

Kem® 4000

Acrylic Alkyd Enamel

B55-300 Series, V70V00411Acrylic Modifier, V66V01020 Exterior Catalyst



SHERWIN
WILLIAMS®

CHARACTERISTICS

KEM 4000 is a higher solids, gloss, general purpose acrylic alkyd enamel coating intended for industrial applications. It is ideal for interior or exterior applications, the refinishing of industrial, construction, and agricultural equipment, as well as a wide range of general metal applications.

For use on properly prepared:

Steel, Galvanized and Aluminum

Features:

- Interior-Exterior applications
- Fast return to service
- Formulated for fast drying and curing
- Excellent block resistance
- Fast handling times
- Suitable for use in USDA inspected facilities

Recommended for use in:

- Interior-exterior • Machinery • Bar joist • Steel doors
- Steel supports • Equipment • Farm equipment
- Steel decking • Piping

Color: Extra White, Clear
Tint, Safety Colors
and Black

Recommended Spreading Rate per coat:

Wet mils: 4.0-5.0
Dry mils: 1.9-2.4
Coverage sq. ft. per gallon: 313-396

Theoretical coverage: sq. ft. 753
per gallon @ 1 mil dry

Approximate spreading rates are calculated on volume solids and do not include any application loss. Note: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet, @ 50% RH:

	@50°F	@77°F	@120°F
To touch	25 min.	20 min.	10 min.
Tack free	90 min.	60 min.	30 min.
Block resistant	24 hours	6 hours	3 hours
To recoat*	less than 4 or greater than 24 hours	less than 2 or greater than 24 hours	less than 2 or greater than 24 hours
To cure	7 days	7 days	5 days

* **Critical:** A critical recoat time may occur between 2 hrs and 24 hrs when the temperature is above 50°F (10°C). (Force drying, film thickness and varying humidity conditions may change critical recoat time). Recoating should be tested on small areas under actual application conditions.

Drying and recoat times are temperature, humidity, and film thickness dependent.

Tinting with Maxitoner or GIC:

Base	oz. per gallon	Strength
Extra White	0-4	100%
Clear Tint Base	10-12	100%

Check color before using. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Finish: 80+ @60° Gloss

Pure White B55W00311

(may vary by color)

V.O.C. (less exempt solvents): As mixed

449 grams per litre; 3.75 lbs. per gallon
As per 40 CFR 59.406

Volume Solids: 47 ± 2%
Weight Solids: 62 ± 2%
Weight per Gallon: 9.72 lb
Flash Point: 96°F TCC
Shelf Life: 24 months, unopened

COMPLIANCE

As of 06/30/2021, Complies with:

OTC	No
OTC Phase II	No
S.C.A.Q.M.D.	No
CARB	No
CARB SCM 2007	No
CARB SCM 2020	No
Canada	No
LEED® v4 & v4.1 Emissions	No
LEED® v4 & v4.1 V.O.C.	No
EPD-NSF® Certified	No
MIR-Manufacturer Inventory	No
MPI®	No

APPLICATION

Temperature:

minimum	40°F / 4.4°C
maximum	120°F / 49°C
	air, surface, and material

At least 5°F above dew point

Relative humidity: 85% maximum

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer: No reduction in restricted areas

Below 80°F (27°C): Xylene (R2K4) or Toluene (R2K1)
Above 80°F (27°C): Aromatic Naphtha (R2K5) or 150 Flash Naphtha (R2KT4)

Airless Spray:

Pressure	2500 p.s.i.
Hose	3/8 inch I.D.
Tip	.015 inch
Filter	100 mesh

Reduction: Recommended, 10-15% by volume

Conventional Spray: Binks 95

HVLP: Air 10-12 p.s.i. Fluid 6-8 p.s.i.

Brush Natural Bristle

Roller Cover 3/8" woven with solvent resistant core

If specific application equipment is listed above, equivalent equipment may be substituted.

Apply paint at the recommended film thickness and spreading rate as indicated on front page. Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance. Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness, or porosity of the surface, skill, and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, over thinning, climatic conditions, and excessive film build.

Mix paint thoroughly to a uniform consistency with slow speed power agitation prior to use. Stripe coat crevices, welds, and sharp angles to prevent early failure in these areas. When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

SPECIFICATIONS

Steel, Light Service:

1 coat Kem 4000 Enamel

Steel, Moderate Service:

2 coats Kem 4000 Enamel

Steel Alkyd Primer:

1 coat Kem Bond HS Primer

or

1 coat Kem Kromik Universal Metal Primer

1-2 coats Kem 4000 Enamel

Steel Acrylic Primer:

1 coat Pro Industrial Pro-Cryl Primer

1-2 coats Kem 4000 Enamel

Aluminum:

1 coat DTM Wash Primer

or

1 coat Pro Industrial Pro-Cryl Primer

1 coat Kem 4000 Enamel

Galvanizing:

1 coat DTM Wash Primer

or

1 coat Galvite HS

or

1 coat Pro Industrial Pro-Cryl Primer

1 coat Kem 4000 Enamel

The systems listed above are representative of the product's use, other systems may be appropriate. Other primers may be appropriate.

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SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at **1-800-424-LEAD** (in US) or contact your local health authority.

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer-sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Iron & Steel - Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs.

Aluminum (untreated)- Remove all oil, grease, dirt, oxide and other foreign material per SSPC-SP1. Primer required.

Galvanizing (untreated)- Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. When the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP16 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned. Primer required.

Previously Painted Surface - If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Other substrates may or may not be appropriate. If a specific substrate is not listed above, consult your Sherwin-Williams representative for more information.

Mildew- Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised. Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach-water solution.

PERFORMANCE

Extra White B55W00311

System Tested: (unless otherwise indicated)

Substrate: Steel

Surface Preparation: SSPC-SP10

Primer: 1 coat Kem Bond HS @ 1.9 Mils D.F.T.

Finish: 1 coat Kem 4000 @ 1.9 Mils D.F.T.

Abrasion Resistance:

Method: ASTM D4060

Result: 101 mg loss

Adhesion:

Method: ASTM D4541

Result: 1181 p.s.i.

Corrosion Weathering:

Method: ASTM D5894, 10 cycles

Result: Rating 10, per ASTM D714

for Blistering. Rating 9 per

ASTM D1654 for corrosion

Direct Impact Resistance:

Method: ASTM D2794

Result: 32 inch lb.

Dry Heat Resistance:

Method: ASTM D2485

Result: 200°F

Flexibility:

Method: ASTM D522, greater than 1

inch mandrel

Result: Pass

Humidity Resistance:

Method: ASTM D4585, 500 hours

Result: Rating 10 per ASTM D714

for blistering. Rating 10 per

ASTM D1654 for corrosion

Pencil Hardness:

Method: ASTM-D3363

Result: 1H

Do not use colorants formulated for interior use

only when applying exterior.

Excessive reduction of material can affect film

build, appearance, and adhesion.

For improved exterior color and gloss retention,

faster drying, sharper gloss, and improved block

resistance in stacking, 10% by volume of Acrylic

Modifier V70V411 may be added to Kem 4000.

For increased chemical and abrasion resistance,

and better color and gloss retention, catalyze at an

8:1 ratio with Exterior Catalyst V66V1020, prior to

reduction. Pot Life will be 8 hrs maximum.

During the early stages of drying, the coating is

sensitive to rain, dew, high humidity, and moisture

condensation. If possible, plan painting schedules

to avoid these influences during the first 16-24

hours of curing.

Force dry schedules may affect the color of whites

because of heat.

Blocking or sticking may occur when flat surfaces

are stacked before adequate cure.

***Critical:** A critical recoat time may occur between

2 hrs and 24 hrs when the temperature is above

50°F (10°C). (Force drying, film thickness and

varying humidity conditions may change critical

recoat time). Recoating should be tested on small

areas under actual application conditions.

SAFETY PRECAUTIONS

Before using, carefully read **CAUTIONS** on label.

Refer to the Safety Data Sheets (SDSs) before use.

FOR PROFESSIONAL USE ONLY.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

CLEANUP INFORMATION

Clean spills, spatters & tools with compliant cleanup solvent. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

HOTW	06/30/2021	B55W00311	16 383
HOTW	06/30/2021	B55T00304	12 375