.5	0
4.2	3.50	0	0	0	0

The addition of R7K7210 does not effect the VOC of catalyzed paint. R7K7210 can be added up to 20% per sprayable gallon of SUNFIRE 3.5 or at a mixing ratio of 3 parts SUNFIRE 3.5 Color to 1 part V6V1123 to 1 part R7K7210.

APPLICATION:

- For proper results use only the following equipment recommendations. Conventional siphon feed equipment may not yield proper appearance. Check equipment by applying SUNFIRE® 3.5 Low VOC to a test panel before using.
 - Electrostatic: Apply one medium coat followed by a second medium coat perpendicular to direction of first coat. The second coat may be applied immediately after the first coat. The sprayable wet resistance of SUNFIRE® 3.5 reduced with R7K7204 is .75 Meg-Ohms, with R7K7210 mixed @ 3:1:1 the resistance is .1 Meg-Ohms.

Gun	Binks Model 85B	Kremlin KMP Conventional	Nordson AN8 Conventional	Graco Pro-3500
Fluid Tip	63B	#15 (.055")	0.060"	1.5 mm
Needle	63AE	—	—	—
Air Cap	PW	KP53	987	033 or 739
Atomizing air psi	35-45 psi @ gun	55-60 psi @ gun	55-60 psi @ gun	50-70 psi @ gun
Fluid Delivery	8-12 oz/min	8-12 oz/min	8-12 oz/min	8-12 oz/min
Fluid Pressure	—	25-30 psi	—	—
Kilovolts	60 KV	85 KV	60-75 KV	65 KV
Gun Distance	10-12 inches	10-12 inches	10-12 inches	10-12 inches

- Conventional Pressure Feed: Apply two medium coats with a 5-10 minute flash-off between coats. To even out metallics, follow immediately with a light crosscoat.

Gun	JGA 502	Binks Gold Gun	Binks Model 62	Sharpe 975
Fluid Tip	FF or FX	63C	63C	.070
Air Cap	797 or 9000	63PW	63PB	#10
Fluid Delivery	10-12 oz/min	10-12 oz/min	10-12 oz/min	10-12 oz/min
Atomizing air psi	60-70 psi @ gun	60-70 psi @ gun	60-70 psi @ gun	60-70 psi @ gun
Gun Distance	10-12 inches	10-12 inches	10-12 inches	10-12 inches

- HVLP: Apply one medium coat followed by one medium crosscoat for non-metallics. Metallic colors require two medium coats with a 3-5 minute flash-off between coats, followed immediately by a light crosscoat to even out metallic mottling.

Gun	Binks Mach 1	DeVilbiss JGHV-530	Mattson Q1-A	Accuspray	Kremlin
Fluid Tip	92F	FF (.055)	.040	.036	M21
Air Cap	93P	46	Gold Ring	#8 or #9	.035
Fluid Delivery	10-12 oz/min	10-12 oz/min	10-12 oz/min	10-12 oz/min	P23
Air Pressure	10 psi/pot	8 psi/pot	8-10 psi/pot	8 psi/pot	10-12 oz/min
	60 psi/gun	40-50 psi/gun	55-60 psi/gun	60-70 psi/gun	40-50 psi/gun
Gun Distance	8-10 psi/cap	9-10psi/cap	8-10 psi/cap	8-10 psi/cap	8-10 psi/cap
	6-10"	6-10"	6-10"	6-10"	6-10"

- Normally two coats of SUNFIRE® 3.5 Low VOC Acrylic Urethane are sufficient for complete hiding. If a third coat is required for hiding, allow second coat to flash 20-30 minutes, or until hand slick. Apply third coat wetter than the second coat.

DRYING SCHEDULE:

Dry times are based on the recommended dry film thickness of 2.0 mils; thicker films will extend drying times.

- Air dry times (Using V2V1122* or V2V1135 SUNFIRE® Low VOC Mixing Clear only) @ 75°F and 50% Relative Humidity:

	<u>V2V1122</u>	<u>V2V1135</u>
- Dust free	40-60 minutes	60-120 minutes
- Tack free	4-6 hours	6-8 hours
- Tape free	Overnight	Overnight

- Air dry times (Using V2V1122* or V2V1135 SUNFIRE® Low VOC Mixing Clear only) @ 75°F and 50% Relative Humidity with 4 ounces of GENESIS® Accelerator GA1097 per sprayable gallon of SUNFIRE® 3.5 Low VOC Color.

	<u>V2V1122</u>	<u>V2V1135</u>
- Dust free	20-30 minutes	25-35 minutes
- Tack free	30-60 minutes	45-75 minutes
- Tape free	2-3 hours	3-4 hours

***Note:** Light colors of SUNFIRE® Low VOC using V2-V1122 Mixing Clear may be force dried at a **maximum** temperature of **120°F**.

Dark colors of SUNFIRE® Low VOC using V2-V1122 Mixing Clear may be force dried at a **maximum** temperature of **100°F**; higher temperatures may cause hazing.

- Force dry times (Using V2V1141 or V2V1135 SUNFIRE® Low VOC Mixing Clears only):

Note: See your local SHERWIN-WILLIAMS Representative for availability of V2V1141.

<u>Temperature</u>	<u>V2V1141</u>	<u>Tape free V2V1135</u>	<u>V2V1135 with GA1097</u>
104°F	Do not use below 140°F	N/A	1 hour (4 oz GA1097)*
120°F	Do not use below 140°F	4-5 hours	N/A
140°F	1.5 - 2.5 hours	1.5-2.5 hours	30 minutes (1.5 oz GA-1097)*
160°F	1 hour	1 hour	N/A
180°F	30 minutes	30 minutes	N/A

*Ounces of GA-1097 per RTS gallon

•Note: After force drying, allow vehicle to cool down 10-15 minutes before removing from booth.

NOTES:

- Recoating of SUNFIRE® 3.5 Low VOC Acrylic Urethane may take place at any time without a recoat lift problem. If film is allowed to dry for more than 48 hours, scuff sand with 320 grit or finer treated sandpaper before recoating.
- Decals may be applied after air-drying 72 hours at 75°F. Lower temperatures, heavy film thickness, poor air movement, thick decals, foil-based decals, etc., will extend the 72 hour dry time before decal may be applied. Refer to your local SHERWIN-WILLIAMS Representative for recommendations.
- If force dry equipment cannot achieve 140°F do not use V2V1141.** Use V2V1122 or V2V1135, following the above air dry recommendations or V2V1135 following the above force dry schedule.

PRODUCT AT-A-GLANCE

PRODUCT

**SUNFIRE® 3.5 Low VOC Acrylic Urethane
J6V, JUV, 362, 364 Series**

USE

- Complies with VOC regulations for a maximum VOC content of 3.5 lbs/gal (sprayable).
- A high performance, extremely durable, high-gloss acrylic urethane.
- Withstands harsh industrial environments and chemicals.
- Ideal as an OEM finish and refinish coating for fleets, trucks and special vehicles.

SUITABLE SUBSTRATES

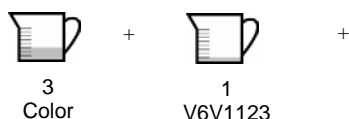
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|---|--|---|
| <ul style="list-style-type: none"> ▪ PRIME SHIELD™ E2A820/R822/W823 ▪ G.B.P.® Etching Filler† ▪ SHER-JET™ 3.5 VOC Enamel Sealer ▪ 2.1 DTM Urethane Primers ▪ SpectraPrime™ ▪ ULTRA-FILL® II Sealer S59† | <ul style="list-style-type: none"> ▪ JET SEAL®† ▪ ULTRA-FILL® II Primer-Surfacert ▪ Transparent Adhesion Promoter S61† ▪ COLOR-SEAL® Tintable Sealer ▪ 3.5 DTM Epoxy Primer ▪ 2.1 DTM Epoxy Primer | <p>†Consult Local regulations for VOC requirements.</p> |
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SURFACE PREPARATION

- **Wash** surfaces with a mild detergent in hot water. Rinse well and wipe dry with clean cloth.
- **Solvent clean** with a Sherwin-Williams solvent cleaner, and wipe dry with a clean cloth.
- **Treat** bare metals with a Sherwin-Williams conditioner or etching primer. Check local regulations to verify etching primers are VOC exempt.
- **Prime** with appropriate primer.

MIXING

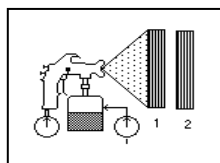
- Stir or shake SUNFIRE® Low VOC Color thoroughly before mixing.
- Pot life: 2-3 hours
- Mix by volume 3 parts of SUNFIRE® Low VOC Color with 1 part V6V1123 Hardener.



REDUCER*
*See mixing section for reducer amount.

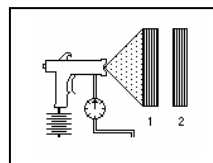
APPLICATION

Pressure Feed*
Apply 2 medium coats with a 5-10 minute flash.



Air pressure: 60-70 psi Fluid Delivery: 10-14 oz/min

Electrostatic*
Apply 2 medium coats. Flash off is not necessary.



Binks Model 85 B
Kremlin KMP Conventional
Nordson AN8 Conventional

*For complete equipment recommendations see APPLICATIONS on previous page.

RECOAT

- SUNFIRE® Low VOC can be recoated at any time.
- Decals may be applied after 72 hours. Extend dry time in cool temperatures or if using large, thick, or foil backed decals.

NOTES

- When SUNFIRE® 3.5 Low VOC is to be force dried at 140°F to 180°F use V2V1141 or V2V1135 SUNFIRE® Low VOC Mixing Clear. Note: See your local Sherwin-Williams Representative for availability of V2V1141.
- After force drying, allow vehicle to cool down 10-15 minutes before removing from booth.
- For air dry applications use V2v1122 or V2V1135 SUNFIRE® Low VOC Mixing Clear.

PERSONAL PROTECTION

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| <ul style="list-style-type: none"> • Read all label directions before use. • Refer to MSDS for specific information. • Wear a NIOSH approved organic vapor respirator when mixing and applying. | <ul style="list-style-type: none"> • Wear a NIOSH approved dust particulate mask when sanding. • Wear safety glasses, coveralls, respirator and latex gloves when using product. |
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