

UCRETE[®] DP

Heavy Duty Polyurethane Screed

Unique HD Polyurethane resin technology with exceptional resistance to aggressive chemicals, heavy impact and temperatures up to 120oC

Description of Product

UCRETE[®] DP is a family of products with defined surface profiles suitable for applications in wet and dry process environments.

The system offers a uniformity of surface texture with enhanced aesthetics so providing a safe and attractive working environment.

It is dense and impervious providing the ideal floor finish for applications in the food and beverage, pharmaceutical and chemical industries and wherever a robust long lived floor is required.

With three thickness specifications and three defined surface profiles available, UCRETE[®] DP is designed to meet a wide range of service and temperature requirements.

UCRETE[®] Industrial Flooring has been widely used throughout industry for more than 30 years, many of the older floors are still in service. A detailed project reference list is available upon request.

Performance Data

Slip Resistance

UCRETE[®] DP conforms to the HSE Guidance Sheet 156 and Food Sheet No.22, issued by the Health and Safety Executive, on slip resistance.

The UCRETE[®] DP surface profiles have coefficient of friction as determined using the TRRL slip resistance tester with 4S rubber on the wet floor as follows:

UCRETE [®] DP 10	50-60
UCRETE [®] DP 20	55-75
UCRETE [®] DP 30	60-80

The UCRETE[®] DP surface profiles conform to DIN51130 as follows:

UCRETE [®] DP 10	R11	-
UCRETE [®] DP 20	R13	V4
UCRETE [®] DP 30	R13	V8

The extremely robust aggregates used to provide the texture of UCRETE[®] DP 20 and UCRETE[®] DP30 are designed to maintain optimum slip resistance for many years. Where there is heavy hard wheeled traffic it is recommended that UCRETE[®] DP30 is used.

Optimum slip resistance can only be maintained with regular cleaning.

Temperature Resistance:

The UCRETE[®] DP resins do not start to soften until temperatures above 130 °C are exceeded. 9 mm specifications are fully serviceable up to 120 °C.

Correctly installed UCRETE[®] DP at 9 mm thickness can withstand regular and routine discharges of boiling water, hot oils and fats.

Non Tainting:

The UCRETE[®] DP systems are solvent free and non tainting as tested by the Campden & Chorleywood Food Research Association

Chemical Resistance:

UCRETE[®] DP offers exceptional resistance to a wide range of chemical aggressors. For example UCRETE[®] is resistant to the following commonly encountered chemicals.

Acetic acid, 50%: As spirit vinegar widely used in the food industry, indicative of resistance to vinegar, sauces, etc.

All concentrations of Lactic Acid @ 60°C: Indicative of resistance to milk and dairy products.

Oleic Acid, 100% @ 60 °C: Representative of the organic acids formed by oxidation of vegetable and animal fats widely encountered in the food industry.

Concentrated Citric Acid: As found in citrus fruits and representative of the wider range of fruit acids which can rapidly degrade other resin floors.

Methanol, 100%: Representative of alcohols and the wider range of solvents used in the pharmaceutical industry.

UCRETE[®] DP is also resistant to a wide range of mineral oils, salts and inorganic acids, extensive chemical resistance tables are available upon request.

Note: some staining or discolouration may occur with some chemicals depending upon the nature of the spillage and the standards of house keeping employed.

Impact Resistance:

With high mechanical strengths and a low elastic modulus, UCRETE[®] DP is very resilient and able to withstand severe impact loads. While no material is indestructible and surface chipping may occur, brittle modes of failure resulting in cracking and disbondment are unknown with UCRETE[®] floors

Cleaning & Hygiene:

UCRETE[®] DP is cleaned using industry standard cleaning chemicals and equipment. The use of a food industry standard scrubber drier machine is recommended.

Permeability:

UCRETE[®] DP exhibits zero absorption when tested to CP.BM2/67/2.

Substrate Moisture Tolerance:

UCRETE[®] Industrial Flooring is extremely tolerant to residual substrate moisture and can be installed directly onto 7 day old concrete, or onto old good quality concrete with high moisture contents without the use of special primers provided there is a functioning DPM within the structure.

This enables rapid construction programmes to be maintained and facilitates refurbishment work in wet process areas.

Epoxy surface DPMs should not be used as they soften under high temperature conditions and will lead to floor failure.

Colours:

UCRETE[®] DP is available in six standard colours:

Red Yellow Green Orange Grey Cream

Ucrete floor systems have been formulated to provide the very highest chemical and heat resistance. As a direct result some yellowing of the installed floor will occur in areas of direct UV exposure. This is most apparent in lighter colours

Technical Data

samples cured for 28 days at 20°C

Density (BS 6319:Part 5)	2000 – 2090 Kg/m ³
Compressive strength (BS 6319:Part 2)	48 – 58 MPa
Tensile strength (ISO R527)	5 - 7 MPa
Flexural strength MPa (ISO 178)	12-14
Compressive modulus (BS 6319:Part 6)	3250 - 5000 MPa
Adhesive strength (BS6319:Part 4)	Concrete failure
Thermal expansion (ASTM C531:Part 4.05)	$2 - 6 \times 10^{-5} \text{ }^{\circ}\text{C}^{-1}$
Thermal conductivity (BS 874)	1.1 W/m °C
Surface spread of flame (BS 476:Part 7)	Class 2

Specification

The UCRETE[®] DP system consists of three surface textures, 10, 20, and 30, which can be installed at thicknesses of 4, 6 or 9 mm depending upon the service conditions.

The specifier should specify the grade and surface texture required, as UCRETE[®] DP 10, UCRETE[®] DP 20 or UCRETE[®] DP 30 and the required thickness.

For example:

The floor finish shall be UCRETE[®] DP 10/20/30 (*select depending upon required texture*), from Master Builders Solutions Construction Chemicals, of 19 Broad Ground Road, Redditch, Worcestershire, B98 8YPB, installed at 4/6/9* mm (*select depending on service conditions*) installed in accordance with the manufacturers' instructions.

*A 4 mm UCRETE[®] DP floor is fully resistant to liquid spillage and discharge up to 60°C.

*A 6 mm UCRETE[®] DP floor is fully resistant to liquid spillage and discharge up to 70°C and can be lightly steam cleaned.

*A 9 mm UCRETE[®] DP floor is fully resistant to high temperature spillage and discharge up to 120°C and is fully steam cleanable.

In extreme thermal shock environments a well designed substrate of good quality concrete is essential.

Substrate Quality

Concrete substrates should be visibly dry and have a minimum tensile strength of 1.5 MPa. Refer to the guide 'The Design & Preparation of Substrates for UCRETE[®] Industrial Flooring'

All joints in the substrate concrete subject to movement should be reflected through the UCRETE[®] DP floor and sealed with a suitable sealant.

Storage

In covered warehouse conditions, above 5 °C and below 30 °C and out of direct sunlight. Materials must be raised off the floor and kept dry. Parts 1 & 2 must be protected from frost.

Application Conditions

For best results materials, substrate and air temperature should be in the range 15 – 25 °C. Whilst UCRETE[®] DP will cure out effectively over a wide range of temperatures the optimum appearance and profiles are most readily achieved under good site conditions

Low temperatures will retard the setting and can impair the visual appearance of the floor.

High temperatures will shorten the open time and can impair the appearance of the floor.

Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Solvent Based Products

Use in well ventilated areas; avoid inhaling. Suitable respiratory equipment may be needed, eg when spraying. Can cause skin, eye irritation. Wear protective eye shields and gloves during use. Do not smoke or allow sparks or naked lights when stored or in use.

Powder Products

Should be handled to minimise dust formation; use light mask if excessive dust unavoidable. Cement powders when wet or moistened can cause burns to skin and eyes which should be protected during use.

Curing

Normally, UCRETE[®] DP floors can be put into service within 24 hours even at 8°C.

Disposal

Part 2 containers should be decontaminated with 5% sodium carbonate (washing soda) solution after use and disposed of as building waste in accordance with local regulations.

Cleaning

Regular cleaning and maintenance will enhance the life and appearance of any floor. UCRETE[®] DP is readily cleaned with industry standard cleaning chemicals and equipment. Please consult your local cleaning chemical or equipment supplier.

Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

Spillage

Chemical products can cause damage; clean spillage immediately.

Disclaimer:

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