**Hi-Temp Lab-metal®
for metal repairs to 1000°F.**

**Hi-Temp Lab-metal Data**

**Easy to use**
- Hi-Temp lab-metal is applied directly from the can with a putty knife or similar tool. No two-component mixing or measuring is necessary. Many applications may be made from a single can. After each use, to prevent Hi-Temp Lab-metal from hardening in the can, pour a small amount of Lab-solvent over the remaining Hi-Temp lab-metal contents, then cover tightly. (Store the solvent into the Hi-Temp lab-metal before using again.)

**Durable**
- Hi-Temp lab-metal adheres permanently to any clean and dry metal, wood, hard plastic, glass, plaster, or porcelain surface. Its strong bond withstands vibration and other difficult conditions. Once hardened (see drying time), it can be machined, ground, filed, and sanded. Buffed to a satin smooth finish, Hi-Temp lab-metal leaves an undetectable repair. Hi-Temp lab-metal is impervious to the attack of rust, rot, and mildew. It is not affected by varying climatic conditions, and the hardened metal can be coated with either primer or liquid coatings.

**Preparation**
- Hi-Temp lab-metal must be stirred thoroughly before use. No additive is needed; the repair compound hardens upon exposure to air. Hi-Temp lab-metal is a viscous but easily spreadable paste. Upon opening the can, if the Hi-Temp lab-metal appears stiff, stir in a capful or two of Lab-solvent to restore the product to its appropriate consistency. For any application, the surface must be clean and dry; free of paint, oil and dirt. Lab-solvent is the recommended surface cleaner. Roughen the surface for superior adhesion.

**Application**
- Hi-Temp lab-metal may be applied with a putty knife, spatula, trowel, caulking gun, or squeegee. When filling deep holes or cavities, the putty should be applied in thin layers, less than 1/4" thick. Allow each layer to dry at least 24 hours at room temperature, and heat harden prior to each additional coat. To apply Hi-Temp lab-metal with a paint brush, it must be thinned to its appropriate consistency. Originally developed to meet foundries' core box repair needs, industries such as metalworking, powder coating, welding, fabricating, heating, construction, auto repair, die casting, mold refining, and sheet metal production and finishing now rely upon Hi-Temp lab-metal.

**Drying time**
- Depth of application determines drying time; hardening occurs by exposure to air. Apply no thicker than 1/4" per application. The application must air dry for at least 24 hours, or until the product has hardened to a metal state. It must then be heat cured (before applying a second coat). To heat cure:

  - After fully hardened, Hi-Temp Lab-metal must be heat hardened by exposing it to a minimum temperature of 425°F for one hour. The curing process may be achieved by a more gradual "heat-up", as in the repair of an industrial oven. In this case, as the oven is heating, the Hi-Temp Lab-metal repair is curing. Heat hardening must be completed prior to powder coating.

**Suggested uses**
- Hi-Temp lab-metal is recommended where original lab-metal may not withstand the extreme heat. Originally developed to meet foundries' core box repair needs, industries such as metalworking, powder coating, welding, fabricating, heating, construction, auto repair, die casting, mold refining, and sheet metal production and finishing now rely upon Hi-Temp lab-metal.

**Hi-Temp Lab-metal Data**

**Industries Using Lab-metal**
- Lab-metal repair and finishing compound, “the original metal putty,” fuses and protects virtually any worn or damaged surface. Hi-Temp lab-metal was developed as an economical, convenient way to repair, refurbish, seal, coat and protect equipment, machinery, vehicles, and industrial products. Application photos available at www.AlvinProducts.com. Some of the many industries currently using lab-metal include:
  - foundries, pattern shops
  - powder coaters
  - OEMs
  - shipyards, marinas, boatyards
  - garages and shops (automotive, equipment)
  - welding, fabricating, metalworking and ornamental metal industries
  - construction: building, heavy equipment, machinery
  - transportation: automotive, rail car, bus, truck
  - plumbing, heating, ventilation, air conditioning, refrigeration

**Alvin Line**
- Hi-Temp Lab-metal is a division of Dampney Company, Inc., manufacturer of specialty paints and high temperature protective coatings.

- **Lab-metal**: 12 oz.; 24 oz.; 48 oz.; gallon and 5-gallon containers.
- **Hi-Temp Lab-metal**: Available in 14 oz. and 24 oz. containers.

**Lab-solvent**: Thinner and metal cleaner. Thins lab-metal and Hi-Temp lab-metal for brush and spray applications. Cleans surfaces and promotes adhesion of lab-metal and Hi-Temp lab-metal. Lab-solvent protects the unused contents of Alvin repair putties – add a capful to the unused lab-metal and cover tightly after use. In pint, gallon and 5-gallon containers.

- **Heat Block**: Heat shrink. A safe, contrasting heat absorbing paste. Easy to use, non-toxic, protects against heat damage. Prevents unwanted heat transfer during welding, soldering, brazing and other heat treatment. Used in the welding, automotive, plumbing, shipyard, HVAC, and other specialized industries. In pint, quart, gallon and 5-gallon containers.

- **Galvax**: Zinc-rich cold galvanizing compound. In aerosol and gallon containers.

Alvin Products is a division of Dampney Company, Inc., manufacturer of specialty paints and high temperature protective coatings.

- **www.dampney.com**
- **Dampney Protective Coatings**
- a division of Dampney Co., Inc.
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- www.AlvinProducts.com

Please review Material Safety Data Sheet before use (available at www.AlvinProducts.com).

**Lab-metal®
The original metal putty from Alvin Products.**

Ready-to-use repair and patching compound spreads like paste and hardens quickly into metal. Fills and patches dents and flaws easily and economically.

Used by industry since 1950.
Lab-metal Data

Easy to use

Lab-metal is a powdered aluminum containing dent and body filler applied directly from the can with a putty knife or similiar tool. No two-component mixing or measuring is necessary, therefore there is no waste. Heat, special tools, and specialized skill are not necessary. Many applications may be made from a single can, simply add a capful of Lab-solvent and cover tightly before storing.

Lab-metal may also be thinned to paint consistency with Lab-solvent and brushed or sprayed on practically any surface -- including wood and cement -- to provide a rustproof, water resistant, hard metal finish.

Preparation

Lab-metal should be stirred thoroughly before use. No heat or additive is necessary to complete the bond. It hardens simply by exposure to air. Upon opening the can, if Lab-metal appears stiff, add a capful of Lab-solvent to restore the product to its proper consistency; Lab-metal is not intended to be used as an adhesive.

Surface preparation

Whether spreading, brushing or spraying Lab-metal onto the desired surface, good adhesion requires only that the surface be dry and clean. (Use Lab-solvent to clean the surface.) It should be free of paint, oil, dirt, and any extraneous materials. A slight roughening of the surface provides an even better bond.

Application

Lab-metal’s unique formulation allows for three methods of application: spreading, brushing or spraying. Instructions for each of the three methods follow:

Spray application: Lab-metal, to rustproof large surface areas. An internal mix spray head should be used, set at roughly 0.5 pounds of air pressure to eliminate clogging. For larger quantities, an agitator tank should be used (consult spray equipment dealer). Clean the gun thoroughly with Lab-solvent immediately after use. When applying Lab-metal in closed areas (such as tank interiors), proper ventilation must be provided. NIOSH approved self-contained breathing apparatus should be used. Any striking of metal on metal that could cause sparks must be avoided.

Brush painting Lab-metal, as a primer surface or to provide a tough metal coat: Pour Lab-solvent into a wide-mouth container such as a clean paint pail. As painting with the thinned Lab-metal proceeds, dipping the brush into the lab-solvent periodically keeps the bristles free and prevents clogging. Apply the thinned Lab-metal with light brush strokes; do not work over as with paint.

Drying time

Brush and spray applications dry very quickly. Otherwise, the depth of application determines drying time. Lab-metal hardens slowly, but only after extensive immersion.

Efficient, economical

Lab-metal's true metal hardness is achieved with greater ease than other materials sold for repair and finishing. Lab-metal sells for considerably less than epoxy systems. Its strength, hardness, durability and expansion resistance surpass basic requirements for fillers set by the nation's largest metalworking plants. Lab-metal is the repair putty of choice because of its extensive can life, ready-touse formulation, versatility of applications, and durability.

Proper Use

Preparation

Lab-metal should be stirred thoroughly before use. No heat or additive is necessary to complete the bond. It hardens simply by exposure to air. Upon opening the can, if Lab-metal appears stiff, add a capful of Lab-solvent to restore the product to its proper consistency; Lab-metal is not intended to be used as an adhesive.

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Application

Lab-metal’s unique formulation allows for three methods of application: spreading, brushing or spraying. Instructions for each of the three methods follow:

Spreadig Lab-metal, to fill holes and depressions, or to rebuild worn surfaces: Lab-metal is easily applied with a putty knife, spatula, trowel, caulkng gun, or flexible squeegee. When filling deep holes or cavities, apply Lab-metal in thin laminations, allowing each to dry before applying the next. For vertical or overhead applications, pour the required amount into an open container and stir. This permits some evaporation of the solvent, rendering the Lab-metal less fluid and reducing the possibility of sagging.

Spray painting Lab-metal, to rustproof large surface areas: An internal mix spray head should be used, set at roughly 0.5 pounds of air pressure to eliminate clogging. For larger quantities, an agitator tank should be used (consult spray equipment dealer). Clean the gun thoroughly with Lab-solvent immediately after use. When applying Lab-metal in closed areas (such as tank interiors), proper ventilation must be provided. NIOSH approved self-contained breathing apparatus should be used. Any striking of metal on metal that could cause sparks must be avoided.

Brush painting Lab-metal, as a primer surface or to provide a tough metal coat: Pour Lab-solvent into a wide-mouth container such as a clean paint pail. As painting with the thinned Lab-metal proceeds, dipping the brush into the lab-solvent periodically keeps the bristles free and prevents clogging. Apply the thinned Lab-metal with light brush strokes; do not work over as with paint.

Drying time

Brush and spray applications dry very quickly. Otherwise, the depth of application determines drying time. Lab-metal hardens slowly, but only after extensive immersion.

Technical Data

Description: Ready-to-use aluminum filled repair and patching compound. Single component dent and body filler.

Color: Metal gray. Aluminum when buffed.

Adhesion: Excellent adhesion to clean, dry surfaces of metal (aluminum, steel), stainless, brass, bronze, cast iron, copper, lead, wood, hard plastic, and glass. Lab-metal will not bond two parts together; it requires an air in order 10-15.

Hardness: 81 on Shore D scale

Coefficient of Linear Expansion: 15 x 10⁻⁶ inch/inch per °F

Strength: Tensile: 650 lbs./square inch. Compressive: Approx. 20,000 psi

Water pressure: 50 psi

Specific gravity: 1.95 at 75°F

Weight: (Cubic inch): 31.2 grams or 1.10 oz.

Heat resistance: When dry and withstands temperature of 350°F and is not affected by cold to 40°F. Withstands single exposure to 425°F for no longer than 20 minutes.

Chemical resistance: Not affected by mild acids, gasoline, petroleum solvents, oil or L.P. gas. Alkalis will attack Lab-metal slowly, but only after extended immersion.

Compressibility: Dry and hard material will not support combustion.

Conductivity: A nonconductor at normal voltage. Not considered a conductor at lower voltages, therefore it is safe for powder coating.

Thermal conductivity: Est. 1.9 BTU per sq. ft., per hr., per °F

Mechanical properties: Strong and durable. Can be milled, sawed, drilled, tapped, sanded, ground, filed. Does not shrink, crack or peel, and is easily lefhad edged.

Shelf life: Two years in factory-sealed can. For extended storage, add Lab-solvent as instructed. Store in a cool place. (4°F Temp Lab-metal has a one-year shelf life.)

Please review Material Safety Data Sheet before use (available at www.AlvinProducts.com).