

# Duracrete HD

## Heavy duty PU concrete flooring

### Description

Duracrete HD is a four-component PU concrete flooring recommended for the most demanding applications in the food and beverage industries. Duracrete HD is an anti-skid polyurethane concrete flooring system designed to provide outstanding abrasion and chemical resistance and is generally applied at thicknesses 6-9 mm. Duracrete HD is available in a few limited colours. It has excellent thermal shock resistance and hence can be applied on those areas where steam cleaning occur intermittently. Duracrete HD does not support bacteria or fungal growth. It is inert, non-bio degradable and is highly recommended for food and pharma industries, where the highest standards of hygiene are required.

### Uses

- Food processing industries
- Beverage plants / Confectionaries / Abbottairs.
- Cold storage rooms / Dairies
- Commercial and industrial kitchens

### Key features

- Seamless and hygienic / Solvent free
- Resistant to thermal cycling / Anti slip
- Hygienic and no tainting
- Fast setting / Excellent wear resistance
- High impact and chemical resistance

### Resistant to thermal shocks

Conventional epoxy floorings soften at temperatures 50 - 60°C, while Duracrete HD does not soften at elevated temperatures. The fusion of concrete and urethane chemistries enable Duracrete floors to have excellent resistance to thermal shocks: frequent heating and cooling. The temperature resistance of Duracrete HD floors varies from 60°C to 130°C, depending on the thickness, with occasional spillage temperature upto 150°C. The increased thickness protects the bond line from the extreme thermal stresses

### Chemical resistance

Duracrete HD offers excellent chemical resistance to varied chemicals: from acids to solvents. Duracrete HD

is resistant to many chemicals commonly encountered in food and beverage industries such as 50% acetic acid (vinegar), 30% lactic acid (acids present in milk and dairy products), citric acids (acid present in citrus fruits and limes), oleic acids (organic acid formed by oxidation of vegetable and animal fats). A full list of chemicals resistant to Duracrete HD is available on request. Strong solvents may soften Duracrete on continuous immersion, but the film will regain its strength once the solvent is evaporated. A few substances will make stains on Duracrete floors on continuous exposure. It should be noted that discolouration is not termed as film failure. Staining can be minimized by effective cleaning

### Properties

Type	: PU Concrete
Mixing ratio (R:H)	: Pre-weighted kits
Finish	: Matt
Colour	: Limited colours available
Pot life	
ASTM D 2471	: 8-12 min
Volume solids	
ASTM D 2697	: ≥98%
Drying time at RH 50%	
ASTM D 1640	
Surface dry	: ≥ 20 min
Tack free dry	: ≥ 1 hrs
Hard dry	: ≥ 24 hrs
Recommended thinner	:
Clean up	: PUT 502
Shelf life	: 6 months in the unopened container

### Performance date

Compressive strength	: ≥ 50 MPa
Tensile strength	
ASTM D 638	: ≥ 5 MPa
Flexural strength	
ASTM D 790	: ≥ 15 MPa
Bonding strength	
ASTM D 4541	: Concrete failure
Abrasion resistance	
ASTM D 4060	: ≤ 40 mg loss
Hardness, Shore D	
ASTM D 2240	: ≥ 80

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Water absorption  
ASTM D 570 :  $\leq 1\%$

Skid value : Pendulum test  
BS 8204 : 40 - 70

Service temperature  
6mm : - 15°C to 80°C  
9mm : - 25°C to 120°C

### Directions to use

Duracrete HD can be applied on a 1 week cured concrete flooring. Surface preparation like scarification is the most preferred. The concrete should be very strong with a minimum compressive strength of 5 MPa. Ensure that the surface is clean and dry. Apply a scratch coat of Durascratch / Duracrete MD @ 1mm over the concrete surface and allow to cure for 3-4 hours. Duracrete HD contains resin, hardener, reactive aggregates and liquid colour pack. To a mixing bowl, unpack the resin contents, colour pack, hardener and mix for 1 minute. Add aggregates and continue mixing for another 2-3 minutes. Lay the screed to a thickness of 6 mm by a notched trowel. De-aerate the screed by spike rollers to dislodge air and blisters. The use of a short pile roller is recommended to get an even finish. Avoid excessive rolling. Roller movements should be in one direction as it may spoil the anti-slip effect.

### Important Note

Duracrete HD has a very short pot life and hence mixing, laying and de-aeration should be done very swiftly. Application should be avoided when the temperature is very high i.e. above 28°C. Do not store materials under direct sunlight or in open areas. Duracrete HD is a highly cross linked aromatic PU system and hence tends to yellow very fast. Avoid light colours.

### Packaging

Duracrete HD is available in pre-weighed kits containing resin, hardener, reactive aggregate and DPI. It has maximum shelf life of 6 months in the unopened containers.

Resin : 2.30 kgs / Hardener : 2.62 kgs / Aggregates : 20.5 kgs / DPI (colour) : 0.40 kgs. The above kit will cover an area of 2 sq mt @ 6mm thickness.

### Storage and handling

The product should be stored in accordance with national regulations. It should be kept in a cool, well ventilated area, away from heat, direct sunlight, sparks and children. Handle with care. It contains inflammable solvents. Mix resin and hardener as per the recommended ratio. Use the mix solution within the pot life time.

### Health & Safety

Please refer to MSDS. Observe reasonable care and employ ordinary hygienic principles such as washing the hands with soap and water before eating or smoking. It is recommended to wear gloves, goggles and nose masks while application. In case of splashes on the skin, dampen the cloth with thinner PUT 503 and wipe the hands with the cloth. Wash then with soap and water. Dried film is non toxic. In case of contact with eyes, rinse with plenty of water and seek medical advice. In case of continuous exposure to vapour, the applicator should be immediately moved to get fresh air. The disposal of excess or waste material should be carried out in accordance with the local legislations.

### Disclaimer

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