



## TECHNICAL SERVICE BULLETIN

### AQUYD® 8900-W-42

AQuyd® 8900-W-42 is a water-based alkyd dispersion ideal for replacement of solvent-based short oil alkyds in industrial and high gloss DTM applications. It has excellent corrosion resistance and water resistance. **Coatings can be formulated in the 100-150 g/l VOC range.**

#### CHARACTERISTIC

PERCENT NON-VOLATILE  
 VISCOSITY, Brookfield  
 pH  
 APPEARANCE  
 POUNDS PER GALLON  
 SOLVENT

#### TENTATIVE SPECIFICATIONS

40 – 44  
 50 – 1000 cps @ 25° C (#2,20RPM)  
 7.0 – 7.8  
 MILKY TO TRANLUCENT  
 8.7 – 8.9  
 Pnb (7.4%), Water (49.2%)

#### FEATURES

- Excellent Corrosion Resistance
- Excellent Gloss Retention
- Excellent Hydrolytic Stability
- Good Humidity Resistance
- Full gloss Capability

#### APPLICATIONS

- Industrial Top Coat
- High Quality Exterior Enamel
- Industrial Maintenance Application
- Primer Application

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### CURING

#### 3.0 mil-wet film

Set to touch	:	1 – 2 Hrs.
Tack Free	:	2 – 3 Hrs.
Dry hard	:	8 – 10 Hrs.

### DRIER RECOMMENDATIONS

Borchi Oxy coat : 0.8 – 1.5% (On Resin Solid)

Note: Some Water reducible driers have tendency to kick out and gives seedy looking film.

### STORAGE

**8900-W-42** should be stored in the original containers in a dry place at temperatures between 40°F and 85°F. Avoid exposure to direct sunlight or frost. Under these conditions, material may be stored for up to 6 months.



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### STARTING POINT FORMULATION

<b>AQUYD 8900 HIGH GLOSS DTM WHITE</b>			Formula No.	65-W-079p
POUNDS	GALLONS	ITEM/INSTRUCTIONS		
<b>STEP #1</b>			<b>Physical Properties</b>	
<b>Add defoamer and Bentone while mixing on high speed disperser</b>			Weight Solids, %	44.54
74.235	8.912	DISTILLED WATER	Weight / Gallon	10.17
1.068	0.127	BYK 024 <sup>(4)</sup>	PVC, %	18.33
1.912	0.092	BENTONE EW	VISCOSITY, KU	55-65
<b>High Speed disperse for 10 minutes to form a light gel</b>			Volume Solids, %	0.3172
<b>Add the following raw materials in order while mixing</b>			VOC, g/l - lb./g	152/1.27
8.339	0.953	Borchi Gen 1253 <sup>(2)</sup>	pH	7.1 - 7.5
199.691	5.722	Kronos2310/RCL 535		
<b>High Speed disperse for 15-25 minutes to a 7 Hegman</b>			<b>Performance Properties</b>	
7.498	0.9	DI Water	TF	1 - 2 Hrs.
<b>Rinse the mixer shaft &amp; container walls with water as needed</b>			Hard	2 - 3 hrs.
6.388	0.767	DI Water	Gloss, 60°	90+
<b>Do not over reduce as the viscosity will drop quickly</b>				
<b>PRE-MIX THE NEXT 2 MATERIALS &amp; ADD WITH GOOD AGITATION</b>			<b>SUPPLIERS</b>	
2.449	0.283	BORCHI OXY-COAT 1101 <sup>(2)</sup>	1	OPC Polymers
18.989	2.28	DI Water	2	ELEMENTIS
<b>END OF STEP #1</b>			3	BYK
<b>START STEP #2 PREPARING 8900 RESIN</b>			4	CIBA
<b>MIX NEXT 2 UNDER GOOD AGITATION</b>			<b>Formulating Guide</b>	
563.129	63.992	<b>AQUYD 8900-W-42 <sup>(1)</sup></b>	<ul style="list-style-type: none"> <li>OPC does not recommend using amine or ammonia to adjust paint viscosity above pH 7.5.</li> <li>To increase KU viscosity, increase the Rheolate 666 amount.</li> <li>To increase high shear viscosity, increase the Rheolate 212 amount.</li> </ul>	
76.49	9.18	DISTILLED WATER		
<b>ADD DEFOAMER WHILE MIXING</b>				
2.243	0.267	BYK 024 <sup>(4)</sup>		

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<b>PRE-MIX THE NEXT 2 MATERIALS &amp; ADD</b>				
3.365	0.421	BYK 337 <sup>(4)</sup>		
5.501	0.66	DISTILLED WATER		
<b>PRE-MIX THE NEXT 3 MATERIALS &amp; ADD</b>				
7.226	0.867	DI Water		
1.175	0.156	EB/Butyl Cellosolve		
1.762	0.205	Rheolate 666 <sup>(3)</sup>		
<b>ADD NEXT RM WHILE MIXING</b>				
16.096	1.876	Rheolate 212 <sup>(3)</sup>		
<b>ADD GRIND FROM STEP #1 WHILE MIXING</b>				
<b>TANK AND LINE WASH</b>				
19.5	2.34	DISTILLED WATER		
1017.06	100	TOTAL		
<p style="font-size: small; margin: 0;">The information and specifications stated here are for the material currently offered, are subject to change without prior notice, and due to variations in user handling and application methods should not be relied upon without testing under user conditions. The supplier makes no warranty of any kind, express or implied, concerning this product or its use either singly or in combination with other substances. User assumes all risks incident to its use. User must communicate to employees and customers all warnings that relate to the potential exposure to this product. The user assures that workplace and disposal practices are in compliance with laws, regulations and ordinances. ALL WARRANTIES, INCLUDING WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED. IN NO EVENT SHALL THE SUPPLIER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES</p>				



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### CORROSION RESISTANCE

This new alkyd dispersion was tested in salt spray for 336 hr. (ASTM B-117) against competitors. 8900-W-42 has shown excellent salt spray resistance compared to conventional water reducible resins.

8900-W-42

Competitor 1

Competitor 2



VOC 150 g/l (1.25 lb./g.)

335 g/l (2.8 lb./g.)

335 g/l (2.8 lb./g.)



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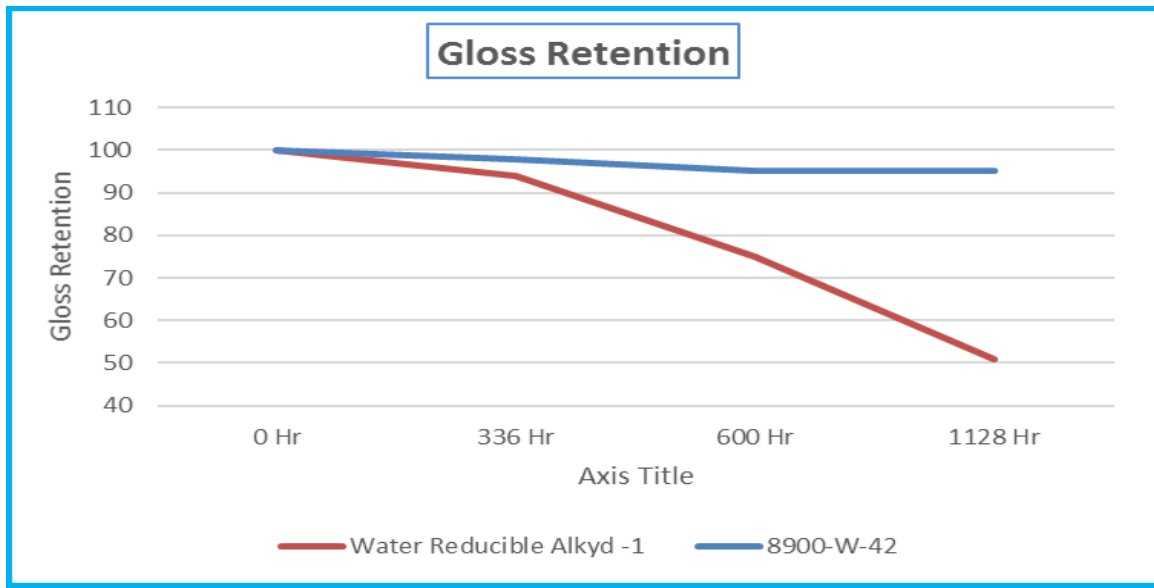
### QUV TESTING

8900-W-42 provides high gloss and is very color and gloss stable. QUV testing shows 93.5% gloss retention after 1,128 hours. 8900 is well suited for a quality industrial top coat.

#### Gloss:

	Initial Gloss	336 Hr.	600 Hr.	1128 Hr.
<b>8900-W-42</b>	84.6	81.2	80.5	80.1
<b>Water Reducible Alkyd -1</b>	90.1	85.6	68.3	46.4

#### Gloss Retention:



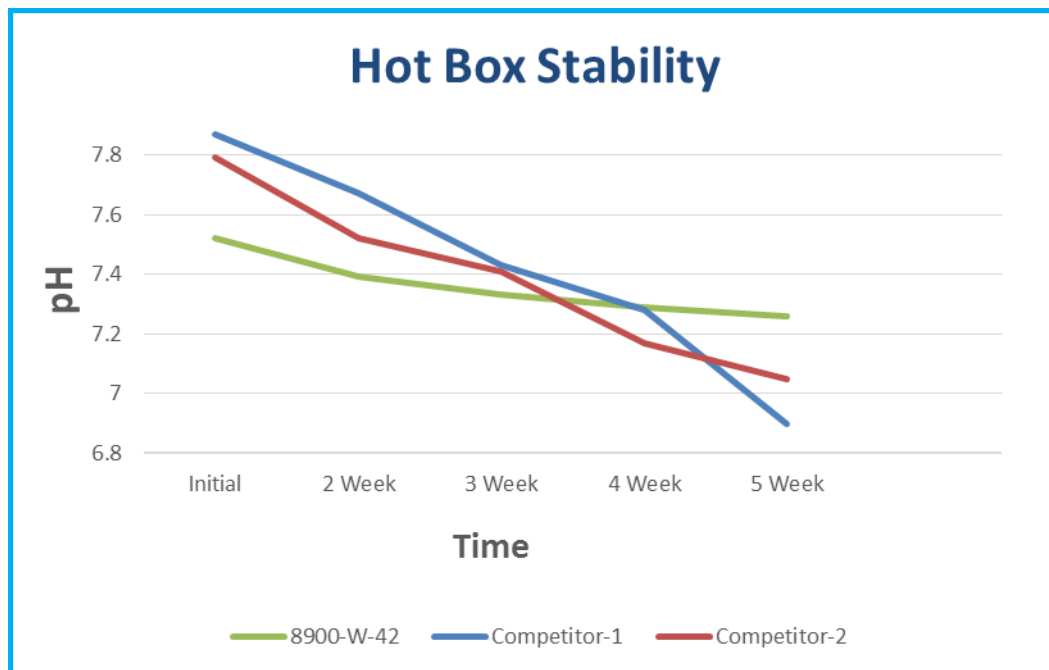


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### HOT BOX STABILITY

This material's excellent hydrolytic stability will improve overall paint stability compared to competitive products. Hot box testing data indicates that 8900-W-42 will provide excellent in-can paint stability at a lower level of co-solvent as compared to water reducible alkyds.

Product	Initial Viscosity	pH	Viscosity (5 Wk.)	Viscosity Change	pH (5 Wk.)	pH Change
<b>8900-W-42</b>	61.1 ku	7.52	57.3 ku	6.22%	7.26	-3.45%
Competitor 1	64.7 ku	7.87	109.8 ku	70.01%	6.9	-12.32%
Competitor 2	62.8 ku	7.79	99.6 ku	59.23%	7.05	-9.50%



\*Competitor 1 & 2 – Commercially available Water Reducible alkyd

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