



## Product Finishes

CC-E15

# KEM AQUA® 1400 Water Reducible Baking Enamel

Low Gloss Black.....F83B420  
Gloss Black.....F83B490  
Gloss Blending White .....F83W492  
Gloss Clear.....F83V491  
Custom Blend.....F83FX Series

DESCRIPTION	CHARACTERISTICS	SPECIFICATIONS
<p><b>KEM AQUA® 1400 Water Reducible Baking Enamel</b> is a waterborne alkyd-amino enamel designed for general metal finishing. It provides a hard, tough coating at less than 2.3 lb/gal VOC* without the hazards of flammable solvents.</p> <p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>VOC as packaged &lt;2.3 lb/gal; 275 g/L</li> <li>Excellent flow and leveling</li> <li>Excellent flexibility and toughness</li> <li>Reduces with water**, means considerable cost savings in solvent</li> <li>No flash point - reduced fire hazards - possible lower insurance rates</li> <li>Water can be used for cleanup of equipment</li> <li>Improved working conditions</li> <li>Full color and lower gloss range available with intermix system and Kem Aqua® Flatting Base D64F505 (consult Product Data Page CC-S13)</li> <li>Ideal for use on a wide range of metal products for both interior and exterior application</li> <li>Versatile - may be applied by conventional, HVLP, air-assisted airless, and electrostatic spray methods</li> </ul> <p><b>Not Stocked—Special Order Only:</b> Low Gloss Blending White.....F83W422 Low Gloss Clear.....F83V421</p> <p>*VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations.</p> <p>**To ensure optimal coating performance and stability, it is recommended to use</p>	<p><b>Gloss:</b> High gloss 85 units (60°) Low gloss 10-15 units (60°)</p> <p><b>Volume Solids:</b> 33-37% ± 1% may vary by color</p> <p><b>Viscosity:</b> 85-95 Krebs Units Reduced 10-15% with water 30-40 seconds #3 Zahn Cup</p> <p><b>Recommended film thickness:</b> Mils Wet 2.5 - 3.0 Mils Dry 0.8 - 1.0</p> <p><b>Spreading Rate</b> (no application loss) @ 1 mil dft: 530-595 sq ft/gal</p> <p><b>Baking Schedule:</b> Flash off: 10-15 minutes then 10-15 minutes at 325°F Good air movement helps water evaporate during flash off.</p> <p><b>Flash Point:</b> None, Seta Flash Closed Cup</p> <p><b>Package Life:</b> 1 year, unopened</p> <p><b>Storage:</b> Inside, protect from freezing</p> <p><b>pH:</b> 7.8-8.7</p> <p><b>Air Quality Data:</b></p> <ul style="list-style-type: none"> <li>Non-photochemically reactive</li> <li>Volatile Organic Compounds (VOC) theoretical as packaged, less water and exempt solvents &lt;2.3 lb/gal, 275 g/L</li> </ul> <p>An Environmental Data Sheet is available from your local Sherwin-Williams facility or at <a href="http://www.paintdocs.com">www.paintdocs.com</a>.</p>	<p><b>General:</b> Substrate should be free of grease, oil, dirt, fingerprints, drawing compounds, any contamination, and surface passivation treatments to ensure optimum adhesion and coating performance properties. Consult Metal Preparation Brochure CC-T1 for additional details.</p> <p><b>Aluminum or Galvanized Steel:</b> For best results, treat the surface with a proprietary chrome phosphate metal treatment, or prime with Kem Aqua® Wash Primer, E61G522.</p> <p><b>Steel or Iron:</b> Remove rust, mill scale, and oxidation products. For best results, treat the surface with a proprietary surface chemical treatment of zinc or iron phosphate to improve corrosion protection.</p> <p><b>Testing:</b> The information, data, and recommendations set forth in this Product Data Sheet are based upon test results believed to be reliable. However, due to the wide variety of substrates, substrate properties, surface preparation methods, equipment and tools, application methods, and environments, the customer should test the complete system for adhesion, compatibility and performance prior to full scale application.</p>

## APPLICATION

### Typical Setups

Water Reducible Enamels must be applied at higher viscosities than solvent based enamels. They do apply and atomize easily at higher viscosities.

**Reduction:** To ensure optimal coating performance and stability, it is recommended to use deionized water for reduction.

### **Conventional Spray:**

Air Pressure..... 30-60 psi  
Fluid Pressure ..... 4-10 psi  
Reducer..... water  
Reduction Rate... as needed up to 15%  
Reduce to 30-40 seconds #3 Zahn Cup, do not over-reduce.

### **Air Assisted Airless:**

Air Pressure.....30 psi  
Fluid Pressure .....600-2200 psi  
Tip .....011"  
Reduction Rate..... none

### **Electrostatic Spray:**

Equipment must be isolated  
Reduction Rate..... 10-15%  
Reducer ..... water  
Reduce to 30-35 seconds #3 Zahn Cup, do not over-reduce.

For Turbo Bells (Ransburg RPM 5062-PC):

Fluid Pressure .....8 psi  
Fluid Tip.....3/32"  
Turbine Air..... 10-20 psi  
Bell RPM ..... 15-30,000  
Voltage ..... 90KV  
Delivery Rate ..... 160 cc/min

### **HVLP (Binks Mach I BBR Gun):**

Air Pressure.....65 psi  
Fluid Pressure ..... 4-8 psi  
Cap/Tip.....97P/92  
Reducer..... water  
Reduction Rate..... 10-15%  
Reduce to 30-35 seconds #3 Zahn Cup, do not over-reduce.

### **Cleanup:**

Clean tools/equipment immediately after use with water when paint is wet. When dry, use Butyl Cellosolve or MIBK.

Follow manufacturer's safety recommendations when using any solvent.

## ADDITIONAL INFORMATION

- Avoid freezing. Indoor storage at temperatures between 35-95°F is recommended.
- Do not spray at temperatures below 50°F.
- Store in plastic or lined metal containers because it contains water.
- Due to wide variations in aluminum substrate and treatment, adhesion should be tested before use.
- Do not apply over 1.25 mils dry film thickness per coat because of potential solvent popping during the bake cycle.
- To ensure adequate cure, minimum bake is 10 minutes at 325°F or 20 minutes at 300°F. Longer bake and/or higher temperature may be needed depending on the mass of ware coated.
- Paint is recoatable with itself after baking provided the first coat is not over baked.
- Water reducible coatings may cause corrosion in the presence of steel. Tanks, containers, piping and application equipment should be lined, stainless steel, or plastic.
- Product will not texture. Use Kem Aqua® 1500T Waterborne Baking Enamel for texture bake finish.

### **Performance Tests**

Substrate:..... Bonderite® 1000 steel panels  
Salt Spray Test

ASTM B117.....100 hours  
Humidity

ASTM D2247, 100°F, 100% RH....250 hours  
Conical Mandrel

ASTM D633.....passes 1/8" mandrel  
Impact Resistance, Direct

ASTM D2794.....120 in lb  
Impact Resistance, Reverse

ASTM D2794.....40 in lb  
Pencil Hardness

ASTM D3363.....HB-H  
Crosshatch Adhesion.....Excellent

MEK, 100 double rubs..... slight burnish

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## CAUTIONS

### FOR INDUSTRIAL SHOP APPLICATION ONLY

**Thoroughly review product label and Safety Data Sheet (SDS) for safety information and cautions prior to using this product.**

To obtain the most current version of the Environmental Data Sheet (EDS), Product Data Sheet (PDS), or Safety Data Sheet (SDS) please visit your local Sherwin-Williams facility or [www.paintdocs.com](http://www.paintdocs.com).

Please direct any questions or comments to your local Sherwin-Williams facility.

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