



**Ucrete**  
**Industrial Flooring**  
The World's Toughest Floor  
Since 1969

**50**  
YEARS OF  
**Ucrete**

50 Years  
of Excellence  
in Flooring



## Ucrete – the world's toughest floor since 1969

Performing at the highest level for more than 50 years. Ever since, innovative, sustainable and practical solutions have been the key drivers in the development of the Ucrete product range. If you are looking for the right flooring for your project, Ucrete floors give you the reassurance of proven performance and a reputation acquired over decades of use in aggressive process environments throughout the food and beverage, pharmaceutical, chemical and engineering industries.



Our reference in Rüsselsheim (Germany):  
Health and Care Center



## The key benefits at a glance

Ucrete industrial flooring sets the benchmark for attractive heavy-duty flooring. It is quick and practical to install, meeting all the needs of modern processing industry for safety and performance. It is a unique suite of products that enjoys an unequalled reputation for performance, built up over five decades of use throughout the food, beverage, pharmaceutical, chemical and engineering industries.

Ucrete's longevity minimizes downtime and ensures a safe, hygienic and efficient working environment, making it the most cost-effective flooring solution.

### Long-term performance

There are many 20 – 30 year-old Ucrete floors in aggressive environments still in service.

### Aesthetics

Colour-stable and stain-resistant systems are available for those applications where appearance, as well as performance, is required.

### Fast application and curing

Even at low temperatures. Specifications are available that are fully serviceable after only 5 hours at 10 °C, making it ideally suited for refurbishment work.

### Moisture tolerant

Can be installed onto 7-day-old concrete without the need for special primers, helping to stay on schedule on fast-track projects.

### Thermal-shock resistance

Withstands spillages up to 150 °C depending upon specification.

### Chemical resistance

From strong acids to alkalis, fats, oils and solvents which can rapidly degrade other types of resin flooring.

### Clean and safe

For your workers, your products and the environment. Certified by the Eurofins Indoor Air Comfort Gold standard for low emissions.

### Hygiene

Cleanable to the same standard as stainless steel and does not support biological growth, so helping to maintain hygiene standards.

### Non-tainting

Even during application in food-handling areas.



## Getting it right

When factory owners, architects and engineers who specified and installed Ucrete in the 1970s and 1980s find that their floor is still in service well into the 21st century, you can understand why they want to specify Ucrete again. But you don't need to have used Ucrete in the past to be convinced of its performance. You can trust the Ucrete reputation, built up over fifty years and many millions of square meters of floors for companies large and small in more than one hundred countries around the world.

### A simple choice

#### If you want a floor

- ...that stands up to aggressive production environments
- ...that does not support bacteria or mold growth
- ...that has bacterial cleanability comparable to stainless steel
- ...that can be put back into service after just five hours at 10 °C
- ...that resists a broad spectrum of aggressive chemicals
- ...that provides good looking floors with stain-resistant and colour-stable options
- ...that withstands regular and routine discharges of boiling water
- ...that can be installed rapidly on to 7-day-old concrete and other high moisture content substrates
- ...that minimizes your downtime
- ...that reduces your maintenance costs
- ...that prevents accidents, with slip-resistant profiles for wet and greasy environments
- ...that is shown to provide long-lasting solutions over 10, 20, 30 or more years
- ...that helps protect the environment
- ...that has over 50 years' proven track record

**Then the choice is simple, only a Ucrete floor will do.**

#### We can help

The expertise we have gained over the last 50 years working with Ucrete performance flooring throughout the processing industries can help you find the most cost-effective, elegant and long-lasting solutions.

Discussing your floor with your local Ucrete expert from Master Builders Solutions will help define the right product for you, with the right appearance and slip resistance, the

right thickness to meet your temperature requirements and the robustness to provide a long-lived solution.

We can also provide guidance on the design and detailing of the substrate to help ensure you get the best floor possible.

For further information, please contact your local Master Builders Solutions office.



## Thinking about your requirements

For more than 50 years, we have invested our technical expertise and market understanding to provide a range of high-performance sustainable floors with different aesthetic and technical profiles to meet the needs of our customers.

The purpose of this brochure is to help you choose the best floor to meet your requirements, now and for years to come.



Our reference in Homburg (Germany):  
Karlsberg Brewery

**Light textured floors**

- Ucrete HF60RT 6 mm
- Ucrete HF100RT 9 mm
- Ucrete IF quartz 9 mm iron armored
- Ucrete MT 4–6 mm
- Ucrete UD200 6–12 mm

**Medium textured floor**

- Ucrete DP20 4–9 mm

**Smooth floors**

- Ucrete MF 4–6 mm

**Vertical surfaces**

- Ucrete RG 4–9 mm coving and render

**Aesthetics**

Ucrete floors are functional floors, but that does not mean they have to be unsightly. System specifications are available that are colour stable, stain resistant and easily cleaned while having the chemical, thermal and mechanical resistance that have built the reputation of Ucrete flooring across the globe.

**Slip resistance**

The most appropriate surface texture for any particular application will depend on the nature of any spillage to be encountered, the type of work undertaken in the area and the standards of housekeeping and cleaning to be maintained. Slip resistance is discussed on page 10.

**Hygiene**

Ucrete floors do not support biological growth and are as cleanable as stainless steel. See page 16 for more details.

**Temperature resistance**

The in-service temperature requirements help determine the required floor thickness and may limit the number of appropriate finishes available. See page 8 for more details.

**Chemical resistance**

All Ucrete floors have the superior chemical resistance characteristics shown in the tables on page 12.

**Antistatic**

To protect sensitive electronic devices or minimize explosion risks, a range of antistatic floors is available as detailed on page 14.

**Mechanical resistance**

In areas where heavy mechanical impact and intense hard-wheeled traffic is expected, thicker systems with larger aggregate should be used.

**Non-tainting**

Ucrete flooring systems are non-tainting even during application, making them the safe choice for weekend and maintenance work.

**Rapid installation**

We appreciate that it is not always easy to close production lines, so many of our systems can be installed in weekend or even overnight application windows. By minimizing downtime, we cut the cost of upgrading to a Ucrete floor. Ucrete UD200, for example, can be put back into service after only 5 hours at 10 °C.

**A bespoke solution**

The wide range of Ucrete flooring systems allows you to tailor your floor to meet all of your requirements. We will work with you to help you select the best and most cost-effective flooring solution for your facility. Please contact your local Master Builders Solutions expert for guidance.



## Thermal shock resistance



Our reference in Bruges (Belgium):  
Marine Harvest

While most resin flooring systems soften at temperatures of 60 °C or less, the unique Ucrete resin systems are unaffected until temperatures of 130 °C are exceeded.

This high temperature resistance, coupled with resilience, enables Ucrete floors to withstand high-temperature spillages and extreme thermal-shock conditions.

Ucrete floors are available in four separate thickness specifications, ranging from 4 mm to 12 mm, suitable for the most extreme environments with occasional spillages of up to 150 °C (see panel below).

### Always reliable

The increasing thickness protects the bond line with the substrate from the enormous stresses of an extreme thermal shock event.

When the volume of liquid spilled is small, however, no damage is likely. So, for example, a spilt cup of coffee at 90°C will not damage a 4 mm floor, but a 1000-liter discharge at 90°C probably would.

A 9 mm thick Ucrete floor is able to withstand routine and regular discharge of boiling water.

In extreme thermal shock environments, a good quality, well-designed substrate is required with allowance for the large thermal movements of the substrate that are expected.

### Cryogenic shock

Cryogenic spillages present a particularly severe challenge to floors. The 9 mm Ucrete specifications will withstand occasional cryogenic spillages, for example up to 5 liters of liquid nitrogen, without damage.

### Thickness specifications

#### 4 mm

- Fully resistant to +70 °C
- Freezer temperatures to -15 °C
- Ucrete CS, DP, HPQ, MF, MT, RG

#### 6 mm

- Fully resistant to +80 °C
- Light steam clean
- Freezer temperatures to -25 °C
- Ucrete CS,DP, HF60RT, MT, RG,UD200, UD200SR

#### 9 mm

- Fully resistant to +120 °C
- Full steam clean
- Freezer temperatures to -40 °C
- Ucrete CS, DP, HF100RT, IF, RG, TZ, UD200, UD200SR

#### 12 mm

- Fully resistant to +130 °C
- Occasional spillage to 150 °C
- Full steam clean
- Freezer temperatures to -40 °C
- Ucrete TZ, UD200, UD200SR

### More than 50 years of proven performance

There is no simple test to prove that a flooring system will withstand repeated thermal shock over many years in a factory environment. The performance we quote is based upon our experience with Ucrete flooring in aggressive process environments throughout the world for more than 50 years.



# Avoiding slip accidents

In wet and greasy process environments, the correct surface profile is essential to provide a safe and efficient working environment. Ucrete flooring offers a range of surface profiles, from smooth and terrazzo systems to highly textured defined profile floors.

## Floors to falls

Often, floors will be laid to falls to allow water and liquid spillages to flow to drain. Free-draining floors require steep falls needing a good profile to be safe. Where personnel are required to push bins and racks over a floor with steep or complex falls, the need to try and prevent the load rolling downhill increases the likelihood of strain injuries as well as slips, trips and falls. In general, flatter floors are safer.



Slip Resistance is a Balance

## Slips, trips and falls.

A holistic approach is required to minimize slips, trips and falls. Engineering solutions to avoid floor contamination, or a change of working practices and procedures, can help as much as cleaning and footwear. A compromise between cleaning and slip resistance is required; smoother floors may call for more frequent cleaning, while rougher floors need more aggressive cleaning.

## Hygiene

There is no need to compromise on aesthetics or hygiene when looking for slip-resistant flooring, Ucrete DP systems offer R12 and R13 profiled floors that can be cleaned to the same standard as stainless steel, with Ucrete CS colour-stable options available (see page 29).

## Planned cleaning

A formal cleaning plan should be in place detailing the frequency and type of cleaning required in each location.

Floor cleaning should be coordinated with that of plant and equipment, so that residues from plant cleaning are removed promptly and not left to evaporate to dryness on the floor.

## Bespoke solutions

Not every location will need the same degree of slip resistance. This is why we offer Ucrete with a range of surface profiles to enable the floor to be tailored to meet your needs. For specific advice as to the most appropriate grade of Ucrete for your floors, please contact your local Master Builders Solutions expert for guidance.

## Conformity to DIN 51130

Ucrete MF	R10	Ucrete UD200	R11
Ucrete TZ	nd	Ucrete IF	R11
Ucrete HPQ	R11	Ucrete DP10	R11
Ucrete MT	R10/R11*	Ucrete DP20	R12/R13*
Ucrete HF60RT	R10/R11*	Ucrete UD200SR	R13
Ucrete HF100RT	R10/R11*	Ucrete DP30	R13

\* depending upon specification

## EN 13036-4 Pendulum test \*\*

Ucrete MF	35	Ucrete UD200	40 – 45
Ucrete TZ	35 – 40	Ucrete IF	40 – 45
Ucrete HPQ	35 – 45	Ucrete DP10	45 – 50
Ucrete MT	40 – 45	Ucrete DP20	45 – 55
Ucrete HF60RT	40 – 45	Ucrete UD200SR	50 – 60
Ucrete HF100RT	40 – 45	Ucrete DP30	50 – 60

\*\* Pendulum test value on wet floor with 4S rubber

## EN 13036-4 Pendulum Test

### Interpretation of results

Below 24	high slip potential
25 – 35	moderate slip potential
Above 35	low slip potential



Our reference in Korolev (Russia):  
Globus



# Chemical resistance

Ucrete floors have excellent resistance to a broad spectrum of chemicals, including many that will rapidly degrade other types of resin flooring, such as many polyurethane cement systems.

Ucrete floors are unaffected by those compounds marked '**R**' in the table, even after continuous long-term immersion.

There are very few chemicals that will rapidly degrade Ucrete flooring. These are marked with '**NR**' in the table.

Ucrete is suitable for use on floors in wet process areas, where chemicals marked 'L' in the table are employed, provided that reasonable standards of housekeeping are maintained. Note that if valves or pump seals start to leak they should be addressed, as the leakage results in a continuous immersion environment and surface erosion may occur.

Solvents may soften Ucrete on long-term immersion, but Ucrete will often recover when the solvent is removed and the floor is allowed to dry. In practice, most solvents evaporate before they do any damage.

A more extensive chemical resistance chart is available upon request.

Discoloration may occur due to salt deposits, contaminants in solvents, strong dyes and strong acids. This does not affect the performance of the floor.

Such effects are minimized by good housekeeping, especially if ponding is avoided and spillages are not allowed to evaporate to dryness on the floor.

Effective cleaning regimes will enhance the life and appearance of your floor. The use of Ucrete CS floors with the colour-stable topcoat Ucrete TCCS will significantly reduce the amount of staining observed.

For specific advice on the chemical resistance of Ucrete floors, please contact your local Master Builders Solutions office.

## Chemicals in the food industry

Ucrete floors are resistant to the common food industry chemicals, for example

### Acetic acid, 50 %:

As spirit vinegar widely used in the food industry for cleaning food contact surfaces.

### Lactic acid, 30 % at 60 °C:

Indicative of resistance to milk and dairy products.

### Oleic acid, 100 % at 60 °C:

Representative of the organic acids formed by oxidation of vegetable oils and animal fats widely encountered in the food industry.

### Citric acid, 50 %:

Found in citrus fruits, representative of the wider range of fruit acids which rapidly degrade other resin floors.

### Sodium hydroxide, 50 % at 60 °C:

Widely used for cleaning and in CIP areas.



## Resistance to common industrial chemicals

Chemical	Conc. %	Temperature °C	Ucrete all grades	Chemical	Conc. %	Temperature °C	Ucrete all grades
Acetaldehyde	100	20	R	Kerosene	–	20	R
Acetic Acid	10	85	R	Lactic acid	5	20	R
	25	20	R		25	60	R
	25	85	L		85	20	R
	40	20	R		85	60	R
	99 (Glacial)	20	L	Lauric acid	100	60	R
Acetone	100	20	L	Maleic acid	30	20	R
Adipic Acid	Saturated	20	R	Maleic anhydride	100	20	R
Ammonium hydroxide	28	20	R	Methacrylic acid	100	20	R
Aniline	100	20	R	Methanol	100	20	R
Antifreeze (Ethylene Glycol)	100	20	R	Methylated spirits	–	20	R
Aqua regia	–	20	L	Methylene chloride	100	20	L
Benzene	100	20	L	Methyl ethyl ketone	100	20	L
Benzoic acid	100	20	R	Methyl methacrylate	100	20	R
Benzoyl chloride	100	20	R	Milk	–	20	R
Blood	–	20	R	Mineral oils	–	20	R
Brake fluid	–	20	R	Motor oil	–	20	R
Brine (Sodium chloride)	Saturated	20	R	N N-dimethyl acetamide	100	20	NR
Butanol	100	20	R	N-methyl pyrrolidone	100	20	NR
Calcium chloride	50	20	R	Nitric acid	5	20	R
Calcium hypochlorite	Saturated	20	R		30	20	R
Caprolactam	100	20	R		65	20	L
Carbon disulfide	100	20	L	Oleic acid	100	20	R
Carbon tetrachloride	100	20	R		100	80	R
Chlorine water	Saturated	20	R	Oleum	–	20	L
Chloroacetic acid	10	20	R	Paraffin	–	20	R
	50	20	L	Perchloroethylene	100	20	R
Chloroform	100	20	L	Phenol	5	20	L
Chromic acid	20	20	R	Phenyl sulfuric acid	10	20	R
	30	20	R	Phosphoric acid	40	85	R
Citric acid	60	20	R		50	20	R
Copper (II) sulfate	Saturated	20	R		85	20	R
Cresols	100	20	L	Picric acid	50	20	R
Crude oil	–	20	R	Propylene glycol	100	20	R
Cyclohexane	100	20	R	Potassium hydroxide	50	20	R
Decanoic (Capric) acid	100	20	R	Skydol® 500B4	–	20	R
	100	60	R	Skydol® LD4	–	20	R
Diethylene glycol	100	20	R	Sodium hydroxide	20	20	R
Dimethyl formamide	100	20	NR		20	90	R
Ethanol	100	20	R		32	20	R
Ethyl acetate	100	20	L		50	20	R
Ethylene glycol	100	20	R		50	60	R
Fats	–	80	R		50	90	L
Formic acid	40	20	R	Sodium hypochlorite	15	20	R
	70	20	R	Styrene	100	20	R
	90	20	L	Sugar	50	20	R
	100	20	L	Sulfuric acid	50	20	R
Gasoline	–	20	R		98	20	L
Heptanoic acid	100	60	R	Tetrahydrofuran	100	20	L
Hexane	100	20	R	Toluene	100	20	R
Hydrochloric acid	10	60	R	Toluene sulfonic acid	100	20	R
	37	20	R	Trichloroacetic acid	100	20	L
Hydrofluoric acid	4	20	R	Turpentine	–	20	R
	20	20	L	Vegetable oils	–	80	R
Hydrogen peroxide	30	20	R	Water (distilled)	–	85	R
Isopropanol	100	20	R	White spirit	–	20	R
Jet fuel	–	20	R	Xylene	100	20	R

R = Resistant

L = Limited Resistance

NR = Not Resistant



# The hygienic solution

Hygiene should be seen in the round. For the best results, you need the right equipment and cleaning procedures, but you also need hygienic working practices.

The right floor will also help. Ucrete floors are dense and impermeable and make maintaining hygiene standards easier.

### As cleanable as stainless steel

All Ucrete floors are dense and impervious throughout their thickness and have been shown to have the same levels of bacterial cleanability as stainless steel.

### Does not support biological growth

Ucrete flooring is essentially inert, it is non-biodegradable and will not support bacterial or fungal growth. This is one of the reasons why Ucrete floors have been used throughout the pharmaceutical and food industries in environments requiring the highest standards of hygiene for many years.

### Cleaning regime

Whatever the environment, good housekeeping will help keep your floors looking their best and help ensure that they provide a safe and attractive working environment.

For the best results, mechanical cleaning equipment should be used, particularly on larger floors, and care taken to avoid aerosol formation.

Cleaning guidelines are available from your local Master Builders Solutions expert.

### Without durability, there is no hygiene

Failing floors are never hygienic. every crack, delamination and porosity in the floor enables bacteria to grow beyond the reach of cleaning.

We make Ucrete floors as tough as possible to help you maintain hygiene standards without the need for ongoing maintenance

Hygienic working practices

Safe, hygienic Ucrete flooring

Certified food safe flooring

Cleanable as stainless steel



**Good cleaning and house-keeping**



**Hygienic, durable flooring solutions**



**Does not support biological growth**



**Long lasting: trusted since 1969**

**Certified hygiene**

Independent tests undertaken by Campden BRI in the UK demonstrate that Ucrete floors can be effectively sanitized to a standard comparable to stainless steel.

In 2018, independent microbiological testing by the Polymer Institute (Germany) using the test organism *Bacillus subtilis*.

**Initial germ content: 1.500.000 KbE/25 cm<sup>2</sup>**

Disinfectant	KbE/25 cm <sup>2</sup> after reaction time of		
	1 h	24 h	72 h
p-chloro-m-cresol, 0.3 %	647 / 403	195 / 252	< 10 / < 10
Alkyl dimethyl benzyl ammonium chloride, 0.1 %	136 / 176	270 / 59	< 10 / < 10
p-toluene sulfon chloramid-Na, 5 %	155 / 165	< 10 / < 10	< 10 / < 10
Formaldehyde, 5 %	< 10 / < 7	< 10 / < 10	< 10 / < 10
Ethanol, 70 %	313 / 282	30 / 34	< 10 / < 10
Water	4400 / 2800	402 / 379	< 10 / < 10

The tests show the efficacy of a range of industrial sanitizers on a Ucrete UD200 floor. There is no growth after 72 hours, even on the control using just water, demonstrating that Ucrete does not support biological growth, ensuring that the floor remains hygienic from the time of cleaning until production restarts.

**Why seamless flooring?**

Joints are weak points in any floor. Ucrete floors need no joints except those present in the substrate concrete and we can advise on how to design out such joints to create a seamless hygienic floor. Tiled floors exhibit joints between the tiles which degrade over time, even when filled with epoxy grout, and open up when the floor is subject to hot water spillage, allowing bacteria to grow beyond the reach of cleaning.



Our reference in Versmold (Germany):  
Reinert meat factory



## Long-term performance

### Best value

It is easy to understand why a Ucrete floor is such good value for money, when you consider the risk to hygiene and safety of a failing floor and the costs in lost production and management time of replacing it. Ucrete gives you the best value for your money because it is a long-lived floor. But where does this durability come from?

The durability is a result of a combination of factors, from the blend of high strength with resilience to the chemical and mechanical resistance of the floor. Aggregates are specifically selected for their toughness and abrasion resistance. We use the best raw materials, not the cheapest.

### Proven in service since 1969

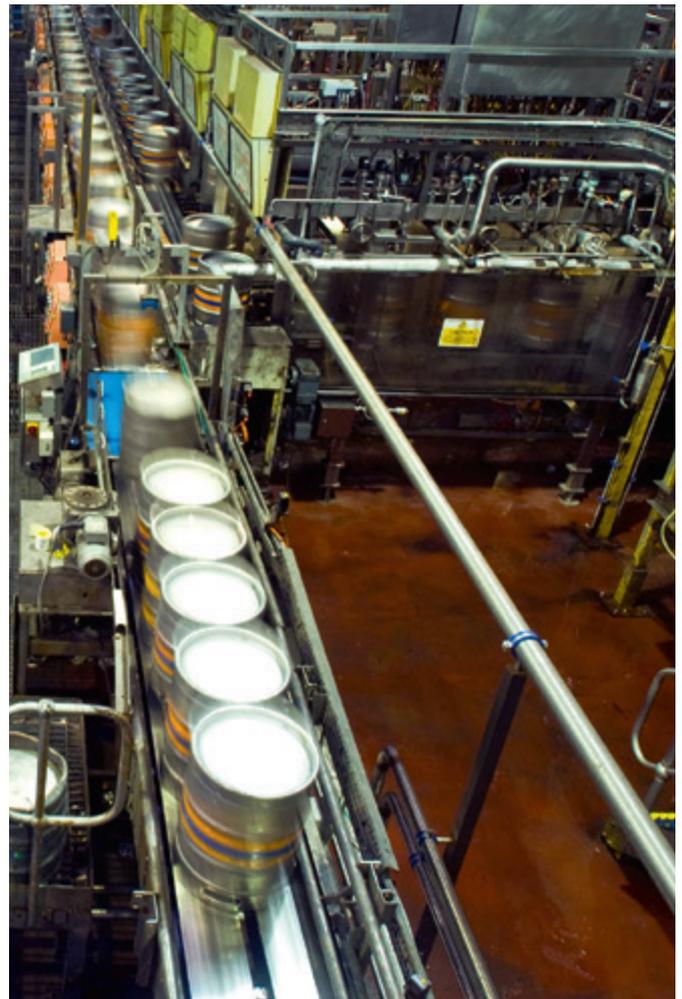
In the food industry, for example, organic acids are endemic; there are organic acids from milk, fruit or vegetable oils. As spillages evaporate, concentrations rise and so become more aggressive. The effects of such chemicals are accumulative and will become evident over time. The superior chemical resistance that a Ucrete floor provides is the safety margin that helps ensure that a Ucrete floor lasts 20 years or more.

Thicker floors are more durable than thinner floors, because the extra thickness protects the bond line from stress in service. Larger aggregates impart better scratch resistance and enable a floor to maintain its slip-resistant profile, especially where there is impact or frequent movements by hard plastic or steel wheeled traffic.

### Durability comes from below

In order to get the best performance from your Ucrete floor, a well-designed substrate is required. Detail drawings and guidance notes are available. We can draw on our experience of over 50 years of Ucrete flooring to help you get the best results possible.

Contact your local Ucrete representative; they will be happy to assist you in making the right specification to meet all your needs.



### Still in service after 35 years

In 1984, the Magor Brewery installed 2800 m<sup>2</sup> of Ucrete flooring in its keging hall (above). The floor takes hot water and chemical spillage under the keg washers as well as the impact from the occasional keg that manages to escape. The line fills up to 1000 barrels per hour round the clock. Stopping is not an option.

The initial investment in a quality Ucrete floor was far outweighed by the huge cost that closing this plant to replace the floor would entail. Following this floor, the brewery has installed many thousands of square meters of Ucrete floors and continues to do so today.



# Thinking chemicals

## Think functionality

The chemical industry poses several challenges for flooring. For example, if leakage or spillage of often hazardous chemicals occurs, it must be contained until it can be effectively and safely dealt with. So floors need to be dense and impervious with the required chemical resistance, easy to clean and with appropriate levels of slip resistance

Ucrete meets these requirements, and has done for over 50 years. It is quick and easy to install, with a wide range of slip-resistant profiles and a broad spectrum of chemical resistance; to acids, alkalis, fats, oils, solvents and salt solutions. This makes it the ideal flooring wherever chemical resistance is imperative.

## A seamless lining

Ucrete provides a dense and impermeable surface protection system that can be used in wet and dry process areas and can also be used to line bunds, plinths, channels and drains, thus ensuring that chemicals are contained and do not escape into the environment.

## For ATEX areas, too

Wherever combustible powders, solvents or gases are handled, there is a real risk of explosions. Ucrete antistatic and conductive floors provide not only the required chemical and solvent resistance but ensure that static electricity is kept under control.

## Typical fields of application

For over 50 years Ucrete has been providing durable floors throughout the chemical industry. For example, in bulk chemical manufacture, electroplating, tanning, textiles, mining, heavy metal refining, household chemicals, toiletries, biodiesel production, bonded stores, wet process areas, tanker loading bays.

## Thinking economically

Ucrete floors and renders are tolerant of substrate moisture and rapidly installed over a wide range of site conditions, often allowing work to proceed without the need for weather protection, thus minimizing downtime and providing the most cost-effective protective lining solution.

For detailed advice, contact your local Master Builders Solutions expert.





### Think practically

Any joints in the substrate will create weak points in the protective Ucrete lining, which will require ongoing maintenance. If the joints are designed out, maintenance costs are reduced and the performance of the floor enhanced.

Ground floor concrete slabs are frequently cut into 6 m bays to control the shrinkage of the concrete. Design your floor slab with adequate steel reinforcement to control shrinkage instead and the joints are gone.

Joints are frequently associated with drainage channels, for example where a Ucrete floor meets a metal channel lining or grating supports. In many circumstances, channels can be lined with Ucrete throughout, removing the need for such joints, as demonstrated at Fruit of the Loom

Where joints are required, they should be located where they are accessible for inspection and maintenance.

For further information on substrate design, please contact your local Master Builders Solutions expert.

Dyehouse at Fruit of the Loom. Channels fully lined with Ucrete, removing the need for the joints normally associated with a channel and enhancing the life of the floor.



## Thinking food

### Think functionality

The food industry provides a tough working environment for floors. Hard wheeled bins and racks, high-temperature spillages and thermal-shock environments stress the floor; often large numbers of workers are moving on greasy floors and need to be kept safe.

### No hygiene without durability

Above all, food quality must be maintained. Hygiene is critical. For a floor to remain hygienic it must withstand the chemicals, impact and abrasion of the process environment. A failing floor can never be hygienic; every patch, every replaced tile, every maintenance visit compromises hygiene and food safety. That's why we make Ucrete floors so tough.

### Think hygiene

You know your floor has to be cleaned, so choose a floor that can be cleaned to the same standard as stainless steel. And choose a floor that does not absorb moisture, so you do not waste energy extracting the moisture from the air. And choose a floor that does not support bacteria and mold growth, so when you have cleaned a floor it stays clean. Choose a Ucrete floor.

Your Ucrete floor will conform to the International Food Standard (IFS), meet the most stringent VOC emissions standards and be non-tainting, even during application. For a Ucrete floor that meets all of your needs, please contact your local Master Builders Solutions office.



### Typical fields of application

For nearly more than 50 years Ucrete has been providing durable floors throughout the food and beverage industry. For example: abattoirs, airline catering, bakeries, breweries, commercial kitchens, confectionary, cooked and cured meats, dairies, distilleries, freezers, fruit juice presses, meat fish and poultry preparation and processing, powdered milk, soft drinks, ready meals, sugar refining, vegetable processing, vegetable oil processing, wash bays.





## Think aesthetics

You may need a highly profiled floor because of heavy grease contamination during the course of the day, but the factory floor should still look good when customers come to visit.

Ucrete CS systems offer the slip resistance you need, are easy to clean and have the aesthetics you want. Light colours that keep their colour, that resist staining and provide a bright, safe and attractive working environment.

For specific advice on Ucrete floors, please contact your local Master Builders Solutions office.



# Flooring solutions for the Brewing and Beverage Industry



Working with some of the major companies in the brewing, food and beverage industries, Master Builders Solutions can provide individual tailored solutions to meet the needs of customers.

The resulting range of flooring protection products prevent downtime associated with shorter lived systems, and our repair products install and cure quickly, again ensuring minimal operational disruption.



## Flooring solutions for the brewing industry

The brewing industry is growing worldwide. Beer, once the working man's 'tippie' has experienced a global renaissance with a rapid expansion in specialty brew taverns and boutique breweries. Multi-national companies are focusing on Asia Pacific as the second fastest growth market in the world, led by China.

Plant maintenance managers and facilities planners for international brewing giants and craft brewers alike face significant challenges within their brewing and warehousing facilities. Whether selecting construction materials for new buildings or to renovate or repair old ones, the design team and owner should consider the impact of the building's use upon the durability of those products.

Every brewery is subject to many of the same issues - aggressive conditions such as: exposure to acidic materials; exposure to heat and cleaning chemicals; continually wet floors; and high volume forklift movements. These elements combine to form a harsh surrounding for the equipment and structure - one requiring specialized construction products and systems that can withstand this environment.



### Ucrete® – the solutions for harsh environment

The floors within a brewery must be dependable: safe, secure and sanitary. Production downtime in the brewing industry is costly, and thus finding solutions that limit maintenance periods are essential. Ucrete, a polyurethane concrete surfacing product, was developed in the 1960's to solve a problem with the floors in chemical plants. This innovative product quickly became the standard for the chemical industries, and by the 1990's further refining of the system had extended its use into many more applications. Globally within the brewery industry, Ucrete is one of the most widely used cementitious polyurethane flooring materials.

Global trends and an expanding world population have created demand for performance flooring in the food and beverage industry. There is a growth in the production of processed foods with the need to extend shelf lives allied with more stringent food safety regulations. Flooring systems for food and beverage plants must now be evaluated based upon their ability to be sterilized to the same degree as stainless steel, to withstand the application of cleaning chemicals, and to cope with hot oil and steam in production processes, and perform in the low temperatures associated with freezers. Ideally brewery flooring systems must provide a long service life while being seamless or grout free to ease on-going sterilization. Ucrete flooring contributes in delivering the purity demanded by your brewing process.

Ucrete is unique in that it has similar thermal characteristics to concrete; this results in a product that is unaffected by temperatures that would normally cause delamination and failure in other flooring products. Ucrete is water-based and can safely be applied to damp substrates reducing downtime in repair situations where often the production is a 'wet process'. Ucrete is biologically inert and non-tainting, which allows production to continue in other areas of the facility during installation. When cured, Ucrete will not support the growth of bacteria. Ucrete can be steam cleaned and can be disinfected to the same level as stainless steel. Chemicals used in the brewing process or in the cleaning and sterilization of facilities will not affect the aesthetics or performance of Ucrete. With some floors still in use after more than 20 years Ucrete has proven its durability, and will provide you with the piece of mind that your facility will be able to operate without interruptions caused by flooring failures for many years.

Ucrete can be installed in a range of textures and thicknesses to cope with the environmental extremes of a brewery whilst maintaining a slip resistant and safe working surface. With an excellent range offering flexibility of performance the Ucrete system can be 'mixed and matched' to ensure the correct performance is achieved and to be resistant to the expected chemical exposure. Depending upon a facility's production process, Master Builders Solutions will suggest the optimal solution to provide the highest level of health and safety.



Master Builders Solutions can also provide a range of alternative floor systems for other parts of a facility such as warehouses laboratories or offices. The MasterTop® range of polymer floors is ideal for areas such as raw materials stores, Quality Assurance / Quality Control laboratories and finished goods storage. Utilizing the latest epoxy technology, Master Builders Solutions chemists have refined the formulations to simplify application, to ensure a long service life and to be able to adjust their slip resistance to the level needed.

In addition to the polymer based MasterTop products, Master Builders Solutions offers a range of 'dry shake' products that are installed at the time of placing the concrete. They are

mineral-based and can include a metallic aggregate when used in extremely abrasive conditions. These products, developed at the beginning of the 20th century, continue to be successfully used in high volume warehousing operations worldwide.

The installed floor looks like a well finished concrete floor, but has excellent impact resistance and more than five times the abrasion resistance of a conventional concrete floor, thereby yielding decades of service. By combining these various flooring technologies to deliver specific performance needs, Master Builders Solutions has the tools to provide you with a flooring solution that is ultimately designed to lower your life-cycle cost.



### Solutions beyond floor for breweries

Not all breweries have had the benefit of Ucrete flooring from inception, but fortunately, when they are significantly damaged or deteriorated, they can be renovated using this system. In renovation projects Ucrete can be combined with our MasterEmaco® trafficable repair products, the MasterBrace® strengthening system and our MasterInject® repair products to return the facility to its original design condition before the application of a new floor. Ucrete can be installed on new concrete (within 3-5 days depending on temperature), reducing the construction time, or on newly repaired concrete (within 2-4 days depending on temperature), minimizing production downtime.

Waste collection and treatment is a serious issue in today's urbanized environment where the need to keep rivers and waterways clean is of utmost importance. In many places the need to treat waste on site is a legal requirement, MasterProtect® range of corrosion prevention linings are the ideal solution for the waste treatment areas within a brewing facility. Unaffected by flocculation, clarifying and pH control chemicals, these coatings can provide the peace of mind facilities managers demand.

### Connecting partners for better answers

Continuous innovation and tailor-made solutions ensure customers using Master Builders Solutions are more successful. We operate across the Asia Pacific region, with more than 80% of our products produced within the region. The corporate culture of Master Builders Solutions is focused upon innovations, customers and safety. Master Builders Solutions has been rated among the top employers in many countries throughout the region because we ensure workplace safety, support the communities in which we are located, and strive to utilize and produce safe and environmentally appropriate technologies.

Master Builders Solutions offers a wide range of building construction products, concentrating on performance flooring solutions, repair and protection solutions, precision grouting solutions and waterproofing solutions. Our internationally connected technical experts and our local sales force combine forces to ensure that solutions are tailored to meet local conditions.

# Flooring solutions for the Meat Industry.

**A new era in first world food safety standards.** The need to feed a growing global population has led to a rise in the number of animals required to produce meat. This in turn has increased the need for first world food safety standards, as animal processing in the developing world shifts from a local activity to a large-scale industrial process.

The industrialization of processing, packaging, transportation and distribution processes across the globe has presented significant new challenges for producers.

The processing of meat requires the very highest levels of hygiene, due to the major health risks that are posed by tainted meat.

## **Unique challenges. Unique solutions.**

Ensuring that facilities can be disinfected is paramount. From the abattoir to the final processing plant, floors need to be able to withstand attack by acidic animal fluids, such as blood, intestinal liquids and fats.

These fluids are as aggressive as the chemicals found in many factories and present a large range of threats, from biological hazards to an increased risk of slipping.

In addition, floors in abattoirs and meat-based food processors are subject to other aggressive conditions, such as heat, cleaning chemicals, continually wet floors, and high capacity blast freezers.

## **Ucrete. The industry benchmark.**

Whether renovating old buildings or designing new ones, plant managers should look for durable construction products and systems that can withstand these harsh surroundings. Products like Ucrete.

For many years, **Ucrete® has been recognized as the flooring benchmark for the food and beverage industry** and gives lasting protection to the floors in meat processing factories.





# Flooring solutions for the Dairy and Milk Product Industry.

**Setting the standard in first world food safety.** The need to feed a growing global population is having a major impact on the production of milk and milk-related products. From cheese and yogurt to long-life and powdered products, consumption is on the increase, bringing both challenges and opportunities for producers.

Rapid urbanization has ensured that more milk products are being created, processed and transported than ever before. Globalized delivery has led to higher expectations in food safety and the adoption of first world processes and systems.

The processing of milk requires the very highest levels of hygiene. With tainted health products posing a significant health risk, the need for disinfectable facilities is paramount. Maintaining hygienic flooring is an important priority.

### **Unique challenges. Unique solutions.**

The floors in dairy facilities face some unique challenges. They need to be able to withstand urine, faeces and field muck, as well as the heavy abrasion of hooves. They're also exposed to lactic acid from milk and sterilization chemicals.

These elements combine to form a very harsh environment for the equipment and structure, so it's important to choose specialized construction materials that can withstand the conditions.

### **Ucrete. The industry benchmark.**

Whether renovating old buildings or designing new ones, plant managers should look for durable products that can cope with acidic materials, continually wet floors, cleaning chemicals and high capacity pasteurizers. Products like Ucrete.

For many years, **Ucrete® has been recognized as the benchmark in the industry**, for the lasting protection it gives to the floors in floors in dairies and milk processing facilities.





## Ucrete®. Designed for challenging environments.

**A world leader in performance flooring.** Ucrete is one of the most widely used cementitious polyurethane flooring materials in the meat and dairy industry globally. It helps to ensure that floors within processing plants are safe, secure and sanitary.

Production downtime in the Meat, Dairy and Milk Products industry is costly, so it's essential to find a solution that limits maintenance. For many years now, that solution has been Ucrete performance flooring.

Ucrete is a polyurethane concrete surfacing product that was developed in the 1960s and quickly became a standard for floors in chemical plants. Since then, this innovative system has been refined for use in many more applications.

Ucrete is proven to deliver the sanitary conditions demanded by milk preparation processes. It can withstand the application of cleaning chemicals, cope with both high and low temperatures and provide a long, dependable service life.

### Just some of the benefits of Ucrete:

- Unaffected by temperatures that would cause delamination and failure in other flooring products.
- Water-based and safely applied to damp substrates reducing downtime during repairs.
- Biologically inert and non-tainting, so production can continue in other areas during installation.
- Helps prevent the growth of bacteria when properly cured.
- Seamless and grout-free making ongoing sterilization simple.
- Steam cleanable and disinfectable to the same level as stainless steel.
- A slip-resistant and safe working surface.



Ucrete can be installed in a range of textures and thicknesses, and 'mixed and matched' to cope with the expected level of chemical exposure. Depending upon a facility's production process, Master Builders Solutions will suggest a solution that provides the optimal level of health and safety.

### Flooring for all parts of the facility.

Master Builders Solutions also provides a range of alternative floor systems for other parts of the facility such as warehouses, laboratories or offices. The MasterTop® range of polymer floors is ideal for areas such as raw materials stores, quality control laboratories and finished goods storage.

In addition, Master Builders Solutions offers a range of dry-shake products that are installed when the concrete is placed. The installed floor looks like a well-finished concrete floor, but has excellent impact resistance and more than five times the abrasion resistance of a conventional concrete floor.



## How else can we help?

**Repairing and renovating existing flooring.** Master Builders Solutions has a range of products that can renovate significantly damaged or degraded floors in abattoirs and meat processing facilities – even if these existing floors did not use the Ucrete® system.



For renovation purposes, the Ucrete system can be combined with the MasterEmaco® trafficable repair products, the MasterBrace® strengthening system and the MasterInject® repair products. These will enable the facility to be returned to its original design condition before the application of a new floor.

To reduce construction time, Ucrete can be installed on new concrete within 3-5 days (depending on temperature), and on newly repaired concrete within 2-4 days, (depending on temperature), keeping production downtime to a minimum.

### **Collecting and treating waste properly.**

In many places where we operate, there is a legal requirement to treat waste on site. For this reason, we have designed innovative products to help us collect and treat waste – and keep waterways clear.

The MasterProtect® range of corrosion prevention linings are the ideal solution for the waste treatment areas within meat processing plants. They are unaffected by flocculation, clarifying and pH control chemicals, providing peace of mind for facilities managers.



# Ucrete colour portfolio

## Standard grades



▪ Blue



▪ Green/Brown



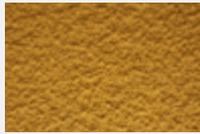
▪ Red



▪ Cream



▪ Gray



▪ Yellow



▪ Green



▪ Orange



▪ Bright Yellow

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.

## Ucrete Polyurethane Flooring Colour Chart



▪ Cream



▪ Green



▪ Gray



▪ Blue



▪ Green/ Brown



▪ Red



▪ Yellow



▪ Orange





# Master Builders Solutions for the Construction Industry

## MasterAir®

Complete Solutions for air entrained concrete

## MasterBrace®

Solutions for strengthening and structural adhesives

## MasterCast®

Solutions for the manufactured concrete product industry

## MasterEase®

Solutions for low viscosity concrete

## MasterEmaco®

Solutions for concrete repair

## MasterFiber®

Comprehensive solutions for fiber reinforced concrete

## MasterFinish®

Solutions for formwork treatment

## MasterFlow®

Solutions for precision grouting

## MasterGlenium®

Hyperplasticizer formulated from state-of-the-art polymers for the ultimate performance

## MasterInject®

Solutions for concrete injection

## MasterKure®

Solutions for concrete curing

## MasterLife®

Solutions for enhanced durability

## MasterMatrix®

Advanced rheology control solutions

## MasterPolyheed®

High-performance superplasticizer

## MasterPozzolith®

Solutions for water-reduced concrete

## MasterProtect®

Solutions for concrete protection

## MasterRheobuild®

Superplasticizer for concrete

## MasterRoc®

Solutions for underground construction

## MasterSeal®

Solutions for waterproofing and sealing

## MasterSet®

Solutions for set control

## MasterSuna®

Superplasticizer for problematic aggregates

## MasterTop®

Solutions for industrial and commercial floors

## Ucrete®

Flooring solutions for harsh environments

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