

BUILDING CHEMICALS SPECIALISTS

Unicrete Polyurethane Screed

Product Data

Unicrete is a Polyurethane Based Corrosion Resistant Flooring System, formulated to offer resistance to splash and spillage of a wide range of organic and oxidizing acids, alkalis and solvents. The system is fully steamed cleanable and ideally suited to hygiene sensitive areas.

Product is according to **European Standard**

EN 13813:2002 Screed materials and floor screeds - Screed materials - Properties and Requirements.

It is a formulation of **Bayer Germany** and the resins are imported from **Bayer**.

The screed is trowel applied and cures by chemical reaction and offers a slip resistant texture even in wet conditions.

Typical Uses

- Widely used to protect concrete floors and walls in the food, milk and beverage, pharmaceutical, chemical processing, power, engineering, pulp and paper, waste treatment, steel and metal finishing industries.
- In areas subject to chemical spillage and regular heavy wheeled traffic.

Reasons for using Unicrete

- Ideal for food, milk and beverage factories.
- Fully steam cleanable.
- Can withstand working temperatures up to 100°C
- Resists a wide range of acids, alkalis and solvents.
- Withstands abrasion and heavy traffic, including drum keeling.
- Slip resistant, even in wet conditions.
- Can be supplied at 5mm or 9mm depending on service requirements.
- Can be applied to vertical surfaces as skirting.

Preparation

Surfaces must be free from loose dust, debris and other contaminants. Any oil or grease deposits can be removed by a hot detergent wash with a suitable cleaner such as Uniclean, available from Frinics. Any laitance or ingrained oil and grease will require mechanical removal by using grid blasting machine. Dust must be removed by vacuum machine before application of the product. Damage to substrate or incorrect falls should be rectified for example, using Unibond Screed before applying the Unicrete system.

Substrates:

Only concrete or fine concrete sub screeds are suitable substrates for **Unicrete**. Concrete Substrate must be strong, stable and sound with a minimum compressive strength 25N/mm². On no account must **Unicrete** be applied to sand and cement screeds.

For application on previous flooring please contact Frinics Technical services for specific advice.

Toe –in grooves must be included in the surface area into which the material can be turned to give additional anchorage to help distribute stresses produced by mechanical or thermal changes. Refer to separate application instructions for full details.

Mixing

Unicrete Polyurethane Screed is supplied in a **two-part system**, comprising of a **primer** and **screed**.

Primer - Add the primer hardener unit to the contents of the primer base container. Mix thoroughly using a slow speed electric drill with suitable paddle and allow standing for 5 minutes before application onto prepared concrete.

Screed - Thoroughly mix the unit base to redisperse sedimentation and then mix with the hardener unit thoroughly with a slow speed electric drill. Pour the resultant mixed material into a mechanical mixer and mix for 30 to 60 seconds. Gradually add one bag of **Unicrete** powder and mix for approximately 3 to 5 minutes

Application

Due to the expertise required in applying this product only approved applicators are used.

The **primer** layer can be applied by suitable brush or roller, the **screed** by trowel.

Primer - Apply using either a suitable brush or roller or airless spray to achieve an even coating of the surface area. It is recommended that the screed be applied immediately after the primer layer and in any case within 4 to 5 hours, otherwise repriming will be necessary. In this event the primer must be abraded prior to reapplication of another primer coat.

Screed - Use either 5mm or 9mm battens to gauge thickness and apply the well-mixed screed to the tacky primer, spreading evenly using metal rakes. Level off with an aluminium straight edge and finish with a trowel float.

It is essential that the screed be compressed by the trowel to produce to produce a well-compacted screed. **AVOID OVER TROWELLING.**

Physical Data

Finish: Sealed, slip resistant texture

Colours: **Base:** Milky Liquid
Hardener: Brown Liquid
Finish product: Yellow Grey, Red Screed.

All colours have an attractive flecked appearance due to the inclusion of multi-coloured aggregates.

Components: **Primer:** 2
Screed: 3

Temperature resistance: Up to 60°C for 5-6mm thickness
Up to 100°C for 9mm thickness

Recommended Thickness:

Primer: 200 microns
Screed: 5-6 mm for up to 60°C
8-9 mm for up to 100°C

Curing mechanism Chemical reaction

Curing time at 20°C:

Light Foot Traffic: 18 hours
Heavy Traffic: 5 days
Full Chem. Resist: 7 days

Pot life at 20°C

Primer: 30 minutes (approx.)
Screed: 20 minutes (approx.)

Practical coverage

Primer: 0.25kg/m²

A 5.0kg unit of primer covers approximately 20m².

Screed: 11.6kg/m² for 5mm thickness
18.72kg/m² for 8mm thickness

A 27.15kg unit of screed covers approximately 2.34m² at 5mm thickness.

A 27.15kg unit of screed covers approximately 1.45m² at 8mm thickness.

Equipment cleaner: Frinics G.P. Solvent

Density: **Base:** ~1.02 kg/ltr
Hardener: ~1.24 kg/ltr
Finish product: ~2.32 kg/ltr

All Density values at 23°C (EN ISO 2811-1)

Solid Content: ~100% (by volume)
~100% (by weight)

Mechanical Characteristics:

Compress. Strength: 20.0 N/mm² (1 day at 23°C)
(1 day at 23°C) EN196-1
55.0 N/mm²
(28 days at 23°C) EN196-1

Flexural strength: 25 N/mm²
(28 days at 23°C) EN 196- 1

Bond strength: 2.0 N/mm² (EN 4624)
4.2 N/mm² (EN 13892-8)

Shore D Hardness: 80 (7 days at 23°C) DIN 53 505

Abrasion Resistance: 70 mg (8 days /+ 23°C) DIN 53 109

Material is non Flammable

Extension at break: 0.49%
Tensile strength: 9.0 N/mm² (7 days at 23°C)

Pack Sizes

Primer base: 3.02 kg in 5 litre tin
Primer hardener: 1.98 kg in 3 litre tin
Screed base: 2.23 kg in 5 litre tin
Screed hardener: 2.62 kg in 3 litre tin
Screed powder: 22.3 kg in paper sack

Shelf life:

Primer Components: 12 months in unopened contain.
Screed Base & Hardener: 12 months in unopened contain.
Screed Powder: 24 months in unopened contain.

Protect from extreme temperatures and keep dry during shipment and storage. Discard damaged or open containers.

Limitations

All Frinics products are manufactured to a high standard of quality. They are sold subject to Frinics Conditions of Contract or Sale - copy available upon request. Whilst Frinics strives to ensure that any advice, information or recommendations given are appropriate and correct, it cannot, since it does not have complete control over the method and place of application of the products, accept any liability directly arising out of the use of products.

Health and Safety at Work

Warnings and information concerning the safe handling of our products are displayed on their containers. It is the Purchaser's responsibility to ensure that the materials are stored and handled with the meaning of the law.

Safety Precautions

Read each component's Material Safety Data Sheet before use. Mixed material has hazards of each component. Safety Precautions included with Application Instructions must be strictly followed during storage, handling and use. Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Safety Equipment Required

Normal precautions should be taken during application to provide adequate ventilation, particularly when working in enclosed spaces.

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