AlkaCrete 255

3-component polyurethane cementitious system

| Introduction

Alka Crete 255 is a high-performance, three-component, heavy-duty, **HACCP-Approved** industrial flooring system composed of a polyurethane resin, a polyol hardener, and a cementitious aggregate filler.

Alka Crete 255 Polyurethane Cement is a highly durable, seamless resinous flooring systems that is designed for heavy-duty applications. It combines 2-part polyurethane technology with micro cement, aggregates and other additives to create a highly functional resinous matrix.

This product is designed to withstand extreme mechanical, chemical, and thermal stresses, making it ideal for environments such as food and beverage processing plants, commercial kitchens, pharmaceutical facilities, and other heavy-duty industrial areas.

| Where it could be used.

- Food and beverage production areas
- Commercial kitchens and freezers
- Pharmaceutical processing plants
- Breweries and dairies
- Heavy-duty industrial warehouses
- Chemical processing areas
- Cold storage facilities
- Packaging plants

| Benefits

- Heavy duty, Wear resistant and impact resistant,
- Moisture Tolerant: Applicable on wet and damp concrete,
- VOC free, 100% solid,
- Protects new concrete from abuse,
- Cost effective,
- Available in bulk quantities,
- Excellent mechanical resistance,
- High chemical resistance,
- Very short waiting times before subsequent coatings.
- Excellent Thermal Resistance: Can withstand thermal shock,
- Seamless and hygienic Finish,
- Fast cure time, minimal downtime and quick return to service.

| How to Apply

Surface Preparation

- **Clean the Floor:** Thoroughly clean the floor to remove dirt, grease, oil, or any other contaminants. Use a degreaser or detergent for areas with oil or grease stains.
- **Repair Cracks and Holes:** Use a concrete patching material to fill in any cracks, holes, or imperfections. Allow it to fully dry before proceeding.
- **Anchor / shot blast:** The floor must be prepared by creating anchor points or shot blasting. This helps the polyurethane cement bond to the concrete. To prepare for topping, anchor grooves measuring at least 8-12 mm in width and depth must be cut along the inner perimeter of the designated area, as well as around drainage areas. Additionally, ensure that double diamond blade saw cuts, each 5 x 5mm in size, are evenly distributed across the entire floor, with intervals no greater than 4-5 meters. Alternatively, the floor can be prepped by shot blasting. Clean the dust afterward with a vacuum or a dust extractor.

Application

Part A and part B must be mixed together first for a minimum of 2 minutes. Then, mix part C (powder) with these two parts for at least 5 minutes. Once the mixing is done, the compound can be applied with trowel and/or notched squeegee to the thickness of 3-6 mm in order to reach a smooth surface. Alternatively, aluminium oxide or bauxite could be broadcasted while application to be able to reach 6-9 mm of thickness and a R9 to R13 non-slip floor rating.

After application and for the cleaning process, water can be used for cleaning tools and equipment before the mixed compound begins to harden. Once cured, it must be removed mechanically.

| Important Notes

- Do not add any water.
- Always ensure good ventilation when using Alka Crete 255 in a confined space.
- Freshly applied Alka Crete 255 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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Chemical Type	Resistance	Comments
Acids		
- Sulfuric Acid (up to 25%)	Excellent	No significant degradation under normal exposure
- Hydrochloric Acid (up to 10%)	Excellent	Highly resistant to concentrated acid exposure
- Nitric Acid (up to 5%)	Good	Higher concentrations may cause slight surface etching
- Phosphoric Acid (up to 25%)	Excellent	Handles most industrial applications
Bases/Alkalis		
- Sodium Hydroxide (Caustic Soda)	Excellent	Resistant to highly alkaline solutions
- Potassium Hydroxide	Excellent	No significant impact on the surface
Solvents		
- Ethanol	Good	Prolonged exposure may cause softening
- Acetone	Moderate	May lead to surface damage under continuous exposure
- Xylene	Good	Resistance is good, but prolonged exposure may soften surface
Oils and Fuels		
- Diesel Fuel	Excellent	Handles exposure to oils and fuels with minimal impact
- Motor Oil	Excellent	No degradation from oil-based substances
Food Acids		
- Lactic Acid (25%)	Excellent	Common in food processing environments; no surface damage
- Citric Acid (10%)	Excellent	High resistance in food and beverage applications
Cleaning Agents		
- Bleach (Sodium Hypochlorite)	Excellent	No significant impact with normal cleaning procedures
- Ammonia-Based Cleaners	Excellent	No degradation when used as cleaning agents
Other Chemicals		
- Salt Solutions (NaCl)	Excellent	No significant impact in corrosive or marine environments
- Hydrogen Peroxide (up to 10%)	Good	Moderate resistance, higher concentrations may cause discoloration

Key Points:

Excellent Resistance to most acids and alkalis, making 3K polyurethane cement systems ideal for harsh industrial environments.

Good Resistance to many solvents, though prolonged or repeated exposure to aggressive solvents like acetone may cause surface degradation.

High Durability under oils, fuels, and cleaning agents, ensuring longevity in manufacturing and processing plants.

Non-porous and Seamless: These systems provide easy cleaning and decontamination in sensitive environments like food processing plants or pharmaceutical facilities.

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Temperature resistance

Thickness	Resistance
4.5 mm	-15 °C to +70 °C
6.0 mm	-25 °C to +80 °C
9.0 mm	-25°C to +120 °C

A full Material Safety Data Sheet is available from Alka on request.

Technical and Physical Data

Form	Component A Component B Component C Available in 12 Colours as per the Annex 1. (Alka Crete Colour Chart)	Milky, liquid Brownish, liquid Pre-tinted, powder.
Density (at 20ºC)	Comp A + B + C: 1.85 ± 0.1 kg/litre	
Mix Ratio	Comp A : B : C = 1:1:4.67 by weight	
Pot Life (at 20ºC)	Approximately **15-20 minutes**	
Application Temperature(ambient & substrate)	Minimum substrate temperature: 0ºC Maximum substrate temperature: + 30ºC Maximum relative humidity: ~ 80%	
Cure times	Touch Dry: Light traffic: Full cure:	4-7 Hours @ 20ºC approx. 3 Days @ 20ºC approx. 7 days @ 20ºC approx.
Substrate MoistureContent	Maximum of 12% by weight	
Storage	Minimum of 12 months in unopened containers when stored free from frost in dry conditions between 10ºC and 30ºC. Component B is classed as non- hazardous for transportation.	
Packaging	Pre-proportioned units (A+B+C) in 20kg or 120Kg.	

Annex.1 – Alka Crete Colour Chart

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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