



General Industrial Coatings

CC-E21

KEM AQUA® 400 Waterborne Enamel

Low Gloss Black.....	F75B520	Gloss White.....	F75W551
Black	F75B550	Allied Blue	F75L504
Gloss Clear	F75V501	WM Green.....	F75G502
		Custom Blend Series ...	F75WX

DESCRIPTION

KEM AQUA® 400 Waterborne Enamel 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.

Advantages:

- Formulated to meet 2.8 lbs/gal VOC*, less exempts
- Very good color and gloss retention
- Very good one coat protection; comparable to high quality solvent based alkyds
- Excellent adhesion and early moisture resistance
- Sharp high gloss and high DOI
- Resistant to diesel fuel and motor oil
- Reduces with water**
- Application by conventional, airless, air assisted airless, HVLP and electrostatic spray methods and by dipping
- No critical recoat time
- Use water to cleanup equipment
- Good flexibility and mar resistance
- Dries hard overnight

*VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations.

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

An Environmental Data Sheet is available from your local Sherwin-Williams facility, or at www.paintdocs.com.

CHARACTERISTICS

60° Gloss:	80+
20° Gloss:	10-20
Volume Solids:	25-32 ± 1% varies by color

Viscosity: 95-105 Krebs Units, Stormer (at 77° F) 40-60 secs., #5 Zahn Cup

Recommended Film Thickness:

Mils Wet	4.0-5.0
Mils Dry	1.00-1.25

Spreading Rate: 320-530 ft.²/gal. (no application loss) @ 1.00-1.25 mils DFT varies by color

Drying: (1.0 mil @ 77° F (25° C) / 50% RH)

To Touch	35-45 minutes
Tack Free	1.5-2.0 hours
To Handle	2.5 hours
To Recoat w/ Itself	30 minutes

Force Dry 15-20 minutes @ 150-180° F (62-82° C)

Good air movement and humidity control are necessary for proper drying of water reducible coatings.

Flash Point: 130° F (Pensky Martens Closed Cup)

Package Life: 18 months, unopened

Storage: Inside storage
Protect from freezing

pH: 8.2-8.6

Freeze Thaw: Passes 4 cycles

Air Quality Data:

- Non-photochemically reactive
- Volatile Organic Compounds (VOC) theoretical, maximum, as packaged, less exempts 2.8 lbs/gal (336 g/L)
- Volatile Hazardous Air Pollutants (VHAPS) as packaged No reportable VHAPS

SPECIFICATIONS

General: 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.

Aluminum (untreated): Prime with Kem Aqua Wash Primer, E61G522.

Galvanized Steel (untreated): Prime with Kem Aqua Wash Primer, E61G522.

Steel or Iron: 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.

Testing: 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.

APPLICATION

Typical Setups

Reduction: Reduce with water as needed up to 10%. To ensure optimal coating performance and stability, it is recommended to use deionized water for reduction. 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 R6K9 (Acetone).

May be applied by: Conventional
Airless
Air Assisted Airless
Electrostatic
HVLP
DIP

Conventional Spray:
Air Pressure 45-55 psi
Fluid Pressure 10-15 psi
Tip 0.055-0.070 in.

Airless Spray:
Fluid Pressure 2,100-2,400 psi
Tip 0.011-0.013 in.

Air Assisted Airless Spray:
Air Assist Pressure 20-30 psi
Fluid Pressure 1,800-2,500 psi
Tip 0.011-0.015 in.

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 Spray:
Atomizing Air Pressure 8-10 psi at cap
Fluid Pressure 8-10 psi
Tip 0.055-0.070 in.

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 8.2-8.6 with ammonia. Additions of organic solvents such as R6K25 (2-Butoxyethanol) will raise VOC.

Cleanup:
Clean tools/equipment immediately after use with water when paint is still wet. When dry, use R6K25 (2-Butoxyethanol) or MIBK.

Follow manufacturer's safety recommendations when using any solvent

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ADDITIONAL INFORMATION

- Multiple passes to obtain film build are recommended rather than 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 (2-35° 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.
- Proper pH is critical to achieve package stability.
- Custom colors available by blending bases with Kem Aqua Colorants. Do not use any other colorant systems.
- Maximum colorant tint load is 12 ounces per gallon.

Performance Tests*

Substrate: Cold Rolled Steel (Q Panel)
1.2 mils dry film, untreated

Cure: 14 Days, Air Dry

Salt Spray Test 200 hours
ASTM B117 No face rust
1/8" Creep maximum

Humidity 150 hours
ASTM D2247 Pass, no blisters
100° F (38° F), 100% RH

Pencil Hardness HB
ASTM 3363

*Performance test results may vary depending on dry film thickness, substrate tested and post-cure duration.

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.

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

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