

Product overview

Product description

ALKACRETE 255 is a three-component polyurethane cement flooring system for heavy-duty industrial service. The resin, hardener and mineral component form a continuous resin-cement wearing layer. Thickness, texture, anchorage and detailing are selected for mechanical loads, cleaning and the specified chemical or temperature exposure.

Key advantages

- Heavy-duty resin-cement construction suits demanding working floors.
- Continuous finish supports practical cleaning and maintenance.
- Smooth and specified aggregate-textured builds provide finish options.
- Thickness selection allows the floor build to be matched to the approved service duty.

Recommended uses

- Food and beverage production areas with a defined cleaning regime.
- Commercial kitchens and wet processing areas with approved detailing.
- Heavy industrial floors and workshops.
- Cold-store or hot-cleaning environments only within the approved thickness and temperature schedule.

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.

Polyurethane cement. Heavy duty.

Three-component polyurethane cementitious flooring for demanding industrial environments.

CHEMISTRY	BUILD OPTIONS	PROJECT FOCUS
Polyurethane cement	Smooth or broadcast texture	Industrial and process floors

Product profile

ALKACRETE 255 combines two liquid components with a pre-tinted cementitious aggregate component. It is intended for continuous, heavy-duty flooring builds where mechanical loading, cleaning and service exposure need to be considered together.

Typical project environments

Food and beverage production; commercial kitchens; breweries and dairies; pharmaceutical processing; packaging plants; industrial warehouses and chemical processing areas. Cold stores and freezers require separate confirmation of installation conditions and service exposure.

System selection

Select the thickness and texture around traffic, drainage, cleaning, thermal exposure and chemical contact. A textured finish can change cleanability and appearance. Agree a representative sample and the required tested slip classification before installation.

Typical layer arrangement

03 Selected wearing finish Smooth PU cement or specified aggregate-textured finish
02 ALKACRETE 255 body layer Installed thickness and any scratch coat / primer by approved specification
01 Prepared and detailed concrete Sound substrate; perimeter, drain, joint and termination details

Schematic only. Not to scale. Aggregate, finish and anchorage are project-specific.

Temperature is a system decision
 Thickness-dependent service ranges are retained on page 2. They are not a validated steam-cleaning, thermal-shock or immersion approval without the relevant exposure conditions.

Technical data & service conditions

Legacy declared values from ALKACRETE 255 TDS v3.1, 8 June 2026. Confirm unresolved conditions before specification or application.

PROPERTY	SOURCE VALUE / CONDITION
Components	A: milky liquid; B: brownish liquid; C: pre-tinted powder
Mixed density at 20°C	1.85 ± 0.1 kg/L
Mix ratio A:B:C by weight	1:1:4.67
Pot life at 20°C	Approximately 15-20 minutes
Application temperature	Table heading: ambient & substrate; listed limits: 0°C to +30°C
Relative humidity	Approximately 80% maximum
Substrate moisture	Maximum 12% by weight; method and acceptance conditions not stated
Storage / shelf life	Minimum 12 months unopened; dry, frost-free, +10°C to +30°C
Packaging	Pre-proportioned A+B+C units: 20 kg or 120 kg

CURE STAGE	APPROXIMATE TIME AT 20°C
Touch dry	4-7 hours
Light traffic	3 days
Full cure	7 days

INSTALLED THICKNESS	LEGACY SERVICE TEMPERATURE RANGE
4.5 mm	-15°C to +70°C
6.0 mm	-25°C to +80°C
9.0 mm	-25°C to +120°C

Service ranges are not application temperatures. Exposure type, duration, thermal cycling, test method and validation are absent from the source and must be confirmed.

Build selection & application methods

BUILD / REQUIREMENT	INSTALLATION APPROACH
Smooth finish - source 3-6 mm	Prepare substrate and anchorage; complete the specified primer/scratch coat where required. Mix complete units and spread by trowel or notched squeegee to the approved build. Join batches into the wet edge and keep finishing consistent.
Broadcast finish - source 6-9 mm	Follow the specified body-coat build and broadcast method using the nominated aluminium oxide or bauxite. Control grading and distribution; remove loose aggregate after cure. Confirm whether the complete system needs a sealing coat.
Wet food-processing zone	Resolve falls, drains, wall junctions, cleaning chemistry, temperature and slip requirements together. Texture alone does not establish food-safety certification.
Cold store / hot washdown	Specify the actual service temperature, dwell, cycling and cleaning regime. Installation conditions differ from in-service conditions; confirm thermal design, curing and the transition to operating temperature.

Mixing station and placement

Use equipment capable of uniformly incorporating the cementitious aggregate, clean mixing vessels, accurate timing, spreading tools, suitable extraction and the PPE required by component SDS. Keep powder dry before mixing and prevent cross-contamination between batches.

Mix A+B for at least 2 minutes, then incorporate C and mix for at least 5 minutes per the source instructions. Record the start of A+B mixing; the 15-20 minute source pot life at 20°C should not be assumed to start after the powder is fully incorporated. Confirm its precise test basis with ALKA.

Keep a consistent rhythm between mixing and placement. Do not alter the liquid-to-powder ratio to improve flow, retemper stiffening material, add water or use an unapproved accelerator. Agree crew size and bay size so the material can be finished within the available working time.

Primer / scratch coat

Confirm the product, consumption, condition for overcoating and timing for the actual substrate. Do not adopt another manufacturer's scratch-coat formulation or dilute ALKACRETE 255 without written ALKA instructions.

Preparation & application

01 Assess and prepare the substrate

Inspect concrete condition, existing coatings, contamination, cracks, joints, drainage and moisture sources. Mechanically remove laitance, weak concrete and incompatible coatings. Degrease contaminated areas before mechanical preparation. Vacuum thoroughly using suitable dust extraction.

Assess cracks before repair: moving cracks and movement joints need a movement-accommodating detail. Use a compatible repair system and allow it to reach the required condition before coating. A plastic-sheet moisture check alone is not a quantitative acceptance test.

Prepare termination, perimeter and drainage anchorage to an approved project detail. Shot blasting creates a surface profile; it should not be assumed to replace required anchor grooves. Confirm groove dimensions with ALKA for the selected build and substrate.

02 Establish the application hold point

Record substrate and air temperature, relative humidity, moisture test method and results, and the risk of condensation. Confirm the nominated primer or scratch coat, surface profile and acceptance criteria with ALKA. Do not coat standing water, condensation or an unsound surface.

03 Mix complete, correctly proportioned units

Mix Parts A and B together for at least 2 minutes. Add Part C and mix for at least 5 minutes, as stated in the source TDS. Use equipment capable of distributing the aggregate uniformly; scrape the vessel sides and base. Maintain consistent batch size and mixing sequence. Do not add water.

04 Place, finish and protect

Place immediately using a trowel or notched squeegee. The source describes a 3-6 mm smooth finish and a 6-9 mm broadcast build using aluminium oxide or bauxite. Confirm the complete build, aggregate grading, loading and finish before use; broadcast aggregate alone does not define the installed thickness or slip classification.

Protect the fresh floor from damp, condensation and water for at least 24 hours. Isolate the area from traffic and contamination during cure. Inspect coverage, finish, joints and defects before handover. Do not equate touch-dry condition with readiness for traffic or chemical exposure.

Installation planning

The source does not define a primer schedule, recoat window or validated moisture test method. Agree these with ALKA before work starts; do not substitute a competitor product procedure.

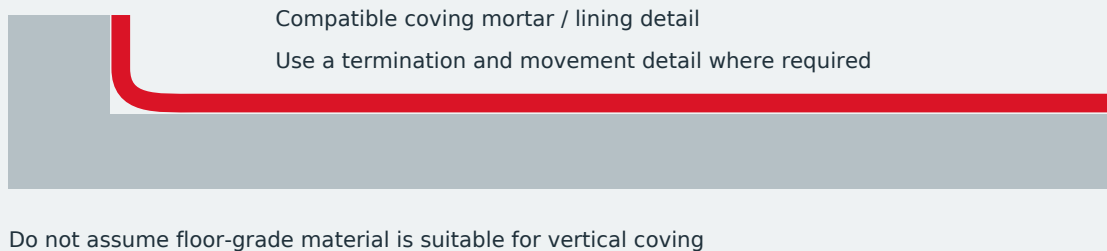
Drains, coves & terminations

DRAIN INTERFACE / CONCEPT SECTION



Concept only. Not to scale. Dimensions, materials and movement capacity must follow the approved project detail.

WALL / FLOOR JUNCTION - CONCEPT SECTION



Concept only. Not to scale. Dimensions, materials and movement capacity must follow the approved project detail.

Detailing requirements

Set drain levels and falls before the resin floor is placed. Resolve the connection between concrete, the drain body and the lining; differential movement and thermal cycling require a suitable interface. Keep drains protected during preparation and application.

Provide anchorage at perimeters, drains and terminations as required by the approved design. Confirm groove geometry with ALKA for the selected build and substrate.

Maintain the specified build at exposed edges; avoid unapproved feather edges. Use a compatible coving material and approved radius/height where hygienic wall junctions are needed. Carry structural movement joints through the lining with a designed sealant detail.

Inspection before covering

Photograph grooves, repairs, drains and joint preparation. Obtain acceptance of these details before the body layer conceals them. These diagrams show principles only, not waterproofing or drainage certification.

Material planning & service exposure

Worked example - nominal 6 mm body layer

For an illustrative 50 m² area: $50 \times 6 \times 1.85 = 555$ kg theoretical mixed material. At an assumed 10% site allowance: 610.5 kg. Round to 31 complete 20 kg kits (620 kg), or 6 complete 120 kg units (720 kg) if that pack configuration is selected. An order unit is not necessarily a safe single mixing batch; confirm mixing capacity and supply configuration.

This estimate excludes separate repair, primer, scratch-coat and broadcast materials. The 10% allowance is an illustration, not a product requirement. Use measured substrate profile and site trials to refine the allowance.

Check sensitivity to mixed density

The source density range, 1.85 ± 0.1 kg/L, gives a theoretical 6 mm consumption of 10.5-11.7 kg/m². At 50 m² this is 525-585 kg before waste. Avoid quoting coverage as a fixed yield independent of density and substrate condition.

EXPOSURE TYPE	INFORMATION NEEDED FOR APPROVAL
Occasional splash / spill	Chemical identity and concentration, liquid temperature, expected removal time and cleaning procedure.
Repeated or prolonged contact	Frequency, dwell time, cumulative exposure, mechanical abrasion, cleaning cycle and acceptable appearance change.
Continuous immersion / containment	Immersion medium, temperature and duration, substrate and joint design, permeation requirements and product-specific evidence. Do not infer suitability from a generic resistance label.
Hot cleaning / thermal cycling	Peak and normal temperatures, heating/cooling rate, duration, frequency, floor thickness, drainage, joints and equipment point loads.
Freezer service	Operating temperature and cycling, moisture/ice conditions, installation temperature, cure and commissioning sequence.
Service release Legacy light traffic is 3 days and full cure is 7 days at 20°C. "Fast cure" wording does not authorise earlier reopening. Confirm chemical and thermal service release for the actual site conditions.	

Quality control & troubleshooting

HOLD POINT	RECORD / VERIFY
Before mixing	Substrate acceptance; repairs and joint details; moisture method/results; air and substrate temperature; humidity and condensation risk; approved colour and build.
Each batch / work zone	Component labels, batch numbers and expiry; ratio or full-kit identity; mixing and placement times; area and quantity; application method and thickness checks.
Before reopening	Required cure period under actual conditions; uniform finish; defects rectified; joints/drains complete; agreed slip/adhesion checks; cleaning and handover instructions.

Symptoms are indicators, not a diagnosis

OBSERVATION	INVESTIGATE / RESPONSE
Soft or tacky areas	Check proportioning, mixing, temperature and cure time. Isolate the area; establish whether removal is required. Do not conceal uncured material with another coat.
Pinholes or bubbles	Check substrate porosity, outgassing, moisture and mixing technique. Determine the cause before choosing a repair or primer adjustment.
Delamination / hollow areas	Check contamination, weak concrete, moisture, preparation and intercoat condition. Identify the failure plane and repair the underlying cause.
Roller marks / uneven texture	Check working time, batch overlap, spreading rate and tool choice. Agree a repair trial; local patches may differ visibly.
Colour variation / dull patches	Check batch changes, mixing consistency, cure conditions, moisture and cleaning exposure. Compare with the approved sample after the specified cure.
Cracks / joint-edge failure	Check substrate movement, loads and joint design. For PU cement also review anchorage and thermal duty. Obtain a detail before reinstatement.

Handover and maintenance

Supply the installed build, batch record, application dates, reopening limits and cleaning instructions. Remove grit routinely; clean spills promptly using a compatible method. Trial unfamiliar cleaners in an inconspicuous area. Avoid unapproved solvent cleaning and concentrated chemical dwell.

Plan inspections around traffic and exposure. Record wear, cuts, cracks and sealant deterioration; repair early using a compatible procedure. For repairs, remove unsound material, prepare sound boundaries and observe the nominated recoat conditions. Colour and texture matching cannot be assumed.

Consumption, exposure & care

Theoretical material planning

Calculated from the source nominal mixed density of 1.85 kg/L: consumption = thickness in mm × 1.85 kg/m². These are mathematical estimates for the mixed material, not measured site yields or broadcast-system coverage.

THICKNESS	THEORETICAL MASS	20 kg KIT AREA
3 mm	5.55 kg/m ²	3.60 m ²
4.5 mm	8.33 kg/m ²	2.40 m ²
6 mm	11.10 kg/m ²	1.80 m ²
9 mm	16.65 kg/m ²	1.20 m ²

No allowance for substrate profile, waste, repairs, scratch coats or added broadcast aggregate. The density tolerance affects yield. A 6-9 mm broadcast build must be costed from its approved layer schedule, not this table alone.

Chemical and thermal exposure

The legacy chemical table lists acids, alkalis, solvents, fuels, food acids, cleaning agents and oxidisers, but omits test method, duration and temperature. Obtain project-specific confirmation; do not treat a descriptive resistance rating as approval for continuous immersion. The source warns that extended solvent exposure can soften or damage the surface.

No HACCP certificate, tested slip report or thermal-shock test report was supplied with the source TDS. This sheet does not assert certification or an R9-R13 result. Confirm the exact system, thickness and test evidence before making compliance claims.

Cleaning, maintenance and safety

The source specifies water for cleaning uncured material from tools. Cured material requires mechanical removal. Contain residues and dispose of them appropriately; do not discharge into drains.

Read the current SDS for every component before use. Provide ventilation and wear the protective equipment specified by the SDS and site risk assessment. Avoid skin and eye contact. Keep uncured material away from food and utensils. Low odour or high solids content does not remove handling hazards.

Remove grit and spills promptly. Agree a cleaning regime compatible with the installed finish and exposure. Inspect joints, damaged areas and high-traffic routes; repair defects before contaminants can enter beneath the floor.

Moisture and cold conditions

Moisture tolerance does not permit installation onto standing water or establish hydrostatic resistance. A listed 0°C lower limit does not authorise coating frozen concrete. Confirm a workable, condensation-free installation procedure.

Colour selection & project support

The 15 colour references below show the ALKACRETE 255 colour range. Printed and screen colours are indicative only. Confirm a current physical sample, colour availability and batch planning before ordering.



15 COLOUR OPTIONS

Choose a colour using a current physical sample. For project support and colour availability, contact ALKA at info@alka.net.au or 1300 51 51 50.

Discuss the complete floor

87 Market St, Smithfield NSW 2164 | 1300 51 51 50

info@alka.net.au | alkacoatings.com.au

Provide area, floor condition, drainage, traffic, chemical and temperature exposure, preferred texture and programme.

Read this Technical Data Sheet with the current component SDS and the approved project specification. Contact ALKA Technical Support to confirm project-specific conditions before use.