



CAL551-009 INDUSTRIAL ADHESIVE

Adhesive For Metal And Concrete Substrates

PRODUCT PROFILE

DESCRIPTION

A self-priming industrial maintenance coating with high rubber content, offering good impact resistance, while remaining flexible, stretching enough to bridge micro-cracks up to 0.10 inch.

Adheres well to a variety of substrates and tolerates less than perfect surface preparation. Can be used on metal and concrete structures that are subject to vibration or moderate flexing.

An alternative to coal tar epoxies, eliminating the user and environmental concern of solvent-based coal tar epoxies while matching or exceeding the protection provided by them.

Zero VOCs, 100% solids, Ceramic-Filled.

Packaged in a 250g 2-part plastic applicator pouch.

TECHNICAL DATA

PHYSICAL PROPERTIES

Specific Gravity	Resin: 1.45; Hardener: 1.02
Weight	11.56 pounds/gallon
Flash Point	> 250° F (121° C)
Volatile Organic Compounds (VOC)	0 grams/liter excluding H ₂ O
Coefficient of Thermal Expansion (.00001/per degree F.)	1.4
Color	Dark Gray
Pull-Off Adhesion Test ASTM D 4541	Minimum Adhesion is 3200 psi
Recommended Coverage	16 -20 mils
Coverage per Gallon (theoretical)	160 square feet per 10 mils of thickness
Container Size	250 gram 2-part applicator pouch

CHEMICAL RESISTANCE

Acetic Acid up to 10%	Hydrochloric Acid up to 30%
Ammonium Hydroxide 25%	Isopropyl Alcohol
Brine Water	Mineral Spirits
Copper Sulfate	Potassium Hydroxide 50%
Diesel Fuel	Sodium Hydroxide 50%
Gasoline	Sulfuric Acid up to 50%
Hydrochloric Acid up to 30%	Sewage
Isopropyl Alcohol	Alkalis
	Fresh & non-potable water



APPLICATION PREPARATION

SERVICE TEMPERATURE	EXPOSURE	MAXIMUM RECOMMENDED TEMPERATURE
	Dry Service	212° F (100° C)
	Spills, Splashes & Fumes	175° F (79° C)
	Immersion Service*	150° F (65.5° C)

Note: Water immersion - 190° F (90° C) – Atlas test cell for 60 days, unaffected.

SURFACE PREPARATION

Note: For optimal coating performance, take considerable care with surface preparation.

Metal: Remove all oil, grease or scale from the surface, then blast with sharp sand or grit to finish. Use a non-spherical blast medium to give a 2 - 3 mil (50 - 75 micron) profile and to achieve the following surface preparation standards or their equivalents:

Non-chemical Service	SSPC-SP 6 Commercial Blast (NACE 3)
Intermittent Splash or Wear	SSPC-SP 10 Near White Metal Blast (NACE 2)
Immersion or Abrasive Service	SSPC-SP 5 White Metal Blast (NACE 1)

Concrete: Concrete should be aged at least 28 days before coating and the surface should be clean, dry and free of form-release agents, silicone water proofers and/or curing agents. Sand blasting or scarification is recommended. Wash down old concrete to remove all residues and neutralize the pH before blasting or scarifying.

These products are normally self-priming. However, under certain conditions such as old, porous or poorly finished concrete, CAL551-102 primer/sealer is recommended to avoid bubbling caused by outgassing. If these conditions exist, call Calicorp for assistance as two coats of CAL551-101 may be indicated on air entrained concrete.

MIXING PROCEDURES

Note: Do not mix partial kits.

1. Thoroughly mix the resin before adding the hardener. CAL551-009 is 100% solids and contains materials with high specific gravity.
2. Empty the entire amount of hardener into the resin container.
3. Mix thoroughly—until uniform in consistency—then continue to mix for an additional 2 - 3 minutes. Pay special attention to the bottom and sides of the container to insure complete mixing. Due to the high viscosity of this product, a mechanical mixer is preferred. Use at low speed and keep the mixing blade down in the product to avoid entrapping air. If mixing by hand, use a square-cornered, flat implement, such as a standard paint stirring stick.



THINNING

If thinning is necessary, especially at temperatures lower than 60° F (16° C), add 4 to 6 fl oz of MEK to the resin and mix thoroughly before adding the hardener. Note: Do not exceed 10% solvent by volume. Read the Material Safety Data Sheet for MEK (flammable liquid) before using it.

POT LIFE

AMBIENT TEMPERATURE

TIME

40° F (4° C)

9 hours

75° F (24° C)

2 hours 30 minutes

92° F (33° C)

1 hour

Do not keep the blended coating in the original container: exotherm – heat created during the curing process – can considerably shorten the pot life. Pour the coating into a rolling tray or large aluminum basting pan. Try to keep the depth of the coating in the tray below 3/8".

APPLICATION PROCEDURE

CAUTIONS

1. If the ambient temperature is 85° F (29° C) or higher, pot life may be as short at 20 minutes. Have the working surfaces ready, and mix no more than one gallon of the coating at a time. To increase the pot life under these conditions, put the tray or pan on ice or in ice water. **Do not** get water or ice in the tray with the coating.
2. The substrate temperature must be at least 5° F (3° C) above dew point—the temperature at which moisture will condense on the surface of the substrate—during all blasting and coating procedures. To calculate the dew point, consult the chart below.

Example: if the ambient air temperature is 70° F—top row below—and the relative humidity is 65%—left column—the dew point is 57° F. Under these conditions, the substrate temperature would need to be at least 62° F before proceeding with blasting and coating procedures.

%RH	Ambient Air Temperature, °F(°C)						
	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	110 (43)
90	47 (9)	(14)	67 (19)	77 (25)	87 (31)	97 (36)	107 (42)
85	45 (7)	55 (13)	65 (18)	75 (24)	84 (29)	95 (35)	104 (40)
80	44 (7)	54 (12)	63 (17)	73 (23)	82 (28)	93 (34)	102 (39)
75	42 (6)	52 (11)	62 (17)	71 (22)	80 (27)	91 (33)	100 (38)
70	40 (4)	50 (10)	60 (16)	69 (21)	78 (26)	88 (31)	98 (37)
65	38 (3)	48 (9)	57 (14)	67 (19)	76 (24)	86 (30)	95 (35)
60	36 (2)	46 (8)	55 (13)	65 (18)	74 (23)	83 (28)	92 (33)
55	34 (1)	43 (6)	53 (12)	62 (17)	71 (22)	80 (27)	90 (32)
50	31 (-.5)	41 (5)	50 (10)	59 (15)	69 (21)	78 (26)	87 (31)

**APPLICATION**

CAL551-001 may be sprayed, brushed, rolled or applied by squeegee. Use a medium bristle brush or a non-shed roller—3/8" nap or shorter—designed for use with epoxies. To spray CAL551-001, use an airless system—such as those available from Binks, DeVilbiss or Graco—with the following specifications a guideline:

Pump Ratio	56:1 or greater
Minimum Output	5600 psi
In-Line Filter	30 mesh
Tip Size Product Hose	.022 - .035 inch
Minimum – Optimum I.D.	.375 - .5 inch
Maximum Length	60 feet

MULTIPLE COATS

Second and subsequent coats must be applied **before the previous coat has completely cross-linked**. Apply additional coats when the previous coat will still string out (pigtail) and hold its shape when touched. If only slight tack remains, allow the product to cure, then brush blast before applying the next coat. Sanding or wire brushing may abrade small areas.

The same requirement applies when overlapping the seams of adjacent coating sections to create a continuous protective film. If the coating surface to be overlapped at the seam cannot be brush blasted, use a non-impact means such as power brushing or sanding to create a mechanical profile.

CURE TIME

(@ 70° F/21° C)

Re-coat Window	24 hours
Light Loading	48 hours
Immersion (Aqueous) Service	3 days
Full or Chemical Service	7 days

SPEED CURING

The cure time varies with temperature variations. If speed curing is desired, cure time can be reduced and product performance enhanced by artificially applying heat during the curing process of the final coat. Allow to cure for 3 hours at 75° F, then increase temperature to 150° F for 1.5 hours.

CLEAN UP

Use a mixture of MIBK and Xylene (50/50) or MEK for clean-up. Read the Material Safety Data Sheets for any of these products (flammable liquids) before using them. Skin can be cleaned with denatured alcohol, preferably ethanol.



ORDERING INFORMATION

For additional information, prices or to place an order, contact Calicorp or your Calicorp representative.

If you do not know the name of your Calicorp representative, call 888-BATT-MAT (888-228-8628) for more information. You can view our product descriptions and reference information at our web site www.calicorp.com

MATERIAL SAFETY DATA

HAZARDOUS INGREDIENTS

RESIN	HARDENER
Bisphenol A CAS #25085-99-8 10-50% Exposure limits: none established	Polyamide CAS #68410-23-1 50% or less Polyamido Amine CAS #647-754-99-0 50% or less Modified Polyamine CAS # (Trade Secret) Exposure limits: none established irritant

PHYSICAL DATA

	RESIN	HARDENER
Specific Gravity	1.41	0.97
% Volatiles by volume	Nil	< 0.5%
Appearance/Odor	Olive Brown	Brown/Slight Sweet Odor
Melting Point	< 0 degrees F (-18 ⁰ C)	< 0 degrees F (-18 ⁰ C)
Solubility in Water (% by weight)	Negligible	Negligible
pH	ca 5	ca 10

FIRE AND EXPLOSION DATA

	RESIN	HARDENER
Flash Point	> 300o F (149o C)	> 200o F (93o C)
Extinguishing Media		Carbon Dioxide, foam, dry chemical
Special Procedures		Use a self-contained breathing apparatus.

NOTE: decomposition and combustion products may be toxic

HEALTH AND HAZARD INFORMATION

	RESIN	HARDENER
Inhalation	LC ₅₀ (rabbits): 6000 mg/kg	LC ₅₀ : possible respiratory irritant if atomized
Skin Contact	LD ₅₀ (rabbits): 4000 mg/kg	Possible irritant, dermatitis in extreme
Eye Contact	Irritating	Severe Irritant
Ingestion	LD ₅₀ (rabbits): 4000 mg/kg	LD ₅₀ (rats): 3000 mg/kg
Acute Overexposure	Irritation, possible sensitization	Irritation, possible sensitization, nausea



Chronic Overexposure	Skin sensitization, dermatitis	Skin sensitization, may be corrosive
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**EMERGENCY
FIRST AID
PROCEDURES**

	RESIN	HARDENER
Ingestion	If large amounts are ingested, induce vomiting if conscious.	Call physician immediately. Give generous amounts of water if conscious. Do not induce vomiting.
Inhalation	Remove to fresh air. Give oxygen if breathing is difficult.	
Eyes	Immediately flush eyes with water for 15 minutes. Call physician.	
Skin	Promptly wash with mild soap and water.	

**REACTIVITY
DATA**

	RESIN	HARDENER
Conditions contributing to instability	Stable	Do not heat in bulk as dangerous decomposition may occur, liberating toxic fumes.
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Phenolics	Carbon Monoxide, Carbon Dioxide, Phenolic Nitrogen Oxides and Compounds
Conditions Contributing to Hazardous Polymerization	Will not occur	Heating in bulk
Incompatibility	Strong oxidizers, strong acids and bases	

**DISPOSAL OR
SPILL
PROCEDURES**

	RESIN	HARDENER
Aquatic Toxicity	Not available at this time	Not available at this time
Steps to be taken if material is spilled	Shovel into closeable container for disposal.	Absorb into sand or other absorbent material. Shovel into closeable container and dispose of in professional manner.
Waste Disposal Method	Not considered hazardous under RCRA (40CFR 261) Dispose according to state, federal and local regulations.	

**SPECIAL
PROTECTION
MEASURES**

Ventilation Requirements	Good general mechanical ventilation and local exhaust
Specific Personal Protective Equipment	Organic chemical cartridge respirator if needed in non-vented area
Eyes	Splash-proof chemical goggles
Gloves	Impervious gloves
Other	Appropriate equipment to prevent probability of skin and eye contact.



**SPECIAL
PRECAUTIONS**

Can cause irritation; wear protective skin and eye equipment.
Do not heat in bulk; dangerous decomposition may occur, liberating toxic fumes.

This product is not regulated by the DOT and is not considered a hazardous waste under the RCRA.

MSDS information provided by the manufacturer.

Please call Calicorp for additional information regarding this product or its application

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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