



# Chemical Coatings

CC-E21

## KEM AQUA® 400 Waterborne Enamel

Black.....F75B550 (F75BC500)  
Gloss White.....F75W551(F75WC501)  
Allied Blue ..... F75L504

Low Gloss Black ..... F75B520  
Gloss Clear ..... F75V501  
WM Green ..... F75G502

<u>DESCRIPTION</u>	<u>CHARACTERISTICS</u>	<u>SPECIFICATIONS</u>
<p><b>KEM AQUA® 400 Waterborne Enamel</b> is a high quality water reducible alkyd enamel. It offers very good color and gloss retention with sharp gloss, high DOI and excellent corrosion resistance making it an ideal coating for the Off-Road Equipment and General Metal markets.</p> <p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Low VOC* - less than 2.8 lb/gallon at application</li> <li>• Low volatile organic emissions - under 1.3 lb/gallon</li> <li>• HAPS free formulation</li> <li>• Free of lead hazards as packaged in compliance with Consumer Product Safety Commission's (CPSC) 16 CFR Chapter II: Subchapter B, part 1303.</li> <li>• Very good color and gloss retention</li> <li>• Very good one coat protection - comparable to high quality solvent based alkyds</li> <li>• Excellent adhesion and early moisture resistance</li> <li>• Sharp high gloss and high DOI</li> <li>• Resistant to diesel fuel and motor oil</li> <li>• Low odor improves working conditions</li> <li>• Reduced with water means considerable cost savings in solvents</li> <li>• Application by conventional, airless, air assisted airless, HVLP and electrostatic handgun spray methods and by dipping</li> <li>• No critical recoat time</li> <li>• Use water to cleanup spray guns and equipment</li> <li>• Good flexibility and mar resistance</li> <li>• Dries hard overnight</li> </ul> <p>*VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations.</p>	<p><b>Gloss:</b> Full (80°+) at 1.25 mils DFT (Low Gloss Black F75B520 is 10-20 units)</p> <p><b>Volume Solids:</b> 26 - 31% ± 2% varies by color</p> <p><b>Viscosity:</b> 95-105 Krebs Units - Stormer 40-60 seconds #5 Zahn Cup</p> <p><b>Recommended film thickness:</b> Mils Wet 4.0 - 5.0 Mils Dry 1.0 - 1.25</p> <p><b>Spreading Rate</b> (no application loss) 308-529 sq ft/gal @ 1-1.25 mil dft - varies by color</p> <p><b>Drying</b> (1.0 mil dft, 77°F (25°C), 50% RH): To Touch: 35-45 minutes Tack Free: 90-110 minutes To Handle: 2 hours To Recoat: 30 minutes Force Dry: 15-20 minutes at 150-180°F (66-82°C)</p> <p>Good air movement and humidity control are necessary for proper drying of water reducible coatings.</p> <p><b>Flash Point:</b> 130°F - Seta Flash Closed Cup</p> <p><b>Package Life:</b> 18 months, unopened</p> <p><b>Storage:</b> inside storage, protect from freezing</p> <p><b>pH:</b> 8.5-8.9</p> <p><b>Freeze Thaw:</b> Passes 4 cycles</p> <p><b>Air Quality Data:</b> Non-photochemically reactive Volatile Organic Compounds (VOC) as packaged, maximum 2.8 lb/gal, 336 g/L reduced 10% with water 2.8 lb/gal, 336 g/L</p> <p>Volatile Organic Emissions as packaged, maximum 1.3 lb/gal, 156 g/L reduced 10% with water 1.17 lb/gal, 140 g/L</p> <p>An Environmental Data Sheet is available from your local Sherwin-Williams facility.</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</b> (untreated): Prime with Kem Aqua® Wash Primer, E61G520.</p> <p><b>Galvanized Steel</b> (untreated): Prime with Kem Aqua® Wash Primer, E61G520.</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, and/or the application of Kem Aqua® 70P Water Reducible Metal Primer at 1.2 mil DFT. Kem-Flash® 500 Primer may be used where a solvent based 3.5 VOC primer is desired.</p> <p><b>Testing:</b> Due to the wide variety of substrates, surface preparation methods, application methods, and environments, the customer should test the complete system for adhesion and compatibility prior to full scale application.</p>

## APPLICATION

### Typical Setups

**Reduction:** Reduce with water as needed up to 10%. Do not over reduce. Water reducible coatings must be applied at higher viscosities than solvent based coatings. For faster dry under humid conditions reduce up to 10% with Acetone, R6K9.

### **Conventional Spray:**

Air Pressure ..... 45 - 55  
Fluid Pressure ..... 10 - 15 psi  
Tip ..... .055 - .070

### **Airless Spray:**

Pressure ..... 2100-2400 psi  
Tip ..... .011 - .013

### **Air Assisted Airless:**

Assist Air ..... 20 - 30 psi  
Fluid Pressure ..... 1800 - 2500  
Tip ..... .011 - .013

### **Electrostatic Spray:**

Can be applied by electrostatic, but equipment must be isolated. Contact your equipment supplier or Sherwin-Williams Representative for proper set up.

### **HVLP:**

Atomizing Air Pressure at the Cap 8-10 psi  
Fluid Pressure ..... 8 - 10 psi  
Tip ..... .055 - .070

### **Dip:**

Excessive agitation or turbulence on part immersion or withdrawal may cause foaming.

Tank must be monitored for viscosity and pH to maintain stability. Adjust pH daily to 8.5-8.9 with ammonia. Additions of organic solvents such as butyl cellosolve will raise VOC.

### **Cleanup:**

Clean tools/equipment immediately after use with water when paint is still wet. When dry, use Butyl Cellosolve or MIBK. Follow manufacturer's safety recommendations when using any solvent.

## SPECIFICATIONS

### **Product Limitations:**

- Multiple passes to obtain film build are preferred to a single heavy pass.
- Higher relative humidity will increase drying time.
- Do not spray at temperatures below 45°F (7°C).
- Indoor storage at 35-95°F (1.7-35°C) is recommended. Protect from freezing.
- Tanks, containers, piping and application equipment should be lined or stainless steel or plastic.
- Do not use Kem Aqua 400 Waterborne Enamels over latex primers like Kem Aqua® 50P Water Reducible Primer.
- Custom colors available by blending bases with Kem Aqua colorants.

### **Performance Tests**

1.2 mils dry film on untreated cold rolled steel (Q Panel) and air dried for 14 days.

### Salt Spray Test

ASTM B117 ..... 200 hours  
no face rust and 1/8" creepage maximum

### Humidity

ASTM D2247, 100°F (38°F), 100% RH, 150 hours ..... passes - no blisters

### Pencil Hardness

ASTM 3363 ..... HB

## CAUTIONS

### **FOR INDUSTRIAL SHOP APPLICATION**

Thoroughly review product label and Material Safety Data Sheet (MSDS) for safety and cautions prior to using this product. A Material Safety Data Sheet is available from your local Sherwin-Williams facility. Please direct any questions or comments to your local Sherwin-Williams facility.

**Note:** Product Data Sheets are periodically updated to reflect new information relating to the product. It is important that the customer obtain the most recent Product Data Sheet for the product being used. The information, rating, and opinions stated here pertain to the material currently offered and represent the results of tests believed to be reliable. However, due to variations in customer handling and methods of application which are not known or under our control, The Sherwin-Williams company cannot make any warranties as to the end result.