

## Product overview

### Product description

ALKA 111 is a two-component novolac epoxy for demanding chemical-service flooring and lining applications. It is selected where the liquid, concentration, temperature and exposure duration require a specialised epoxy system. The full lining build, substrate preparation and cure-to-service schedule must be matched to the project.

### Key advantages

- Novolac epoxy chemistry provides a specialised option for chemical-service selection.
- Low-permeability lining design helps separate the substrate from the service environment.
- Brush or roller application supports practical work around details.
- Combines a continuous resin barrier with mechanical durability.

### Recommended uses

- Chemically exposed production floors under a defined exposure schedule.
- Bunded areas and containment structures with approved chemical compatibility.
- Tank lining projects where ALKA confirms the exact liquid and service conditions.
- Local lining repairs using an approved preparation and overcoating procedure.

### 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

## Two-component novolac epoxy lining

Chemically demanding floors and tank linings selected against a project chemical-resistance schedule.

### Where this product fits

| SYSTEM POSITION — CONCEPT ONLY         | SELECTION / CONTROL                                    |
|----------------------------------------|--------------------------------------------------------|
| Chemical-contact lining                | Approved formulation, complete thickness and cure      |
| Stripe coats / pore treatment / primer | As required for the selected substrate                 |
| Prepared steel or concrete             | Accepted cleanliness, profile, repairs and transitions |

### 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

Do not use touch-dry time as permission for immersion, chemical exposure or heavy traffic.

## 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                                                                     |
|-------------------------|---------------------------------------------------------------------------------------|
| Mix ratio               | 5:1 by mass or 3:1 by volume as stated in source; verify matched pack                 |
| Mixed density           | 1.60 kg/L; confirm test temperature                                                   |
| Pack                    | 24 kg; any 16 L equivalence requires correction                                       |
| Pot life                | 20 minutes at 20°C                                                                    |
| Application temperature | 10–40°C; source RH limit approximately 80%                                            |
| Touch dry               | 8 hours at 20°C                                                                       |
| Light duty / full cure  | 3 days / 7 days at 20°C                                                               |
| Nominal thickness       | Conflicting 0.60–0.70 mm and 0.20–0.30 mm source instructions; confirm selected build |
| Consumption             | 0.25–0.40 kg/m <sup>2</sup> roller; 1.50–2.00 kg/m <sup>2</sup> self-smoothing        |
| Recoat window           | Validated minimum / maximum and preparation outside window required                   |
| Shelf life              | 12 months unopened; storage range requires approval                                   |

### 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                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Define chemical service | List liquids, concentrations, temperature, dwell, cycling, cleaning and contaminants. Separate continuous immersion from splash/spill service and obtain a signed selection. |
| Steel substrate         | Resolve weld defects, sharp edges, corrosion and soluble contamination. Abrasive-blast to the approved lining cleanliness/profile and inspect before coating.                |
| Concrete substrate      | Remove laitance and weak material, repair voids and assess moisture/vapour pressure. Use the approved pore-filling and priming system to avoid pinholes.                     |
| Joints and penetrations | Use engineered seals and transitions for movement, pipe entries, drains and flanges. Do not terminate the lining at an unsealed edge.                                        |
| Inspection access       | Plan lighting, ventilation, safe access and inspection points before work. Tank-entry and spray operations require the responsible contractor's site controls.               |

### 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   | Pre-stir A for 2 minutes; add B and mix for at least 3 minutes. Scrape the sides and base and use the mixture within its working life.                                                |
| 02   | Use a chemical service schedule naming every chemical, concentration, temperature, exposure duration and cleaning cycle. A generic resistance chart is not a tank approval.           |
| 03   | Mechanically prepare concrete, repair defects and install the specified primer. For steel lining, use an independently approved abrasive-blast, stripe-coat and lining specification. |
| 04   | Spread continuously into the wet edge. For a self-smoothing or broadcast system, agree aggregate, thickness and de-aeration method before mixing.                                     |

### 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.

| WORKED EXAMPLE — ESTIMATE ONLY | CALCULATION                                                                    |
|--------------------------------|--------------------------------------------------------------------------------|
| Illustration                   | 100 m <sup>2</sup> , two coats at 0.3 kg/m <sup>2</sup> per coat               |
| Net product                    | 60 kg                                                                          |
| With an assumed 10% allowance  | 66.00 kg                                                                       |
| Complete packs                 | 3 × 24 kg = 72 kg                                                              |
| Wet-volume check               | 0.3 / 1.6 = 0.187 L/m <sup>2</sup> , equivalent to 187 µm WFT; this is not DFT |

### Basis of the example

Roller illustration only; does not establish the approved complete system. The assumed area, coat count and 10% allowance are estimating choices, not independently validated ALKA specifications.

### Source timing / release references

| STAGE                  | TIME / CONDITION                                                    |
|------------------------|---------------------------------------------------------------------|
| Pot life               | 20 minutes at 20°C                                                  |
| Touch dry              | 8 hours at 20°C                                                     |
| Light duty / full cure | 3 days / 7 days at 20°C                                             |
| Recoat window          | Validated minimum / maximum and preparation outside window required |

### 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

- Map DFT readings and inspect complex geometry.
- Select continuity/holiday testing appropriate to substrate, coating and thickness; approve method and voltage.
- Release for filling only after cure, defects and repairs are accepted.

## 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 at planned shutdowns and after abnormal chemical or temperature exposure. Record blisters, cuts, corrosion and discolouration. Decontaminate and repair with a compatible lining procedure; repeat required inspections before refilling.

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.