Alka 416

One-Component Epoxy Cold Galv

| Introduction

Alka 416 or 1K Epoxy Cold Galv is a single-component protective coating designed to provide corrosion resistance to steel surfaces through a high concentration of zinc-rich pigments. The term “cold galvanizing” refers to the coating’s ability to offer protection similar to hot-dip galvanizing without the need for high-temperature zinc immersion processes. It is commonly used for maintenance, repair, and touch-up applications on galvanized and steel structures.

The coating contains epoxy-modified resin and metallic zinc dust, which work together to create both barrier protection and sacrificial cathodic protection. When applied to steel, the zinc particles corrode preferentially instead of the steel substrate, helping prevent rust formation and extending the life of the metal surface.

Unlike conventional two-pack epoxy coatings, Alka 416 is a single-pack system, meaning it does not require mixing with a separate hardener before use. This makes it easier and faster to apply, especially for maintenance work, field repairs, and small-scale industrial applications. It can typically be applied by spray, brush, or roller.

Alka 416 is widely used on structural steel, pipelines, storage tanks, fences, towers, marine equipment, and welded or damaged galvanized areas. It provides good adhesion, fast drying properties, and resistance to weather, moisture, and mild industrial environments.

Although it offers excellent corrosion resistance for a single-pack coating, its durability and chemical resistance are generally lower than those of two-pack zinc rich epoxy systems. Nevertheless, it remains a practical and cost-effective solution for steel protection and galvanizing repair work.

| Where it could be used.

Structural Steel	**Beams, columns, steel frameworks**
Galvanized Surface Repairs	Touch-up and repair of damaged galvanizing
Welded Areas	Protection of weld joints and heat-affected zones
Pipelines	External steel pipeline protection
Storage Tanks	Maintenance coating for steel tanks
Industrial Equipment	Machinery, steel components, fabricated parts
Marine Environments	Coastal steel structures and marine equipment
Fences & Railings	Steel fencing, gates, guard rails
Transmission Towers	Utility poles, telecom and power towers
Automotive & Transport	Chassis parts, trailers, truck bodies

| Compatible Substrates

Alka 416 generally does not require a separate primer because it acts as both a primer and a protective zinc-rich coating.

It is specifically designed to be applied directly onto properly prepared steel or galvanized surfaces. The high zinc content provides anti-corrosive and sacrificial protection similar to galvanizing, while the epoxy-modified resin ensures adhesion and film formation.

Typical Application

- Directly onto bare steel
- Over blast-cleaned steel
- On damaged galvanized areas
- On welds and fabrication repairs

Surface Preparation Still Matters

Although no separate primer is usually needed, the surface should be:

- Clean
- Dry
- Free from oil, grease, rust, salts, and loose contaminants

Recommended preparation methods include:

- Abrasive blasting
- Power tool cleaning
- Mechanical wire brushing

Can It Be Top coated?

Yes. In many industrial systems, 1K Epoxy Cold Galv can be:

- Left as a standalone protective coating, or
- Overcoated with epoxy, polyurethane, enamel, or acrylic finishes for:
    - Improved appearance
    - Additional weather resistance
    - UV protection
    - Extended durability

For severe marine or chemical environments, additional coating layers may still be recommended for long-term performance.

Recommended Application Methods

- Conventional spray , Airless spray, Brush or roller for small areas and touch-up work
- Temperature: 10°C – 40°C
- Relative Humidity: Below 85%
- Thinner: Toluene / Xylene blend
- Equipment cleaning: Same as thinner

Storage Conditions

Store in a cool, dry, and well-ventilated area away from direct sunlight and sources of ignition. Recommended storage temperature: 5°C – 35°C.

Shelf life

12 months in unopened original containers under recommended storage conditions

Health & Safety

Use only in well-ventilated areas. Wear appropriate PPE during application. Keep away from heat, sparks, and open flames. Refer to SDS before use.

Environmental Information

- Prevent coating materials and solvents from entering waterways or drainage systems.
- Dispose of waste coatings and solvents according to local environmental regulations.
- Clean application equipment using approved handling and disposal procedures.

| Important Notes

- Do not add any water.
- Do not apply Alka 416 on any substrates where significant vapor pressure may occur.
- Always ensure good ventilation when using Alka 416 in a confined space.
- Freshly applied Alka 416 should be protected from damp, condensation and water for at least 24 hours.
- If in doubt about the use or application of this product, or further information please contact our Alka Technical Department.
- Avoid contact with skin and eyes.
- Wear protective gloves and eye protection during work.
- If skin contact occurs, wash skin thoroughly.
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.
- Avoid contact with foodstuffs and utensils.

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A full Material Safety Data Sheet is available from Alka on request.

Property	Typical Description / Alka 416
Appearance	Smooth metallic zinc-rich protective coating
Colours	Grey, metallic grey (zinc finish)
Surface Hardness	Moderate to hard after drying
Solvent Resistance	Good resistance to mild solvents, oils, and atmospheric exposure
Dry Film Condition	Dense zinc-rich protective film with metallic finish
Recommended Reducer	Synthetic thinner / epoxy-compatible thinner (as per manufacturer)
Recommended Thinning	Typically 5–15% depending on application method
Theoretical Coverage	Approximately 6–10 m^2/L at recommended DFT
Initial Surface Dry	15–30 minutes at 25°C
Recoat Window	2–6 hours (varies with temperature and humidity)
Gloss Level	Semi-matt to metallic matte finish
Volume Solids	45 ± 5 %
Packaging	Available in 1 Litre, 4 Litre, 20 Litre, and 200 Litre containers.

Performance Notes:

- Actual spreading rate depends on surface texture, film build, and application losses.
- Increased coating thickness or adverse weather conditions may extend drying times.

All products are subject to Alka terms and conditions. Read the full version on our website prior to any purchase.

| Contact us

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