

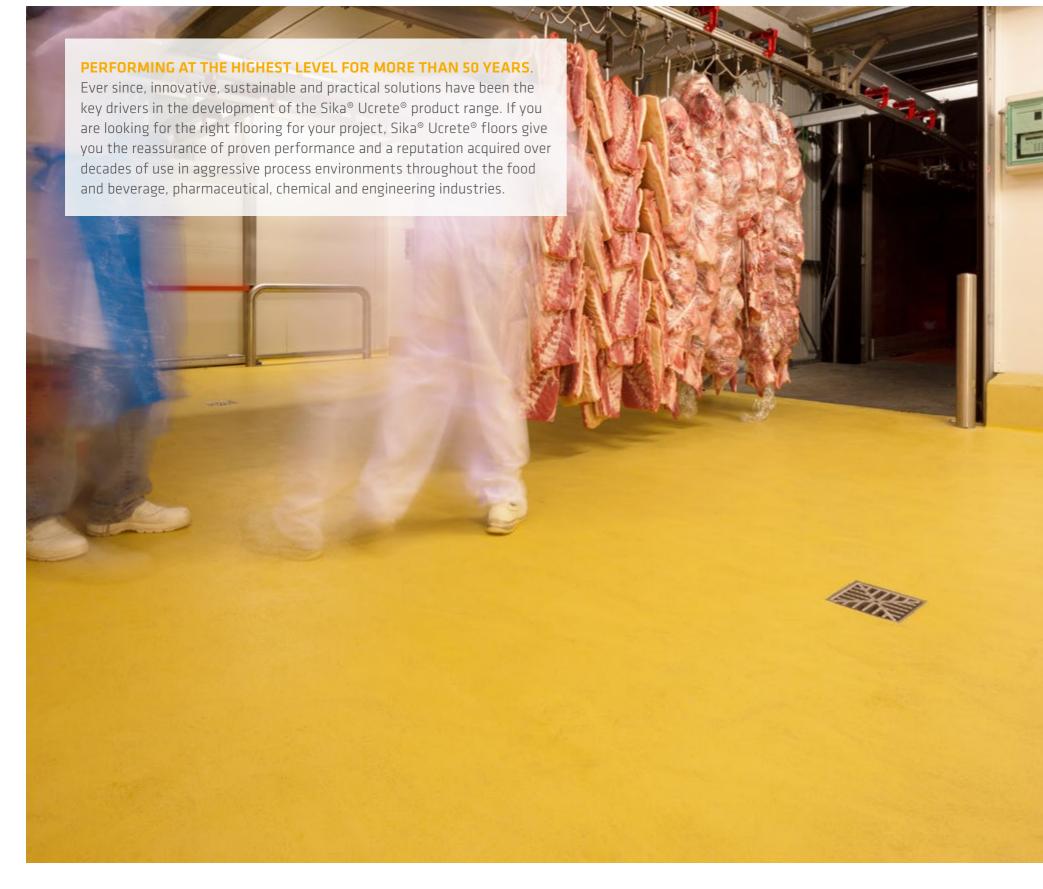
# INDUSTRIAL FLOORING Sika® Ucrete® THE WORLD'S TOUGHEST FLOOR SINCE 1969



**BUILDING TRUST** 

## Sika<sup>®</sup> Ucrete<sup>®</sup> – THE WORLD'S **TOUGHEST FLOOR SINCE 1969**

# CONTENTS



**02** Sika<sup>®</sup> Ucrete<sup>®</sup> - the World's Toughest Floor Since 1969 04 The **06** Get 08 Thi 10 The 12 Avo **14** Che **16** Cor 18 The 21 Lor 22 Out 24 Thi 26 Thi 28 Thi **30** Sika<sup>®</sup> Ucrete<sup>®</sup> Color Portfolio

e Key Benefits at a Glance
tting It Right
inking About Your Requirements
ermal Shock Resistance
oiding Slip Accidents
emical Resistance
ntrolling Static Electricity
e Hygienic Solution
ng-Term Performance
r Contribution to Sustainability
inking Pharmaceuticals
inking Chemicals
inking Food

# THE KEY BENEFITS AT A GLANCE

### **Sika<sup>®</sup> Ucrete<sup>®</sup> 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.

Sika<sup>®</sup> Ucrete<sup>®</sup>'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 Sika<sup>®</sup> Ucrete<sup>®</sup> floors in aggressive environments still in service.

#### AESTHETICS

Color-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 4 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. Specifications are available to enable application to 1-day old high performance polymer modified Sika® Ucrete® screeds.

#### THERMAL-SHOCK RESISTANCE

LEDITID FITTLE

na a de la desta de la calega de la calega de la desta de la de

A LANGE STATE STATE AND A STATE AND A STATE

00 0

**Frenchsettent** 

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.

To ensure long-term performance your floor will be installed by trained specialist applicators. For your local partner visit:







# **GETTING IT RIGHT**

WHEN FACTORY OWNERS, ARCHITECTS AND ENGINEERS who specified and installed Sika® Ucrete® in the 1970s and 1980s find that their floor is still in service well into the 21<sup>st</sup> century, you can understand why they want to specify Sika® Ucrete<sup>®</sup> again.

But you don't need to have used Sika<sup>®</sup> Ucrete<sup>®</sup> in the past to be convinced of its performance. You can trust the Sika<sup>®</sup> Ucrete<sup>®</sup> 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
- ... does not support bacteria or mold growth
- ... has bacterial cleanability comparable to stainless steel
- ... can be put back into service after just 4 hours hours at 10°C
- ... resists a broad spectrum of aggressive chemicals
- ... provides good looking floors with stain-resistant and color-stable options
- ... withstands regular and routine discharges of boiling water
- ... can be installed rapidly on to 7-day-old concrete and other high moisture content substrates
- ... minimizes your downtime
- ... reduces your maintenance costs
- environments
- ... helps protect the environment
- ... has over 50 years' proven track record

### Then the choice is simple, only a Sika<sup>®</sup> Ucrete<sup>®</sup> floor will do.

### SIKA CAN HELP

The expertise we have gained over the last 50 years working with Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika® Ucrete<sup>®</sup> expert will help define the right product for you, with the right appearance and slip

Budweiser Budvar Brewery.

... prevents accidents, with slip-resistant profiles for wet and greasy

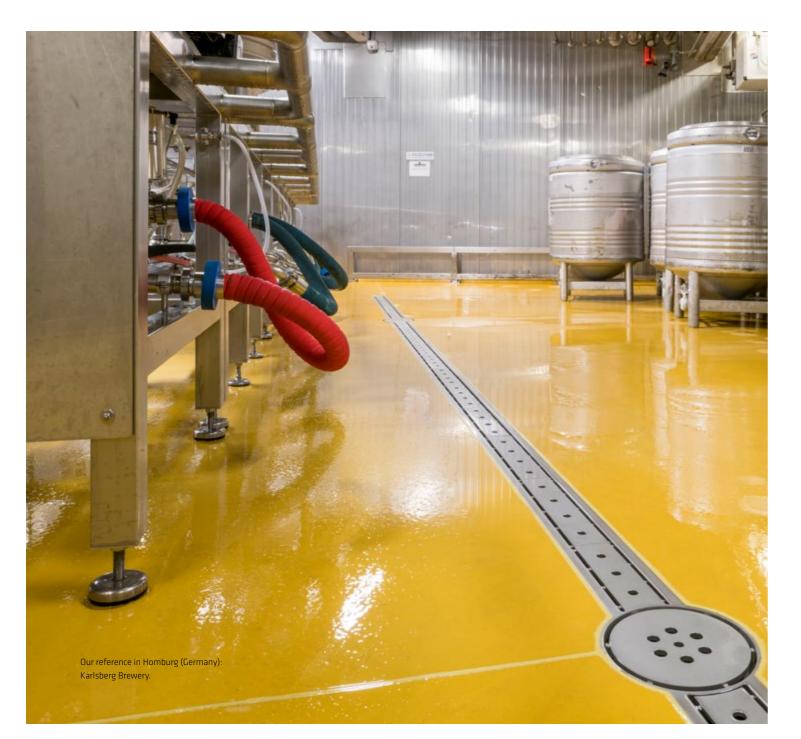
... is shown to provide long-lasting solutions over 10, 20, 30 or more years

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 Sika 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.



#### SMOOTH FLOORS

Sika® Ucrete® MF	4-6 mm	Sika® Ucrete® DP20	4-9 mm
Sika® Ucrete® MF Gloss	4-6 mm	Sika® Ucrete® DP20 Gloss	4-9 mm
Sika® Ucrete® MF40AS	4–6 mm, antistatic	Sika® Ucrete® DP20AS	6 mm, antistatic
Sika® Ucrete® MFAS-C	4–6 mm, conductive	Sika® Ucrete® DP20AS Gloss	6 mm, antistatic
Sika® Ucrete® TZ	9–2 mm terrazzo	Sika® Ucrete® UD200SR	6 – 12 mm
Sika® Ucrete® TZAS	9–12 mm antistatic terrazzo	Sika® Ucrete® UD100AS	9 mm, antistatic

#### LIGHT TEXTURED FLOORS

Sika® Ucrete® DP10	4-9 mm		4-9 mm
Sika® Ucrete® DP10 Gloss	4-9 mm		
Sika® Ucrete® DP10AS	6 mm, antistatic	VERTICAL SURFACES	
Sika® Ucrete® DP10 AS Gloss	6 mm, antistatic	Sika® Ucrete® RG	4-9 mm coving and render
Sika® Ucrete® HF60RT	6 mm	Sika® Ucrete® TZ COVE	6–9 mm terrazzo coving
Sika® Ucrete® HF100RT	9 mm		
Sika® Ucrete® HPQ	4–6 mm colored quartz	COLOR STABLE	
Sika® Ucrete® HPQAS	6 mm antistatic colored quartz	Sika® Ucrete® CS10	4-9 mm
Sika® Ucrete® IF	9 mm iron armored	Sika® Ucrete® CS10AS	6 mm, antistatic
Sika® Ucrete® MT	4-6 mm	Sika® Ucrete® CS20	4-9 mm
Sika® Ucrete® UD200	6 – 12 mm	Sika® Ucrete® CS20AS	6 mm, antistatic

#### AESTHETICS

Sika® Ucrete® floors are functional floors, but that does not mean they have to be unsightly. In many cases you can select between a matt or gloss finish. System specifications are even available that are color stable, stain resistant and easily cleaned while having the chemical, thermal and mechanical resistance that have built the reputation of Sika® 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 12.

#### HYGIENE

Sika® Ucrete® floors do not support biological growth and are as cleanable as stainless steel. See page 18 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 10** for more details.

#### CHEMICAL RESISTANCE

All Sika<sup>®</sup> Ucrete<sup>®</sup> floors have the superior chemical resistance characteristics shown in the tables on page 14.

### CONTROLLING STATIC ELECTRICITY

To protect sensitive electronic devices or minimize explosion risks, a range of electrostatic discharge (ESD) and electrically conductive flooring (ECF) options are available as detailed on page 16.

### MECHANICAL RESISTANCE

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

#### MEDIUM TEXTURED FLOOR

#### HIGHLY TEXTURED FLOOR

#### NON-TAINTING

Sika® Ucrete® flooring systems are nontainting 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 Sika® Ucrete® floor. Sika® Ucrete® UD200, for example, can be put back into service after only 4 hours at 10°C.

#### A CUSTOM-TAILORED SOLUTION

The wide range of Sika® 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 Sika expert for guidance.

# THERMAL SHOCK RESISTANCE



While most resin flooring systems soften at temperatures of 60°C or less, the unique Sika® Ucrete® resin systems are unaffected until temperatures of 130°C are exceeded. This high temperature resistance, coupled with resilience, enables Sika® Ucrete® floors to withstand high-temperature spillages and extreme thermal-shock conditions. Sika® Ucrete® floors are available in four separate thickness specifications, ranging from 4 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

### THICKNESS SPECIFICATIONS

4 mm	– Fully resista – Freezer tem – Sika® Ucrete
6 mm	<ul> <li>Fully resista</li> <li>Light steam</li> <li>Freezer tem</li> <li>Sika<sup>®</sup> Ucrete</li> </ul>
9 mm	– Fully resista – Full steam c – Freezer tem – Sika® Ucrete
12 mm	– Fully resista – Occasional s – Full steam c – Freezer tem – Sika® Ucrete

### 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 Sika® Ucrete® flooring in aggressive process environments throughout the world for more than 50 years.

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 1,000-liter discharge at 90°C probably would. A 9 mm thick Sika® 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**

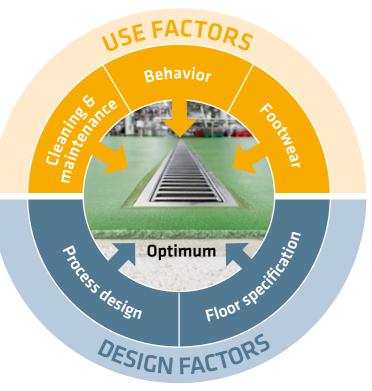
Cryogenic spillages present a particularly severe challenge to floors. The 9 mm Sika® Ucrete® specifications will withstand occasional cryogenic spillages, for example up to 5 liters of liquid nitrogen, without damage.

ant to +70°C peratures to -15°C e<sup>®</sup> CS, DP, DP Gloss, HPQ, MF, MF Gloss, MT, RG ant to +80°C ı clean peratures to -25°C e<sup>®</sup> CS, DP, DP Gloss, HF60RT, MT, RG, UD200, UD200SR ant to +120°C clean peratures to -40°C e<sup>®</sup> CS, DP, DP Gloss, HF100RT, IF, RG, TZ, UD100AS, UD200, UD200SR ant to +130°C spillage to 150 °C lean peratures to -40°C e<sup>®</sup> TZ, UD100AS, UD200, UD200SR

# **AVOIDING SLIP ACCIDENTS**

IN WET AND GREASY PROCESS ENVIRONMENTS, the correct surface profile is essential to provide a safe and efficient working environment. Sika® Ucrete® flooring offers a range of surface profiles, from smooth and terrazzo systems to highly textured defined profile floors.

### SLIP RESISTANCE IS A BALANCE



#### 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.

#### 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, Sika® Ucrete® DP systems offer R12 and R13 profiled floors that can be cleaned to the same standard as stainless steel, with Sika® Ucrete® CS color-stable options available (see page 30).

#### 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.

### CUSTOM-TAILORED SOLUTIONS

Not every location will need the same degree of slip resistance. This is why we offer Sika® 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 Sika® Ucrete® for your floors, please contact your local Sika expert for guidance.

#### **CONFORMITY TO DIN 51130**

Sika® Ucrete® MF	R10
Sika® Ucrete® TZ	nd
Sika® Ucrete® HPQ	R11
Sika® Ucrete® MT	R10/R11*
Sika® Ucrete® HF60RT	R10/R11*
Sika® Ucrete® HF100RT	R11
Sika® Ucrete® UD200	R11
Sika® Ucrete® IF	R11
Sika® Ucrete® DP10	R11
Sika® Ucrete® DP10 Gloss	R11
Sika® Ucrete® DP20	R12/R13*
Sika® Ucrete® CS10	R12/R11
Sika® Ucrete® CS20	R12/R11
Sika® Ucrete® CS30	R12/R11
Sika® Ucrete® UD200SR	R13
Sika® Ucrete® DP30	R13
Sika® Ucrete® DP10 Gloss	R13

\* Depending upon specification



#### EN 13036-4 PENDULUM TEST \*\*

EN ISUSO-4 PENDULUM TEST	
Sika® Ucrete® MF	35
Sika® Ucrete® TZ	35-40
Sika® Ucrete® HPQ	35-45
Sika® Ucrete® MT	40-45
Sika® Ucrete® HF60RT	40-45
Sika® Ucrete® HF100RT	40-45
Sika® Ucrete® UD200	40-45
Sika® Ucrete® IF	40-45
Sika® Ucrete® DP10	45-50
Sika® Ucrete® DP10 Gloss	45-50
Sika® Ucrete® DP20	45-55
Sika® Ucrete® DP20 Gloss	45-55
Sika® Ucrete® CS10	45-50
Sika® Ucrete® CS20	45-55
Sika® Ucrete® CS30	50-60
Sika® Ucrete® UD200SR	50-60
Sika <sup>®</sup> Ucrete <sup>®</sup> DP30	50-60
Sika® Ucrete® DP30 Gloss	50-60

\*\* Pendulum test value on wet floor with 45 rubb

### EN 13036-4 PENDULUM TEST

Interpretation of results

Below 24	High slip potential
25-35	Moderate slip potential
Above 35	Low slip potential

Sika reference in Korolev (Russia Globus

# CHEMICAL RESISTANCE

Sika® 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. Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika® Ucrete® flooring. These are marked with '**NR**' in the table. Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika® Ucrete® on long-term

immersion. but Sika® 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 Sika® Ucrete® CS floors with the color-stable topcoat Sika® Ucrete® TCCS will significantly reduce the amount of staining observed.

Conc % Temperature °C Sika® Ucrete®

#### CHEMICALS IN THE FOOD INDUSTRY

Sika<sup>®</sup> Ucrete<sup>®</sup> floors are resistant to the common food industry chemicals, for example:

Acetic acid, 50%:	As spirit vinegar widely used in t
Lactic acid, 30% at 60°C:	Indicative of resistance to milk a
Oleic acid, 100% at 60°C:	Representative of the organic ac encountered in the food industry
Citric acid, 50%:	Found in citrus fruits, representa which rapidly degrade other resir
Sodium hydroxide, 50% at 60°C:	Widely used for cleaning and in (

### **RESISTANCE TO COMMON INDUSTRIAL CHEMICALS**

Chemical	Conc. %	Temperature °C	Sika® Ucrete® all grades	Chemical
Acetaldehyde	100	20	R	Chromic ac
Acetic Acid	10	85	R	
	25	20	R	Citric acid
	25	85	L	Copper (II)
	40	20	R	Cresols
	99 (Glacial)	20	L	Crude oil
Acetone	100	20	L	Cyclohexar
Adipic Acid	Saturated	20	R	Decanoic (
Ammonium hydroxide	28	20	R	
Aniline	100	20	R	Diethylene
Antifreeze (Ethylene	100	20	R	Dimethyl f
Glycol)				Ethanol
Aqua regia	-	20	L	Ethyl aceta
Benzene	100	20	L	Ethylene g
Benzoic acid	100	20	R	Fats
Benzoyl chloride	100	20	R	Formic acid
Blood	-	20	R	
Brake fluid	-	20	R	
Brine (Sodium chloride)	Saturated	20	R	
Butanol	100	20	R	Gasoline
Calcium chloride	50	20	R	Heptanoic
Calcium hypochlorite	Saturated	20	R	Hexane
Caprolactam	100	20	R	Hydrochlor
Carbon disulfide	100	20	L	
Carbon tetrachloride	100	20	R	Hydrofluor
Chlorine water	Saturated	20	R	
Chloroacetic acid	10	20	R	Hydrogen
	50	20	L	Isopropand

Lonc. %	remperature c	all grades
20	20	R
30	20	R
60	20	R
Saturated	20	R
100	20	L
-	20	R
100	20	R
100	20	R
100	60	R
100	20	R
100	20	NR
100	20	R
100	20	L
100	20	R
-	80	R
40	20	R
70	20	R
90	20	L
90 100	20 20	L
	20	L
100 -	20 20	L R
100 - 100	20 20 60	L R R
100 - 100 100	20 20 60 20	L R R R
100 - 100 100 10	20 20 60 20 60	L R R R
100 - 100 100 37	20 20 60 20 60 20 20	L R R R R
100 - 100 100 37 4	20 20 60 20 60 20 20 20	L R R R R R
100 - 100 100 37 4 20	20 20 60 20 60 20 20 20 20 20	L R R R R R L
	20 30 60 Saturated 100 - 100 100 100 100 100 100 100 100 1	20         20           20         20           30         20           60         20           Saturated         20           100         20           -         20           100         20           -         80           40         20           70         20

Chemical	Conc. %	Temperature °C	Sika® Ucrete® all grades	Chemical	Conc. %	Temperature °C	Sika® Ucrete® all grades
Kerosene	-	20	R	Phosphoric acid	40	85	R
Lactic acid	5	20	R		50	20	R
	25	60	R		85	20	R
	85	20	R	Picric acid	50	20	R
	85	60	R	Propylene glycol	100	20	R
Lauric acid	100	60	R	Potassium hydroxide	50	20	R
Maleic acid	30	20	R	Skydol® 500B4	-	20	R
Maleic anhydride	100	20	R	Skydol® LD4	-	20	R
Methacrylic acid	100	20	R	Sodium hydroxide	20	20	R
Methanol	100	20	R		20	90	R
Methylated spirits	-	20	R		32	20	R
Methylene chloride	100	20	L		50	20	R
Methyl ethyl ketone	100	20	L		50	60	R
Methyl methacrylate	100	20	R		50	90	L
Milk	-	20	R	Sodium hypochlorite	15	20	R
Mineral oils	-	20	R	Styrene	100	20	R
Motor oil	-	20	R	Sugar	50	20	R
N N-dimethyl acetamide	100	20	NR	Sulfuric acid	50	20	R
N-methyl pyrollidone	100	20	NR		98	20	L
Nitric acid	5	20	R	Tetrahydrofuran	100	20	L
	30	20	R	Toluene	100	20	R
	65	20	L	Toluene sulfonic acid	100	20	R
Oleic acid	100	20	R	Trichloroacetic acid	100	20	L
	100	80	R	Turpentine	-	20	R
Oleum	-	20	L	Vegetable oils	-	80	R
Paraffin	-	20	R	Water (distilled)	-	85	R
Perchloroethylene	100	20	R	White spirit	-	20	R
Phenol	5	20	L	Xylene	100	20	R
Phenyl sulfuric acid	10	20	R	R = Resistant L = Limite	ed Resistance N	NR = Not Resistant	

he food industry for cleaning food contact surfaces.

and dairy products.

ids formed by oxidation of vegetable oils and animal fats widely

ative of the wider range of fruit acids n floors.

CIP areas.

# CONTROLLING STATIC ELECTRICITY

#### PROTECTING ELECTRONIC COMPONENTS

As electronic devices get smaller and are used ever more widely, protecting them from the effects of an electrostatic discharge becomes even more critical.

#### EXPLOSION PROTECTION

Wherever solvents are used, whether in processing or for cleaning, there is a potential risk of explosive vapor/air mixtures forming. Similarly, wherever fine organic powders are handled or generated during processing, powder/air mixtures with the potential for a dust explosion can be generated. An electrostatic discharge can provide sufficient energy to ignite such mixtures, often resulting in an explosion.

#### A SYSTEM APPROACH

Sika<sup>®</sup> Ucrete<sup>®</sup> electrostatic discharge (ESD) and electrically conductive flooring (ECF) have the conductive properties needed to control undesirable static electricity. But you need more than a floor that will control static electricity! You need a floor with the solvent and chemical resistance, the temperature and impact resistance to give you a long-lived floor. It may need to be easy to clean and hygienic, and have the slip resistance to provide a safe working environment.

We produce a wide range of Sika® Ucrete® floors that help control static electricity, from smooth and terrazzo systems to highly slip-resistant defined profile floors. We want you to have a floor that meets all your needs, and provides the safety of ESD control\*.

#### UNDESIRABLE STATIC ELECTRICITY

- Damages electronic equipment
- Leads to unwanted accumulation of dust
- Causes discomfort and accidents
- Ignites explosives, solvent/air or air/powder mixtures

#### PREVENTING STATIC ELECTRICITY

The best way to prevent an electrostatic discharge that might damage sensitive electronic equipment or cause dust or solvent explosions is to prevent the accumulation of static in the first place.

Sika<sup>®</sup> Ucrete<sup>®</sup> ESD and ECF floors are designed to minimize body voltage generation and facilitate dissipation of charge to ground of personnel wearing the appropriate antistatic footwear. More conductive floors are more effective at preventing the accumulation of static electricity.

\* Note: In order to prevent personnel from becoming charged, they must be in electrical contact with the floor. This will require the use of ESD footwear.

	Resistance to Earth EN 1081	Resistance to Earth EN 61340-4-1	Resistance Person to Earth EN 61340-4-5	Body Voltage Generation EN 61340-4-5
Requirements in EN61340-5-2	n/a	< 1 GΩ	< 1 GΩ	<100V
Sika® Ucrete® MFAS-C	< 50 kΩ	< 50 kΩ	< 35 MΩ	< 50V
Sika® Ucrete® MF40AS	<1 MΩ	<1 MΩ	< 35 MΩ	< 50V
Sika® Ucrete® DP10AS	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® DP10 AS Gloss	<1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® CS10AS	<1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® DP20AS	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® DP20 AS Gloss	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® CS20 AS	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® HPQAS	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V
Sika® Ucrete® TZAS	<1 MΩ	<1 MΩ	< 35 MΩ	< 50V
Sika® Ucrete® UD100AS	< 1 MΩ	<1 MΩ	< 35 MΩ	< 100V

Opposite side: Our reference in Luton (United Kingdom): Measurement Technology Ltd.





16

# 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. Sika® Ucrete® floors are dense and impermeable and make maintaining hygiene standards easier.



#### 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 Sika® Ucrete® floors as tough as possible to help you maintain hygiene standards without the need for ongoing maintenance.

#### WHY SEAMLESS FLOORING?

Joints are weak points in any floor. Sika<sup>®</sup> Ucrete<sup>®</sup> 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. 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

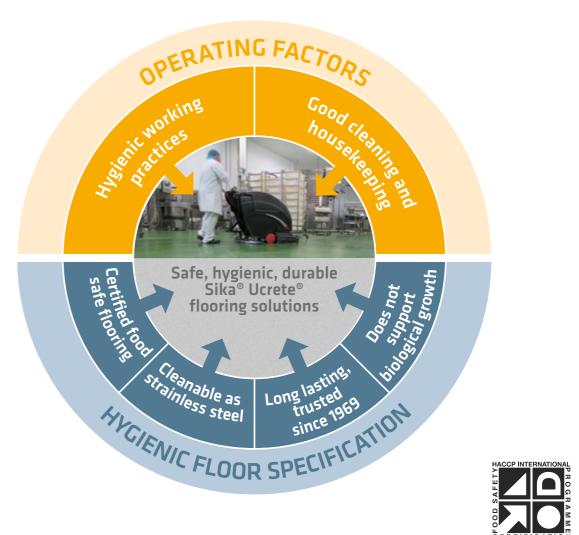
The tests show the efficacy of a range of industrial sanitizers on a Sika<sup>®</sup> Ucrete<sup>®</sup> UD200 floor. There is no growth after 72 hours, even on the control using just water, demonstrating that Sika<sup>®</sup> Ucrete<sup>®</sup> does not support biological growth, ensuring that the floor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

#### AS CLEANABLE AS STAINLESS STEEL

All Sika<sup>®</sup> Ucrete<sup>®</sup> 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

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

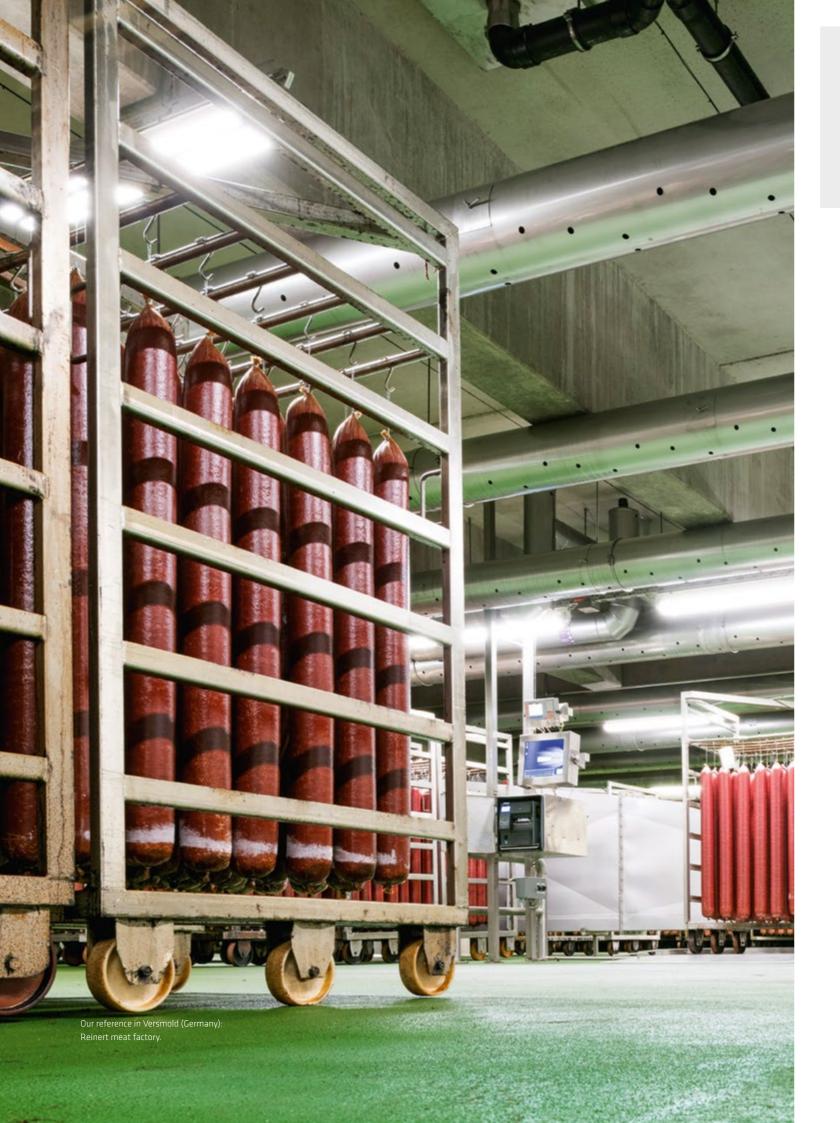


#### **CLEANING REGIME**

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 Sika expert.

#### **CERTIFIED HYGIENE**

Independent tests undertaken by **Campden BRI** in the UK demonstrate that Sika<sup>®</sup> Ucrete<sup>®</sup> floors can be effectively sanitized to a standard comparable to stainless steel.



# LONG-TERM PERFORMANCE

#### BEST VALUE

It is easy to understand why a Sika<sup>®</sup> Ucrete<sup>®</sup> 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. Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika® Ucrete® floor provides is the safety margin that helps ensure that a Sika® 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 Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika<sup>®</sup> Ucrete<sup>®</sup> flooring to help you get the best results possible.

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

#### **STILL IN SERVICE AFTER 40 YEARS**

In 1984, the Magor Brewery installed 2,800 m<sup>2</sup> of Sika<sup>®</sup> Ucrete<sup>®</sup> flooring in its kegging 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 1,000 barrels per hour round the clock. Stopping is not an option.

The initial investment in a quality Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika<sup>®</sup> Ucrete<sup>®</sup> floors and continues to do so today.

# OUR CONTRIBUTION TO SUSTAINABILITY

#### MAKING GOOD USE OF LIMITED RESOURCES

Building and maintaining any kind of structure means facing a key sustainability challenge: the consumption of natural resources.

#### WHOLE-LIFE COSTS

Sika<sup>®</sup> Ucrete<sup>®</sup> industrial flooring solutions contribute to sustainability in many respects throughout their life cycle.The longevity of Sika<sup>®</sup> Ucrete<sup>®</sup> floors, with many 20–30-year-old floors still in service, helps to save precious resources. What could be more wasteful of raw materials, time and energy than ripping up and throwing away a floor after five or ten years?

#### **CLIMATE PROTECTION**

The contribution of Sika<sup>®</sup> Ucrete<sup>®</sup> floors to climate protection and saving of energy is demonstrated by independent environmental impact assessment. BMG Engineering, Zurich, made such an assessment of Sika<sup>®</sup> Ucrete<sup>®</sup> flooring. They looked at a scenario of a large commercial kitchen, as in a prison or a hospital, and compared a Sika<sup>®</sup> Ucrete<sup>®</sup> UD200 specification against a typical tiled floor specification that traditionally might be used for this application.

The results are compelling; square meter for square meter an equivalent tiled floor was found to have 50% higher cumulative energy demand, 70% higher global warming potential, 200% higher ozone depletion potential and 50% higher water use than a 9 mm thick Sika® Ucrete® UD200 floor. Clearly, Sika® Ucrete® offers significant benefits for the environment.

#### SUSTAINABLE BUILDING

Systems to evaluate the sustainability of a building are becoming more and more important in the construction industry, and confirm the contribution of Sika<sup>®</sup> Ucrete<sup>®</sup> floors to sustainable construction. The Leadership in Energy & Environmental Design Green Building Rating System LEED® provides a process to verify that a project was designed and built in a sustainable manner. It covers performance in key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

With regard to materials selection, a series of credits are made to encourage the use of more sustainable and environmentally friendly materials. A Product Information Statement for LEED® New Construction (NC) Version 3.0 Credit Documentation is available for all Sika® Ucrete® flooring products and systems.





#### PROTECTING THE AIR THAT WE BREATHE

We are becoming increasingly aware of the importance of clean air. Emissions impacting air quality are controlled by a variety of national regulations and voluntary standards.

The Indoor Air Comfort Gold certification from Eurofins combines the most stringent specifications from all relevant European regulations and voluntary labels. Audit of production and quality control ensure that Sika® Ucrete® meets all product emissions requirements. Sika® Ucrete® grades give very low emissions and conform to all the emissions requirements for indoor flooring systems in Europe, including AgBB in Germany, M1 in Finland and Afsset in France. Sika® Ucrete® has been measured at A+, the best French emissions rating.

This demonstrates that Sika<sup>®</sup> Ucrete<sup>®</sup> can provide floors without any volatile compounds that might taint foodstuffs or affect the well-being of personnel.

#### **KEEPING US SAFE**

In daily use, Sika<sup>®</sup> Ucrete<sup>®</sup> floors help our customers in many industries to meet their sustainability needs, for example when handling aggressive and noxious chemicals, Sika<sup>®</sup> Ucrete<sup>®</sup> helps to provide the containment that prevents them from escaping into the environment. Nothing is more wasteful than an accident in the workplace. Sika<sup>®</sup> Ucrete<sup>®</sup> slip-resistant and antistatic floors work tirelessly to keep everyone safe.

#### **ENVIRONMENTAL PRODUCT DECLARATION (EPD)**

Sika<sup>®</sup> Ucrete<sup>®</sup> floors are availabe with FEICA Model Environmental Product Declaration (EPD) certificates. Each Sika<sup>®</sup> Ucrete<sup>®</sup> system achieves the lowest classification for products based on polyurethane or silanemodified polymer, group 1.



# THINKING PHARMACEUTICALS

#### THINK FUNCTIONALITY

Pharmaceutical industry floors need to fulfill a number of complex functions. Above all, they must help ensure product quality and worker safety. Clean rooms in which medicines are manufactured and packed must be sterile and dust free, which requires excellent cleanability of the floor.

The cleaning qualities of Sika<sup>®</sup> Ucrete<sup>®</sup> floors score highly here: being dense and impervious enables them to be cleaned to a standard comparable to stainless steel, making them an extremely hygienic solution for the pharmaceutical industry.

But floors can only maintain their cleanability and hygienic properties if they resist the solvents, chemicals and the heavy abrasion from hard plastic and steel-wheeled traffic that are widely encountered. Sika® Ucrete® is renowned for its chemical resistance and durability, providing long-lived solutions, ensuring hygiene standards and minimizing maintenance for years to come.

Many pharmaceutical production areas involve work with extremely fine organic powders, creating the potential for dust explosions, while volatile organic compounds are also used widely, in processing and for cleaning and sanitizing. Consequently, the control of static electricity is a critical safety factor which is readily addressed using one of our range of Sika® Ucrete<sup>®</sup> antistatic flooring solutions.

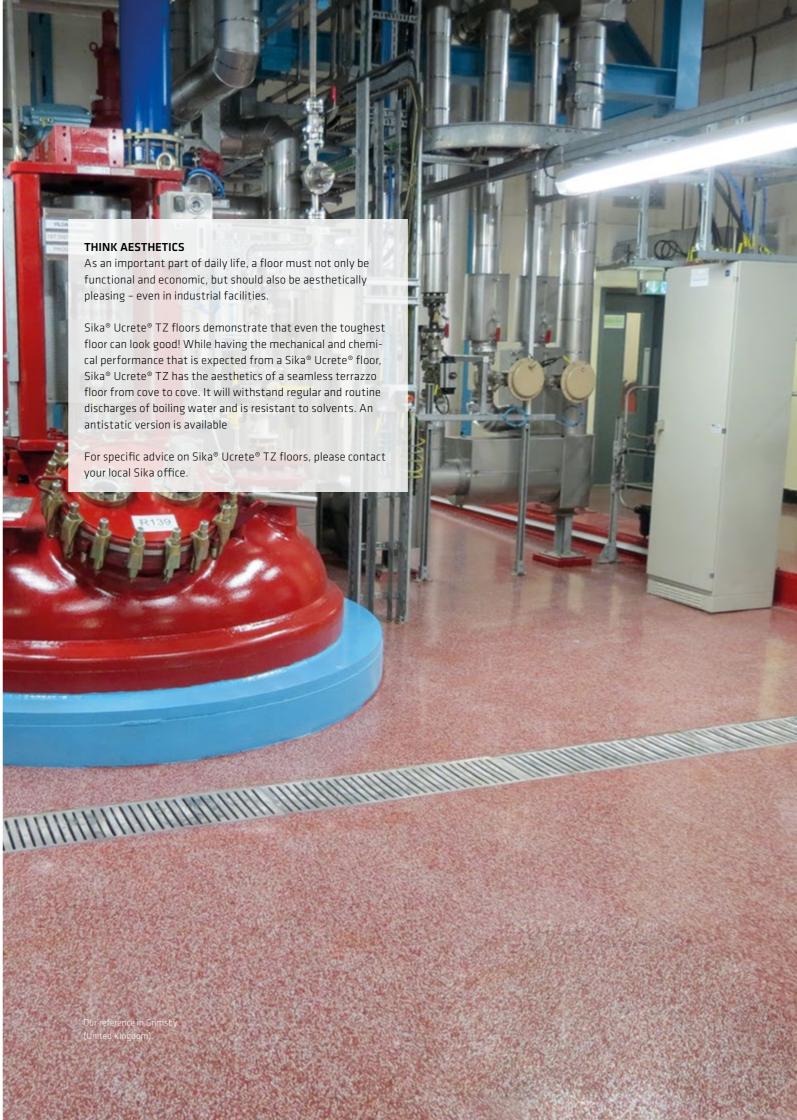
From tanker reception areas and bunded stores, through processing to clean rooms and tableting halls, Sika® Ucrete® flooring provides the appropriate floor to meet the diverse needs of the pharmaceutical industry.



#### TYPICAL FIELDS OF APPLICATION

For over 40 years Sika® Ucrete® has been providing durable floors throughout the pharmaceutical industry. For example, in primary and secondary manufacture, in wash bays, clean rooms, aseptic areas, grinding and blending, pilot plants and tableting facilities.





## 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

Sika<sup>®</sup> Ucrete<sup>®</sup> meets meet 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

Sika<sup>®</sup> Ucrete<sup>®</sup> 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. Sika<sup>®</sup> Ucrete<sup>®</sup> ESD and ECF 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 Sika<sup>®</sup> Ucrete<sup>®</sup> 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, bunded stores, wet process areas, tanker loading bays.

#### THINKING ECONOMICALLY

Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika expert.



#### THINK PRACTICALLY

1000

Any joints in the substrate will create weak points in the protective Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika<sup>®</sup> Ucrete<sup>®</sup> floor meets a metal channel lining or grating supports. In many circumstances, channels can be lined with Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika expert.



Dyehouse at Fruit of the Loom. Channels fully lined with Sika® 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 Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika<sup>®</sup> Ucrete<sup>®</sup> floor.

Your Sika<sup>®</sup> Ucrete<sup>®</sup> 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 Sika<sup>®</sup> Ucrete<sup>®</sup> floor that meets all of your needs, please contact your local Sika office.



#### TYPICAL FIELDS OF APPLICATION

For nearly more than 50 years Sika<sup>®</sup> Ucrete<sup>®</sup> 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.

Sika<sup>®</sup> Ucrete<sup>®</sup> CS systems offer the slip resistance you need, are easy to clean and have the aesthetics you want. Light colors that keep their color, that resist staining and provide a bright, safe and attractive working environment.

For specific advice on Sika<sup>®</sup> Ucrete<sup>®</sup> floors, please contact your local Sika office.



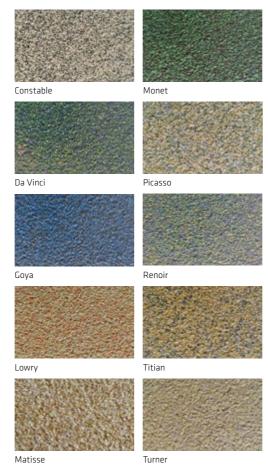
Our reference in Wateringen (Netherlands): Borgesius Bakery.

# Sika<sup>®</sup> Ucrete<sup>®</sup> **COLOR PORTFOLIO**

### STANDARD GRADES



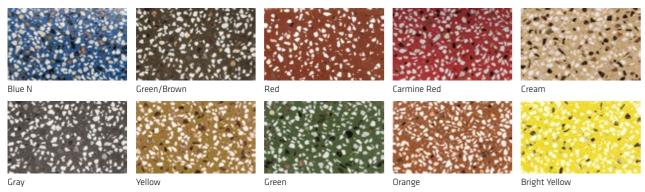
Sika® Ucrete® HPQ



Sika® 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 colors.

All colors shown are approximate. The standard-grade colors are used in many different flooring systems. The exact shade of the floor will depend upon the particular specification and on-site conditions.

### Sika® Ucrete® TZ and Sika® Ucrete® TZAS



Sika<sup>®</sup> Ucrete<sup>®</sup> CS





# GLOBAL BUT LOCAL PARTNERSHIP



### FOR MORE FLOORING INFORMATION:



#### **WE ARE SIKA**

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



JSGBC MEMBER

Manufacturer / supplier: Sika MBCC Malaysia Sdn. Bhd. (fka Master Builders Solutions Malaysia Sdn. Bhd. No. 8, Jalan Keluli 2, Kawasan Perindustrian Bukit Raja, 41050 Klang, Selangor, Malaysia Tel: +603 3082 1000 Fax: +603 3344 5330





**BUILDING TRUST**