

451 Silicone Acrylic Coating

Product Data Sheet/Application Instruction

Typical Uses

Khemix 451 is a silicone acrylic coating used as a new construction and maintenance coating for high temperature service. It is a weather resistant topcoat that has excellent color retention and appearance under constant weathering exposure.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. Refer to specifications for the specific primer being used. Prior to coating, primed surface must be clean, dry, undamaged and free of all contamination.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure and tip size may be needed for proper spray characteristics.

Airless spray – Standard equipment such as Graco Bulldog Hydra-Spray or larger, with a 0.015-0.019-inch fluid tip.

Conventional spray – Industrial equipment such as DeVilbiss MBC, JGA or Binks BBR spray gun. Separate regulators for air and fluid pressure, a pressure material pot with mechanical agitator, and a moisture and oil trap in the main air supply line are recommended.

Application Procedures

1. Thoroughly clean equipment with Khemix 012.
2. Stir material thoroughly until uniformly blended.
3. Thinning is normally not required. If necessary for workability, thin with up to 1 pint Khemix 065 per gallon of Khemix 451.
4. Apply a wet coat in even, parallel passes, overlap each pass 50 percent to avoid holidays, bare areas and pinholes. Over inorganic zinc, a mist coat/full coat may be needed to avoid pinholing.
5. Clean all equipment with Khemix 012 Cleaner after use.

Shipping Data

Packing	5 and 20 litres	
Shipping weight (approx.)	lb	kg
5 lits can	14.3	6.5
20 lits pail	57.2	26.0

Shelf life when stored indoors
at 60 to 100oF (16 to 38 oC) 2 years from date of shipment

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Physical Data

Finish	Semi-gloss	
Color	Aluminium and most colors on Alspec Standard color chart	
Components	1	
Volume solids (calculated)	40% + 3%	
Dry film thickness per coat	1– 2 mils (25-50 microns)	
Coats	1-2	
Theoretical coverage	ft ² /gal	m ² /litre
1 mil (25 microns)	652	16.0
2 mils (50 microns)	326	8.0
VOC	lb/gal	g/L
891	5.1	615
Thinned	5.4	643
Temperature resistance (dry)	°F	°C
(maximum) Aluminium	480	250
Other selected colors*	300-480	149-250
Flash point (SETA)	°F	°C
Aluminium	98	37
Other colors	110	43
Khemix 065	78	25
Khemix 012	0	-18

Application Data

Applied over	Primed steel
Surface Preparation	Abrasive blast
Primer	Khemix primer
Method	Airless or conventional spray, roller

Environmental conditions

Temperature	°F	°C
Air and surface	40 to 120	5 to 49



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Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation.

Drying time (ASTM D1640)	°F/°C
(hours)	70/21
touch	3
through	18
recoat	4
service	24

Thinner	Khemix 065
Cleaner	Khemix 012

Safety Precautions

Khemix 451 Aluminium – Flammable. Warning! Contains aluminium, acrylic resin, xylene and mixed hydrocarbons. Vapor and spray mist can be harmful. Irritating to eyes, skin, mucous membranes and respiratory system; can cause headache, nausea, dizziness or asphyxiation and/or lung injury. Can be harmful if inhaled or absorbed through skin. Overexposure to vapors, spray mist, dust or ingestion can cause lung, kidney and/or liver damage, and can damage central nervous system.

Khemix 451 – All other colors – Combustible. Warning! Contains methoxy propanol acetate, acrylic resin, cyclohexanone. Vapor and spray mist can be harmful. Irritating to eyes, skin, mucous membranes and respiratory system; can cause headache, nausea, dizziness or asphyxiation and/or lung injury. Can be harmful or fatal if swallowed. Can be harmful if inhaled, swallowed or absorbed through skin. Overexposure to vapors, spray mist, dust or ingestion can cause lung, kidney and/or liver damage, skin and eye burns or injury. Excessive, long-term exposure to lead-containing colors can cause lead poisoning. Lead chromate is a cancer-suspect agent.

First aid – Overexposure to vapor, provide fresh air; if breathing is labored, give artificial respiration or oxygen. For skin contact, wash thoroughly with soap and water. For eyes, flush immediately with plenty of water for at least 15 minutes and get medical attention. If swallowed, drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult physician or poison control center immediately. Treat symptomatically.

Hygienic practices – Wash thoroughly after use and before eating, smoking or using washroom. Launder contaminated clothing before use.





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Hazards – Keep away from heat, sparks and open flame; avoid breathing vapor, dust, spray mist or contact with eyes and skin. Use adequate ventilation during mixing, application and drying to prevent concentration of solvent vapors and other hazardous fumes. Reports associate repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Wear protective equipment such as goggles, face protection, gloves, full protective clothing and properly fitted, NIOSH certified respirator during mixing, spraying and until all vapors and mists are gone. In confined, poorly ventilated areas, use air line, hood-type respirator and explosion and spark-proof equipment. Welding and cutting can produce hazardous fumes and gases; follow the American National Standard Z49.1 – 1983. ‘Safety in Welding and Cutting’. Fire – Blanket flames with dry

chemical, carbon dioxide or foam. Wear self-contained breathing apparatus. Close containers may explode when exposed to extreme heat.

Spillage – Eliminate all sources of ignition or sparks. Use absorbent clean up materials. Place in separate, closed, metal container.

Storage and disposal – Store in cool, dry, well-ventilated area. Keep container closed and upright to prevent leakage. Prevent water or moisture contamination in aluminium. A chemical reaction can occur producing pressure buildup and hydrogen.

Caution – **Improper use and handling of this product can be hazardous to health and cause fire or explosion.**

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation : implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. Alspec makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which Alspec is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note – Consult Code of Federal Regulations Title 29, Labor, parts 1919, 1915 and 1916 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

Notice – This product is for industrial use only.





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Warranty

Alspect's products are warranted to be free of defects in material or workmanship. If a product does not conform with this Warranty, Buyer must notify Alspect within five days of discovery of the defect, but in no event later than one year after expiration of the applicable shelf life, whichever is shorter. Alspect's sole obligation under this Warranty shall be at its option, to credit Buyer's account, or to supply replacement material or repair. Failure to notify Alspect of nonconforming goods under this warranty, within the time specified above, shall bar Buyer from recovery hereunder. It is expressly understood that Alspect makes no other warranties concerning the goods, and the sole remedy of the Buyer and the sole liability of Alspect for product defect shall be as set forth above. No other warranties, express or implied, whether of merchantability or of fitness for any particular use shall apply. Alspect shall not be responsible for consequential damages. Any recommendation or suggestion relating to the use of the products made by Alspect either in technical literature or in response to specific inquiry is given in good faith, but it is for Buyer to satisfy itself of the suitability of the goods for its own particular purpose and it will be deemed to have done so.

