



# TUFF-KRETE HD

## Heavy-Duty Polyurethane Flooring System

TECHNICAL DATA SHEET

March 2022

**TUFF-KRETE HD** is a polyurethane cement flooring system designed for use at thicknesses between 6 to 12mm. The product is formulated to withstand -45°C to 150°C, thermal shock, freeze/thaw cycles, and chemical attack. It performs well in environments where steam or hot water is needed for cleaning. The thermal stability and chemical resistance make it suitable for food processing and canning, beverage production and bottling, cold storage, freezers rooms, commercial kitchens, and commissaries.

It comes in a five-component kit, all pre-weighed for on-site mixing. Standard colors include brick red, blue, cream, green, light gray, and dark gray.

### ADVANTAGES

- Excellent mechanical properties
- High impact and abrasion resistance
- Resistant to thermal shock
- Resistant to steam and hot water cleaning
- Suitable for service range from -45°C to 150°C
- Temperature resistance at 6mm -25°C to 100°C
- Temperature resistance at 9mm and 12mm -45°C to 150°C
- Resistant to freeze/ thaw cycles
- Excellent resistance to a wide range of organic acids
- Anti-slip - provides safe, textured slip-resistant surface for pedestrian and vehicular traffic

### COLOR CHART



\*Actual colors may vary.

### PROPERTIES

The values given below are typical figures achieved in laboratory tests.

Compressive strength : 100 N/mm<sup>2</sup>  
(BS 6319) part 2, 1983

Flexural strength : 25 N/mm<sup>2</sup>  
(BS 6319) part 3, 1990

Tensile strength : 15 N/mm<sup>2</sup>  
(BS 6319) part 7, 1985

Impact resistance : No damage or deterioration  
(BS 8204)

Resistance to fungal growth (ASTM G21) : Passes

Resistance to elevated temperatures (115°C) : No flow, softening, chalking, or cracking

	20°C	35°C
Pot life	: 15 mins	12 mins

Slip Resistance Tes	: Dry 100	Wet 40 Pendulum
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Initial cure	: 20 hrs	12 hrs
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Full chemical cure	: 7 days	5 days
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### CHEMICAL RESISTANCE

**TUFF-KRETE HD** will resist spillage of the following chemical solutions at 25°C:

#### Inorganic

Sodium Hydroxide 40%, Sodium Chloride (sat.)  
Chlorine Water

#### Organic

Glucose Syrup (sat.), Sugar Solution (sat.), Citric Acid (10%), Tartaric Acid (10%), Nicotinic Acid (10%)



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## Alcoholic Beverages

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## Carbonated Beverages

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## Electrochemical Solutions

Copper Sulphate (1M)

Zinc Sulphate (1M)

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## Fruit Juices

Apple, Grape, Lemon, Mango, Orange, Pineapple, Fruit Cocktail

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## Fats

Vegetable Oil, Cheese, Butter

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## Seafood

Fish (varieties), Prawns (varieties), Fish Liquid, Fish Blood, Processed Fish Oil

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## Poultry

Chicken, Egg (White and Yolk)

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## Meat

Beef, Sheep Blood

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## Fuels

Brake Fluid, Coolant, Diesel, Engine Oil, Hydraulic Oil, Petrol

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## Commercial Cleaning Agents

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### NOTE:

Please consult us for additional chemicals, different concentrations, or operating temperatures greater than 25°C.

Laboratory-controlled tests have determined all the above properties, and the implementation of good housekeeping practices will determine success in use.

## INSTRUCTIONS FOR USE (IFU)

### Surface Preparation

Concrete preparation by mechanical means to achieve the best bonding is always preferred and encouraged.

**TUFF-KRETE HD** should be applied to a sound, clean and dry surface to achieve a maximum bond strength between the substrate and the flooring system.

### New Concrete Floors

Should be at least 21-28 days old at 25°C with a maximum moisture content not exceeding 5%. Laitance deposits on new concrete floors are best removed by shot blasting, mechanical scabbling, or diamond grinding.

### Old Concrete Floors

Mechanical cleaning method (degreasing) is strongly recommended on old concrete floors, mainly where heavy contamination of oil and grease has occurred, or existing coatings are present. These may well have been absorbed several millimeters into the concrete. To ensure adhesion, all contaminants should be removed.

Any damaged areas or uneven surfaces should be patched and repaired to maintain the substrate level before application.

Greenfloor Innovations Corporation does not recommend acid etching as the method of floor preparation.

### Priming

All surfaces to be treated with **TUFF-KRETE HD** should be primed with TUFF-KRETE PU Scratch Coat to prevent outgassing and to create pinholes on the finished floor.



## MIXING

**TUFF-KRETE HD** should be mixed correctly and thoroughly to achieve correct cure time and even color distribution.

Pour the entire resin (Part A) into an empty and clean five (5) gallon pail. Pour the color pack (Part C-2) after into the pail and mix thoroughly with a jiffy mixer. Pour the hardener (Part B) into the pail while thoroughly mixing the three components for 60 to 120 seconds. Pour the powder (Part C-1) and mix thoroughly for up to 60 to 120 seconds. Finally, pour the aggregates (Part D) and mix again for another 60 to 120 seconds, making sure that there are no lumps left.

Once mixed, the material must be used within its pot life; after this time, any unused material will have stiffened and should be discarded.

## Application

Scratch coat or primer coat should be applied using a flat trowel or a long steel trowel, making sure all the surface is sealed to prevent outgassing. Typically this will be approximately 1mm thick.

TUFF-KRETE mortar (5mm) is applied after using a screed box to evenly distribute the material. A notched trowel can also be used for this purpose.

## PACKAGING

### Supply

**TUFF-KRETE HD** : 30kg pack

### Coverage

**TUFF-KRETE HD** : 2.5m<sup>2</sup>/pack @ 6mm

### NOTE:

The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced. Typically an additional 10% should be allowed for surface irregularities and wastage, although this will vary with site conditions.

## Cleaning

**TUFF-KRETE HD** materials should be removed from tools and equipment using thinner immediately after use.

## Maintenance

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning may be carried out using a rotary scrubbing machine with a water-miscible cleaning agent at temperatures up to 100°C.

## Limitations

- **TUFF-KRETE HD** should not be applied on surfaces that are known to or likely to suffer from rising damp, osmosis, or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A or by concrete/ mortar moisture tester.
- **TUFF-KRETE HD** color may change or stain when in contact with oxidizing agents or acids.
- **TUFF-KRETE HD** should not be mixed at temperatures below 5°C.
- **TUFF-KRETE HD** should not be applied to asphalt, unmodified sand/ cement screeds, PVC tiles, or sheet. For information on the suitability of other substrates, consult our technical team.

## Technical Support

Greenfloor Innovations Corporation offers a comprehensive range of high-performance, high-quality flooring, jointing, and repair products for both new and existing floor surfaces. In addition, the company provides a technical support package to specifiers, end-users, contractors, and on-site technical assistance.



## STORAGE

### Shelf Life

All products have a shelf life of six (6) months to one (1) year if kept in a dry store in the original, unopened packs.

### Storage Conditions

Store in dry conditions between 5°C and 30°C away from heat sources and naked flames in the original, unopened packs. Shelf life will be reduced if stored at high temperatures.

### Disposal

Spillages of component products should be absorbed onto the earth, sand, or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be following local waste disposal regulations.

For further information, refer to the Product Material Safety Data Sheet.

## PRECAUTIONS

### Health and Safety

**TUFF-KRETE HD** should not contact the skin and eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapors. Some people are sensitive to resins and hardeners.

Wear suitable protective clothing, gloves, and eye protection. If working in confined areas, proper respiratory protective equipment must be used.

The use of barrier creams provides additional skin protection. In contact with the skin, rinse with plenty of clean water and wash it with soap and water. Do not use solvent.

In contact with the eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.