

Product overview

Product description

ALKA 416 is listed in the current product source as a single-component zinc-rich cold-galvanising coating. It is intended for prepared steel repair and protective applications where a one-pack zinc-rich system is specified. Confirm the exact grade against the product label and ALKA system schedule before selection.

Key advantages

- One-pack format is practical for local repair work.
- Zinc-rich pigmentation provides a dedicated steel-protection approach.
- Brush or spray application supports details and fabricated parts.
- Can be used in approved maintenance and touch-up coating schedules.

Recommended uses

- Prepared steel repairs under an approved zinc-rich specification.
- Damaged galvanised areas where the repair system is accepted.
- Weld areas and fabricated components after specified preparation.
- Maintenance of atmospheric steelwork with confirmed topcoat compatibility.

Product and system selection

Use this overview with the technical data, preparation, application and limitations in the following pages. Confirm the complete build with ALKA for the actual substrate and service conditions.

Product & system selection

Single-component, zinc-rich cold-galvanising coating — proposed catalogue identity

Local protection and repair of prepared steel in an approved zinc-rich coating system.

Where this product fits

SYSTEM POSITION — CONCEPT ONLY	SELECTION / CONTROL
Weatherable finish, where specified	Colour/gloss and compatible recoat condition
Barrier / intermediate layer, where specified	Uniform film build and stripe-coat coverage
Primer on prepared metal	Substrate-specific adhesion and corrosion-control role

Specify the complete application

DECISION	SELECTION TO RECORD
Substrate	Exact substrate, condition, moisture and existing coating.
Duty	Traffic, weather, water, chemicals, temperature and cleaning as relevant.
Finish / interface	Required colour, sheen, texture and compatible adjacent layers.
Acceptance	Nominate the inspection, test method and release conditions before work.

Limits of use

Zinc phosphate and metallic zinc are different pigment functions. A one-pack zinc-rich product is technically plausible; the component count alone is not proof of a typo.

Product selection

Preferred editorial identity is the current product PDF/page: one-pack zinc-rich cold galvanising. The system-guide conflict is explicitly reserved for product selection.

Technical data

Typical data and application conditions are listed below. Contact ALKA Technical Support for fields requiring confirmation before specification or use.

PROPERTY	VALUE / CONDITION
Proposed identity	One-pack epoxy-modified zinc-rich coating, following the current product PDF and page
Conflicting guide identity	Systems guide calls ALKA 416 an epoxy zinc-phosphate primer; owner to resolve product-code allocation
Appearance	Grey
Volume solids	45 ± 5% in product PDF
Source coverage	6–10 m ² /L; DFT not defined
Surface dry	15–30 minutes at 25°C in source
Recoat	2–6 hours in source; temperature/max window to confirm
Thinning	5–15% in source; exact approved solvent required
Pack	1, 4, 20 and 200 L
Zinc / DFT / density	Validated dry-film zinc content, density and DFT required

Interpreting the data

Values depend on the stated temperature, humidity, film build, test method and substrate. Typical laboratory figures are not automatic project acceptance criteria. Changes to colour, thinner, aggregate, mix proportion or layer build can change performance.

Units and test basis

Keep mass and volume mixing ratios distinct. State whether solids are by mass or volume and whether thickness is WFT (wet film), DFT (dry film) or total system build. Coverage is theoretical unless an actual site yield is stated.

Substrate & work preparation

PREPARATION STAGE	REQUIRED APPROACH
Exposure and system	Define atmospheric, splash or immersion exposure and the desired finish. Nominate primer, intermediate and topcoat by actual product code; do not infer a corrosion category from generic resin chemistry.
Steel condition	Remove oil and grease, rust, scale and contamination to the approved specification. Assess soluble salts where relevant and record the selected cleanliness and surface profile.
Edges and details	Prepare welds, sharp edges, bolts and difficult geometry. Stripe-coat with the selected compatible material where the specification requires it.
Old coatings / other metals	Identify retained coating type and adhesion. Test compatibility; prepare galvanised steel, aluminium or stainless steel by their separately approved methods.
Environment	Record air/substrate temperature, humidity and dew point. Maintain the approved condensation margin and ventilation throughout application and cure.

Establish the application release point

The applicator and responsible technical reviewer should accept the substrate, repairs, environmental conditions, material identity and system schedule before work starts. Record the moisture method and readings, substrate/air temperatures, humidity and condensation assessment where relevant.

Materials and equipment

Check labels, component pairing, batch numbers, expiry and storage history. Provide suitable mixing, application and inspection equipment, clean containers and calibrated measuring tools. Keep contaminated tools and residues away from fresh material.

Representative trial

Where condition or compatibility is uncertain, trial the complete proposed preparation and coating sequence. Agree the sample location, cure time, appearance and adhesion assessment before extending the work.

Mixing & application

STEP	PRODUCT-SPECIFIC PROCEDURE
01	The proposed text follows the current named product sheet as a one-pack zinc-rich material. Confirm that this is the intended ALKA 416 before assigning it to existing system schedules.
02	Prepare the steel or galvanising repair to the approved cleanliness and roughness. Remove salts and corrosion products and confirm electrical contact where the system relies on zinc-rich protection.
03	Redisperse settled zinc and maintain uniformity during application. Do not add hardener under the proposed one-pack identity.
04	Apply the approved DFT and overcoat procedure. Verify any sealer/tie-coat requirement and remove surface contamination before the next layer.

EDGE / WELD COVERAGE / CONCEPT SECTION

Prepared metal

Stripe difficult geometry before full coat



Specified profile + continuous build + accepted DFT; no dimensions implied

Concept drawing only; no dimensions, tested build, product compatibility or engineering approval are implied. Follow the approved project details.

Continuity and stopping points

Plan work to natural breaks and maintain a consistent application method. Do not stretch material beyond the approved coverage. Check intermediate surfaces before covering them; remove contamination and rectify defects using an approved repair procedure.

Out-of-window or interrupted work

When the permitted interval is exceeded, or rain, dust, condensation or site damage affects the surface, assess the condition before continuing. Use the validated cleaning, abrasion, re-priming or repair method; an apparently dry surface is not proof of intercoat adhesion.

Quantity, cure & sequencing

Set the accepted consumption and coat count before ordering. Measure actual area, include surface-profile demand, repairs and losses, and round reactive material to complete matched kits.

QUANTITY CONTROL	METHOD
Mass-rated product	Net kg = area (m ²) × kg/m ² per coat × number of coats. Add a documented allowance.
Volume-rated product	Net L = area (m ²) × L/m ² per coat × number of coats.
Film-forming coating	Theoretical m ² /L = 1,000 × volume-solids fraction / DFT (µm). Mass solids cannot replace volume solids.
Kits and losses	Order complete kits. State the basis of any waste allowance; profile, texture and application method affect practical yield.

Project quantities

A numerical ALKA ordering example has not been supplied where rate, density, solids or product identity is unresolved. Approve those inputs before finalising a project estimate.

Source timing / release references

STAGE	TIME / CONDITION
Recoat	2-6 hours in source; temperature/max window to confirm

Plan around actual conditions

Temperature, humidity, ventilation, substrate absorption and thickness affect drying and cure. Pot life, open time, touch dry, overcoat time and service release describe different conditions. Record when reactive components are combined; do not extend working life with unapproved water or solvent.

Release to service

Use the technically approved schedule for the actual load or exposure. Chemical immersion, vehicle loading, water testing, stacking and washing may require different release points where those duties are specified. Do not infer readiness from surface appearance alone.

Inspection, safety & handover

HOLD POINT	RECORD / VERIFY
Before work	Accepted substrate and details; material/version; approved colour/build; environmental conditions and trial result.
During application	Component/tint batches; proportions; mixing and placement times; measured area, quantity and thickness; coat count and interruptions.
Before next layer	Surface condition; permitted interval; defects and repairs; primer/receiving-layer compatibility.
Before service	Cure conditions and elapsed time; final inspections; approved test results; repairs completed and rechecked.

Product-specific checks

- Check stripe coverage and DFT with calibrated equipment.
- Inspect runs, dry spray, misses, pinholes and intercoat contamination.
- Use continuity testing only for a specified lining duty and approved method.

Investigate defects before covering them

Softness or delayed drying calls for a review of identity, proportioning, conditions and thickness. Bubbles or pinholes call for a review of moisture, porosity, air entrainment and application rate. Loss of adhesion requires locating the failure plane and correcting preparation or interface problems. Isolate affected areas; do not conceal uncured or unsound material.

Safe handling and cleaning

Read the current SDS for the actual product and every component, thinner and cleaner. Use the specified ventilation, personal protection and site controls. Spray, abrasive preparation and confined-space work need competent planning. Do not assume water-based, low odour, cured appearance or high solids means non-hazardous.

Use only the product-approved cleaner before material cures; keep cleaning solvent separate from coating thinner. Collect residues and protect drains. Cured material normally needs an appropriate mechanical removal method; avoid damaging the sound substrate.

Maintenance and handover

Inspect coating damage, edge corrosion and drainage traps at suitable maintenance intervals. Clean and feather sound boundaries before repair, use the approved primer/finish sequence and restore the specified DFT. Repairs can differ in colour or sheen.

Retain the installed system, batch and application records, inspection results, repair details and agreed cleaning/reopening instructions. The approved TDS and current SDS should be available to the applicator and owner.