

## TUFF-Krete HD

**Heavy duty polyurethane based floor screed, 6 mm. to 9 mm. thick, resistant to steam, hot water and chemicals**

### Uses

TUFF-Krete HD is designed for use as heavy duty floor screed in environments where high resistance is required against impact, thermal shock, abrasion and chemicals. The thermal stability and chemical resistance makes it suitable for use in food processing areas, drink and beverage production areas, cold stores, freezer rooms, commercial kitchens and restaurants. It is particularly useful in areas when steam or hot water is required for cleaning.

### 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 120°C
- Resistant to freeze/thaw cycles
- Good resistance to a wide range of chemicals
- Anti-slip - provides safe, textured slip-resistant surface for pedestrian and vehicular traffic

### Description

TUFF-Krete HD is a polyurethane based floor screed designed for use at thickness between 6 mm and 9 mm. The product is formulated specifically to withstand thermal shock, freeze/thaw cycles and chemical attack. The product is supplied as a five-component system (including colour pack), pre-weighed for on-site mixing. Standard colours include brick red, grey, yellow, cream and green.

### Standard Color Charts



CREAM



GREEN



YELLOW



RED



GREY

Color matching available with sufficient lead time and minimum order requirement

### Properties

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

<b>Compressive strength</b> (BS 6319) part 2, 1983	:	100 N/mm <sup>2</sup>
<b>Flexural strength</b> (BS 6319) part 3, 1990	:	25 N/mm <sup>2</sup>
<b>Tensile strength</b> (BS 6319) part 7, 1985	:	15 N/mm <sup>2</sup>
<b>Impact resistance</b> (BS 8204)	:	No damage or deterioration
<b>Resistance to fungal growth</b> (ASTM G21)	:	Passes
<b>Resistance to elevated temperatures (115°C)</b> MIL-D-3134	:	No flow, softening, chalking or cracking
<b>Abrasion resistance</b> (ASTM D4060 @ 1000 cycles)	:	0.05 grams loss
		<b>20°C      35°C</b>
<b>Pot life :</b>		15 minutes      12 minutes
<b>Initial cure :</b>		20 hours      12 hours
<b>Full chemical cure :</b>		7 days      5 days

### Chemical resistance

TUFF-Krete HD will resist spillage of the following chemicals at 25°C:

#### Inorganic

Sodium Hydroxide 40%, Sodium Chloride (sat.)

#### Chlorine Water

#### Organics

Glucos syrup (sat), Sugar solution (sat),

Citric acid (10%), Tartaric acid (10%),

Nicotinic acid (10%)

#### Alcoholic beverages

Wine, Brandy, Beer

#### Carbonated beverages

Pepsi / Coca Cola / Mirinda / Fanta / 7 UP / Team

#### Fruit juices

Grape juice, Orange juice, Fruit cocktail, Apple juice,

Mango juice, Pineapple juice, Lemon juice

## Fats

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Vegetable oil, Cheese, Butter

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## Seafood

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Fish (varieties), prawns (varieties), Fish liquid, Fish blood, Processed fish oil

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## Poultry

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Chicken, Egg (yolk + white)

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## Meat

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Beef, Sheep blood

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## Fuels

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Petrol, Diesel, Engine oil, Hydraulic oil, Brake fluid, Coolant

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## Cleaning aids

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Dishwashing liquid, Chlorox, Commercial detergents

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## Electrochemical solutions

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Copper Sulphate 1M, Zinc Sulphate 1M

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**Note :** Please consult Greenfloor Innovations Corp. for additional chemicals, different concentrations or operating temperatures greater than 25°C.

All the above properties have been determined by laboratory controlled tests and success in use will be determined by the implementation of good housekeeping practices.

## Instructions for use

### Surface Preparation

It is essential that TUFF-Krete HD is applied to a sound, clean and dry surface in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

#### *New concrete floors*

Should be at least 14 days old (at 25°C) with maximum moisture content not exceeding 5%. Laitance deposits on new concrete floors are best removed by light grit blasting, mechanical scabbling or grinding. Old concrete floors

Again, mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease has occurred or existing coatings are present. These may well have been absorbed several millimetres into the concrete. To ensure adhesion, all contamination should be removed, hot compressed air are recommended for this purpose. Proprietary chemical degreaser may be used on small areas of light contamination only. Any damaged areas or surface irregularities should be repaired.

### Priming

All surfaces to be treated with TUFF-Krete HD should be primed with TUFF-Krete PU Scratch coat for maximum absorption and adhesion to the substrate.

### Mixing

It is important that TUFF-Krete HD is mixed correctly. Pour the entire colour pack into the base container and mix thoroughly with a slow speed electric drill fitted with a suitable mixing paddle for 15-20 seconds or until the mix becomes homogeneous.

The entire contents of the hardener should then be poured into the base container and mixed thoroughly until homogeneous.

Pour the mixed base, hardener and colour pack slowly into a suitable forced action mixer such as Mixal, Cretangle or similar. A free fall mortar mixer is not suitable. Add the filler. Continue mechanical mixing for a further 2-3 minutes, until all components are thoroughly blended.

### Application

The mixed TUFF-KRETE HD should be spread to uniform thickness on the primed surface using either a garden rake or the edge of a plastic trowel only when the primer dry. The material should be tamped with a wooden float to ensure complete compaction and finally finished to a closed even texture using a steel trowel. Screeding rods are useful to maintain a minimum compacted thickness of 6mm.

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

### Expansion joints

Expansion joints in the existing substrate should be continued through the TUFF-Krete HD topping, and filled to the required level with a suitable polyurethane joint sealant that incorporates the appropriate movement accommodation factor.

### Cleaning

TUFF-Krete HD materials should be removed from tools and equipment using solvent based liquids immediately after use. Hardened material can only be removed mechanically.

### Maintenance

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning should be carried out using a rotary scrubbing machine with a water-miscible cleaning agent.

### Limitations

- Greenfloor Innovations Corp. does not recommend acid etching as a method of floor preparation. If used, the method should be approved by the project consultant.
- TUFF-Krete HD should not be applied on to surfaces which 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 should not be applied to asphalt, unmodified sand/cement screeds, PVC tiles or sheet. For information on the suitability on other substrates, consult Greenfloor Innovations Corp.
- TUFF-Krete HD colour may change in contact with oxidizing acids.
- TUFF-Krete HD should not be mixed at temperatures below 5°C.

### Technical support

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

### Packaging

#### Supply

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**TUFF-Krete HD : 30 kg. pack**

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#### Coverage

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

**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.

## **Storage**

### **Shelf life**

All products have a shelf life of 6 months 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 sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life will be reduced

### **Disposal**

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

For further information, refer to the Product Material Safety

### **Data Sheet.**

## **Precautions**

### **Health and safety**

TUFF-Krete HD should not come into contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins and hardener.

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

The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent.

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

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