Alka 413

MIO Epoxy coating System

| Introduction

Alka 413 is a MIO Epoxy, or Micaceous Iron Oxide Epoxy. Alka 413 is a high-performance protective coating used to provide long-term corrosion resistance for steel structures exposed to harsh industrial and marine environments. It is formulated with epoxy resin and micaceous iron oxide pigment, a lamellar or flaky mineral that creates a dense barrier against moisture, oxygen, and corrosive chemicals.

The unique plate-like structure of micaceous iron oxide particles aligns within the coating film, forming overlapping layers that significantly reduce the penetration of water and corrosive agents. This barrier effect improves the durability and service life of the coating system. MIO epoxy coatings are commonly used on bridges, offshore platforms, storage tanks, pipelines, power plants, refineries, and structural steel.

MIO epoxy coatings offer excellent adhesion, abrasion resistance, chemical resistance, and weather protection. They are often applied as intermediate or build coats in multi-layer protective coating systems, usually over zinc-rich primers and beneath polyurethane or epoxy topcoats.

The coating forms a hard, durable film capable of withstanding demanding environmental conditions, including humidity, salt spray, and industrial pollution. MIO epoxy also improves mechanical strength and impact resistance, making it suitable for heavy-duty industrial applications.

Due to its excellent anti-corrosive properties and long-term durability, MIO epoxy is widely used in protective coating systems for critical infrastructure and industrial assets.

| Where it could be used.

- MIO epoxy is widely used for:
- Bridges
- Offshore structures
- Storage tanks
- Pipelines
- Refineries
- Structural steel

It is commonly applied as an intermediate or build coat in heavy-duty protective coating systems, often over zinc-rich primers and under polyurethane topcoats.

| Compatible Substrates

This coating system may be applied over:

- Zinc rich epoxy primers
- Etch primers for galvanised steel
- Existing aged coatings after compatibility testing
- Properly prepared steel and fabricated metal surfaces

Where maintenance repainting is required, damaged or exposed metal areas should be spot-primed before topcoat application.

| How to Apply

Surface Preparation

- Remove all grease, oil, dirt, salts, and loose contaminants before coating,
- Abrade glossy or weathered coatings to promote adhesion,
- Ensure substrate is dry and free from surface contamination prior to application,
- Galvanised substrates should be treated with a suitable etching primer before top coating,
- Ensure repaired or exposed steel areas are appropriately primed.

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.

Property	Typical Value
Flash Point	Approx. -3°C
Dangerous Goods Classification	Flammable Liquid
Storage Conditions	Cool, dry, ventilated area

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 413 on any substrates where significant vapor pressure may occur.
- Always ensure good ventilation when using Alka 413 in a confined space.
- Freshly applied Alka 413 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 / Value for MIO Epoxy
Appearance	Smooth to slightly textured high-build coating
Colours	Custom Industrial Shades
Surface Hardness	Hard, tough, and abrasion-resistant
Solvent Resistance	Excellent resistance to solvents, oils, fuels, and chemicals
Dry Film Condition	Dense, durable, moisture-resistant protective film
Recommended Reducer	Epoxy thinner / epoxy reducer recommended by manufacturer
Recommended Thinning	Typically, 5–10% depending on spray or brush application
Theoretical Coverage	Approximately 5–8 m^2/L at recommended DFT
Initial Surface Dry	1–3 hours at 25°C
Recoat Window	Minimum 6–8 hours; maximum varies with product and temperature

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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