Alka 412

Two-Component Surface Tolerant Epoxy

| Introduction

Alka 412 is a Surface Tolerant Epoxy is a specialized protective coating, designed to adhere effectively to steel and metal surfaces that cannot be perfectly cleaned or fully abrasive blast-cleaned before painting. Unlike conventional epoxy coatings that require near-white metal surface preparation, surface tolerant epoxies can be applied over tightly adhered rust, aged coatings, or minimally prepared surfaces while still providing strong corrosion protection and durability.

These coatings are commonly used in maintenance painting, industrial repair work, marine structures, pipelines, offshore platforms, storage tanks, bridges, and heavy equipment where complete surface preparation may be difficult, expensive, or impractical. The formulation typically contains high-performance epoxy resins, corrosion-resistant pigments, and advanced wetting agents that allow the coating to penetrate and bond to imperfect surfaces.

One of the major advantages of surface tolerant epoxy is its ability to reduce maintenance downtime and surface preparation costs. It performs well in challenging environments where moisture, salt contamination, or limited access make abrasive blasting difficult. The coating provides excellent adhesion, chemical resistance, water resistance, and long-term protection against corrosion.

Surface tolerant epoxies are often high-build coatings, meaning they can be applied in thick layers to improve barrier protection and surface coverage. They may serve as primers, intermediate coats, or complete coating systems depending on the application requirements.

Although these coatings are highly versatile, proper surface preparation is still important. Loose rust, grease, dirt, and poorly adhered coatings must be removed before application. While they tolerate less-than-ideal surfaces, better preparation generally results in improved coating performance and longer service life.

Overall, surface tolerant epoxy coatings are valuable solutions for industrial maintenance and corrosion protection where conventional surface preparation methods are difficult or costly.

| Where it could be used.

- Fabricated steel structures
- Machinery and industrial equipment
- Transport containers and fabricated assemblies
- OEM finishing systems
- Workshop maintenance applications
- Commercial and light industrial metal surfaces

| Compatible Substrates

This coating system may be applied over:

- Zinc phosphate 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 412 on any substrates where significant vapor pressure may occur.
- Always ensure good ventilation when using Alka 412 in a confined space.
- Freshly applied Alka 412 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 Surface Tolerant Epoxy
Appearance	Smooth, high-build protective coating
Colours	custom industrial shades
Surface Hardness	Hard and abrasion-resistant after full cure
Solvent Resistance	Excellent resistance to oils, fuels, solvents, and chemicals
Dry Film Condition	Tough, durable, non-porous protective film
Recommended Reducer	Epoxy thinner / epoxy reducer recommended by manufacturer
Recommended Thinning	Typically 5–15% depending on application method
Theoretical Coverage	Approximately 4–8 m²/L at recommended DFT
Initial Surface Dry	1–3 hours at 25°C
Recoat Window	Minimum 4–8 hours; maximum varies by product

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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