



CAL551-331 PATCH COMPOUND

Self Priming Industrial Patch Compound

PRODUCT PROFILE

DESCRIPTION	<p>CAL551-311 Industrial Repair and Wear Compound for Concrete and similar Substrates, 100% Solids.</p> <p>CAL551-311 is a self-priming, silica, and ceramic-filled synthetic (polymer) concrete that has been engineered for repairing, replacing or reinforcing concrete. It has excellent chemical resistance, excellent adhesion to diverse substrates and has about three times the tensile strength of concrete</p> <p>CAL551-311 is ideal for surface areas that require high strength, durability and chemical and heat resistance. It has proven to be especially effective against high-speed, small-particle impingement.</p>												
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TECHNICAL DATA

PHYSICAL PROPERTIES	<p>Specific Gravity Weight Solids By Volume Flash Point Compressive Strength Volatile Organic Compounds (VOC) Coefficient of Thermal Expansion (10⁻⁶/per degree F.) Color Coverage per Gallon (theoretical) Container Size</p>	<p>Resin: 1.987 Hardener: 1.03 16.5 pounds/gallon 100% > 240° F (116° C) >13,000 psi (89,631 kPa) 0 grams/liter 15.0 Gray 12.8 square feet per 1/8" thickness 1 & 5 Gallon</p>																							
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APPLICATION PREPARATION

SERVICE TEMPERATURE	EXPOSURE	MAXIMUM RECOMMENDED TEMPERATURE
	Dry Service	300° F (149° C)
	Spills, Splashes & Fumes	260° F (126° C)
	Immersion Service	220° F (104° C)
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: CAL551-311 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 up to 5 fl oz of MEK per gallon. (The addition of 5 fl. Oz of MEK will reduce the solids content to 96%.) Read the Material Safety Data Sheet for MEK (flammable liquid) before using it.	
POT LIFE	AMBIENT TEMPERATURE	TIME
	40° F(4° C)	2 hours 30 minutes
	75° F(24° C)	1 hour 10 minutes
	92° F(33° C)	30 minutes
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

Apply CAL551-311 with a trowel, putty knife or other appropriate tool. When working with CAL551-311, dip the trowel or other tools in ethanol or a mixture of ethanol and water to reduce sticking

TOPCOATING & JOINING ADJACENT SECTIONS

If the compound is to be coated, apply the coating within the re-coat window (see table below). If this is not possible, allow the compound to cure, then brush-blast, wire-brush or sand to create a mechanical profile on the surface before coating.

When it is necessary to join multiple sections of the compound to create a continuous protective layer over a large area, do not attempt to feather and overlap adjoining sections. If adjoining sections cannot be applied within the re-coat window (see table below), continue the full thickness of the compound up to the joint between sections. Allow the first section to cure, then create a mechanical profile, using one of the means listed above, on the edge that will be joined to the next section to ensure a satisfactory bond.

CURE TIME (@ 70° F/21° C)

Light Loading	12 hours
Immersion (Aqueous) Service	30 hours
Full or Chemical Service	72 hours

SPEED CURING

The cure time can be reduced and product performance enhanced by applying heat during the curing process of the final coat: 150° F (66° C) for 2 hours is recommended before placing the coating into full service.



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 soap and water. Be sure to lather up thoroughly before using water to rinse.

MATERIAL SAFETY DATA

HAZARDOUS INGREDIENTS

RESIN	HARDENER
Novolac Resin CAS #28064-14-4 10-40% Exposure limits: TLV PEL: none established	1 Propanamine CAS #919-30-4 30% or less irritant Modified Polyamine CAS # (Trade Secret), 80% or less irritant to strong irritant

PHYSICAL DATA

	RESIN	HARDENER
Specific Gravity	1.99	1.03
% Volatiles by volume	Nil	< 0.5%
Appearance/Odor	Gray	Brown/Slight sweet odor
Melting Point	< 0 degrees F (-18 ^o C)	< 0 degrees F (-18 ^o 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



**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**

	BOTH
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.

**ORDERING
INFORMATION**

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

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:

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.