

492 Inorganic Zinc Silicate Primer

Product Data/Application Instructions

- Fast drying properties permit quick handling and fast topcoating.
- Can be applied by airless or conventional spray leaving a smooth film with negligible overspray even in hot weather
- Excellent tolerance to heavy film build in corners and angles
- Outstanding application characteristics over a wide range of atmospheric conditions
- Meets or exceeds requirements of Steel Structures Painting Council Specification PS12.00 for inorganic zinc coatings
- Enviropac powder packaging provides convenient disposal package recycling.

Typical Uses

Khemix 492 is designed for use as a fast-drying shop primer for shopfabricated steel, allowing quick steel handling and shop topcoating with a specified fast-drying topcoat. It can also be field topcoated in the construction completion stage. Khemix 492 may be field-applied and topcoated with a variety of Khemix topcoats.

Khemix 492 displays versatile application properties and is especially suitable for use with airless spray equipment. Khemix 492 is also designed to meet a number of State Bridge and Highway Department specifications for inorganic-zinc primers to be applied to bridges and related structures. When used for this purpose, Khemix 492 may be either shop-or field applied.

Khemix 492 is also suited for general purpose industrial maintenance priming in corrosive atmospheric exposures where inorganic-zinc primers are normally recommended and top coated with corrosion-resistant topcoats.

Khemix 492 may be topcoated with epoxies, vinyls, acrylics, chlorinated rubbers or other topcoats, when used in industrial or marine maintenance systems. Typical Khemix topcoats are Khemix 485 multi-purpose epoxy or Khemix 400 maintenance epoxy coating package. In some cases a “mist coat” may be required to prevent application bubbling. Get specific recommendations from your Alspeg representative.

Resistance Guide

Khemix 492 without a topcoat has excellent resistance to weathering and ultraviolet exposure, water and neutral salts, refined petroleum products, alcohols and solvents, animal and vegetable oils (up to 2½% free fatty acid). In addition to the above, with suitable topcoats Khemix 492 is recommended for fumes and splash of mild alkalies, dilute acids (fumes only) salt solutions of most types.

Primer/topcoat systems based on Khemix 492 and specified Khemix topcoats are suitable for severe corrosive services such as pulp and paper mills, petrochemical plants, marine hulls above the waterline, ship superstructures and decks, offshore platforms. Khemix 492 is not recommended for immersion service or spillage of acid or alkaline solutions.

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Shipping Data

Packaging	5 lits. unit
Shipping weight (approx.)	
Liquid	4.8 kg
Powder	6.1 kg
Shelf life when stored indoors at 40 to 100oF (4 to 38 oC)	
Liquid	9 months from shipment date
Powder	2 years from shipment date

Physical Data

Finish	Flat	
Color	Grey	
Components	2	
Curing mechanism	Solvent release and reaction with atmospheric moisture	
Volume solids (ASTM D2697 modified)	63% + 3%	
Dry film thickness	2 ½ mils (65 microns)	
Coats	1	
Theoretical coverage	ft ² /gal	m ² /L
1 mil (25μ)	1026	25.2
2 ½ mil (65μ)	395	9.7
VOC	lb/gal	g/L
Mixed	4.70	563
Temperature resistance	oF	oC
Dry, continuous	750	399
Flash point (SETA)	oF	oC
Liquid	59	15
Mixed	59	15
Khemix 065	78	25
Khemix 012	0	-18

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Application Data

Applied over	Prepared steel		
Surface preparation	Abrasive blast SSPC-SP6 or 10, Pickling SSPC-SP8		
Method	Airless or conventional spray		
Mixing ratio (by volume)	As packaged – 5 lits. Set		
Pot life (hours) @ 50-90% RH	oF/oC		
	90/32	70/21	50/10
	30	48	168

Environmental conditions

Temperature	oF	oC
Air	23 to 120	-5 to 49
Surface	23 to 130	-5 to 54
Relative humidity	50 – 90%	

Surface temperatures must be at least 5 oF (3 oC) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.

Drying time (ASTM D1640)	oF/oC		
@ 2½ mils @ 50-90% RH	90/32	70/21	50/10
touch (minutes)	5	10	20
through (minutes)	10	20	40
topcoat with epoxy (hours)	3	4	6
topcoat with others (hours)	16	24	24

Thinner	Khemix 065 (below 70oF/21oC)
Equipment cleaner	Khemix 012

Surface Preparation

New steel without pits or depressions – dry abrasive blast, SSPC-SP6 or pickle.

Previously painted or pitted steel – dry abrasive blast, SSPC-SP10.

Blast to achieve a 1 to 2 mil (2 to 50 microns) anchor profile as determined with a Keane Tator Surface Profile Comparator or similar device.

Application Equipment

The following is a guide and suitable equipment from other manufacturers may be used. Changes in pressure and tip size may be needed to achieve the proper characteristics.

Airless spray – Standard airless spray equipment, such as Graco Bulldog Hydra-Spray or Speeflo Alaskan PZ and a fluid tip with a 0.021-inch (0.53mm) orifice or larger.

Conventional spray – Industrial spray equipment such as a DeVilbiss MBC or JCA spray gun. A variable speed agitator in the pressure pot and an oil and moisture trap in the main air supply line are essential. Separate air and fluid pressure regulators are recommended.

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Power mixer – Mixer such as a Jiffy Mixer, powered by an air motor or an explosion-proof electric motor.

Application Procedure

Powder and liquid are packaged in separate containers which, when mixed together, yield 5 lits of Khemix 492

Caution – Moisture or water contamination will cause skinning and gelling of this product. Keep container closed when not in use.

1. Flush all equipment with Khemix 012 cleaner to remove any moisture that may be present.
2. Stir liquid with an explosion-proof power mixer.
3. Discard desiccant bag from powder can and gradually stir powder into liquid. Continue stirring until powder is well dispersed, and uniformly blended to workable consistency.
4. Strain material through 30 mesh screen to remove undispersed material and to prevent possible clogging of equipment.
5. Since pot life is limited and shortened by high temperatures; do not mix more coating than will be used.
6. Keep containers loosely covered until ready to use to prevent skinning or gelling due to moisture in air. Skins should be skimmed off the top and the material strained through cheese-cloth or 30 mesh screen to remove any remaining pieces of skin. Discard gelled material.
7. Adjust spray equipment to apply an even wet coat with minimum overspray. Continue slow stirring during application to maintain uniformity of material. Avoid fast stirring as this may cause a rise in material temperature, shortening pot life.
8. Apply in even, parallel passes, overlapping each pass 50 percent. Pay special attention to welds, cut-outs, sharp edges, rivets, bolts, etc., to insure proper thickness. Keep pressure pot at approximately the same elevation as spray gun for proper material delivery to gun.
9. When dry through, check film thickness with a nondestructive dry film thickness gauge. Recoat if greater thickness is required. Normal recommended thickness is 2½ mills. Allowable thickness range is 2 to 8 mils, assuming the surface profile is within the recommended range. Greater thicknesses may develop cracking.
10. Random pinholes, holidays and small damaged or bare areas can be touched up by brush when film is dry to touch. Larger areas should be resprayed.
11. Prevent contact with water until the freshly applied coating is dry to touch.
12. In confined areas, ventilate with clean air during application and drying until all solvents are removed. Temperature and relative humidity of the ventilating air must be such that moisture will not condense on the surface.
13. Clean equipment with Khemix 012 cleaner immediately after use or at least at the end of each working day or shift.

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Topcoating

Khemix 492 surface must be clean and dry before topcoating. Water soluble contaminants may be washed off with water. Remove grease and similar contaminants with an emulsion type cleaner or neutral detergent. Rinse with clean water and allow to dry. Solvent wiping is not satisfactory as contamination may only be spread and not remove. In some cases a “mist coat” may be required to prevent application bubbling.

Repair

Rusted areas must be spot-blasted in accordance with instructions under “Surface Preparation” before touching up with Khemix 492. Rusted steel without pits may be cleaned to SSPC-SP11 using 3M. Clean-NStrip or equivalent to removed rust and maintain profile.

Safety Precautions

Khemix 492 liquid – Warning! Flammable. Contains isopropyl alcohol, ethyl silicate and propylene glycol ether. Vapor and/or spray mist can be harmful.

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.

Notice – This product is for industrial use only.

Limitation of the Liability

Alspec’s liability on any claim of any kind, including claims based upon Alspec’s negligence or strict liability; for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or parts thereof which give use to the claim. In no event shall Alspec be liable for consequential or incidental damages.

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Warranty

Alspec warrants its products to be free from defects in material and workmanship. Alspec's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Alspec's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Alspec in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of this applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Alspec of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

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