BUILDING TRUST

PRODUCT DATA SHEET

Sika® Ucrete® MF

(formerly Ucrete® MF)

4-6mm Heavy duty polyurethane floor finish

DESCRIPTION

Sika® Ucrete® MF is a unique HD Polyurethane resin floor with exceptional resistance to aggressive chemicals. It provides a smooth protective floor finish suitable for applications in predominantly dry environments.
Sika® Ucrete® MF Industrial Flooring has been widely used throughout the industry for more than 50 years; many of the older floors are still in service. A detailed project reference list is available upon request.

USES

It is dense and impervious, providing the ideal floor finish for applications in the food, pharmaceutical and manufacturing industries including clean room, laboratory, packing hall and warehouse applications and wherever a robust, long lived floor is required.

CHARACTERISTICS / ADVANTAGES

AIR QUALITY: Sika® Ucrete® has been awarded the Indoor Air Comfort Gold Label following extensive VOC emission chamber testing and auditing of quality management and production control procedures. This demonstrates that Ucrete is an extremely clean product without any volatile compounds that might taint foodstuff or affect the well-being of personnel. All Sika® Ucrete® grades give very low emissions and conform to all the emissions requirements for indoor flooring systems in Europe including AgBB in Germany, Afsset in France, where they are rated A+ for VOC emissions (the cleanest rating), and M1 in Finland.
TEMPERATURE RESISTANCE: A Sika® Ucrete® MF floor is fully resistant to liquid spillage and discharge up to 60°C. Suitable for freezer temperatures down to -18°C.
NON TAINTING: Sika® Ucrete® MF is non-solvented and non tainting from the end of mixing, as tested by the Campden Technology Ltd.
CHEMICAL RESISTANCE: Sika® Ucrete® MF offers exceptional resistance to a wide range of chemical aggressors. Note: some staining or discolouration may occur with some chemicals, depending upon the nature of the spillage and the standards of housekeeping employed. Extensive chemical resistance tables are available in the separate data sheet 'A guide to the chemical resistance of Ucrete Flooring'.
IMPACT RESISTANCE: With high mechanical strengths and a low elastic modulus, Sika® Ucrete® MF is very resilient and able to withstand severe impact loads. While no material is indestructible and surface chipping may occur, brittle modes of failure resulting in cracking and disbondment are unknown with Sika® Ucrete® floors.
PERMEABILITY Sika® Ucrete® MF exhibits zero absorption when tested to CP.BM2/67/2.
SLIP RESISTANCE
Sika® Ucrete® MF floors have coefficient of friction as determined to EN13036 Part 4 with 4S rubber on the wet floor as follows:
Ucrete MF 35
Sika® Ucrete® MF surface profiles conform to DIN51130 as follows:
Ucrete MF R10 V -
Optimum slip resistance can only be maintained with regular cleaning.

APPROVALS / STANDARDS

GB/T 22374-2018

PRODUCT INFORMATION

Chemical base	Waterborne polyurethane mortar	
Packaging	Part A	2.52 kg/pail
	Part B	2.86 kg/p[ail
	Part C	14.4 kg/bag
	Part D	0.50 kg/bag
	Part A+B+C+D	20.28 kg/set
Shelf life	9 months	
Storage conditions	In covered warehouse conditions, above 5°C and below 30°C and out of direct sunlight. Materials must be raised off the floor and kept dry. Liquid components must be protected from frost.	
Appearance / Colour	Sika® Ucrete® MF is available in eight standard colours: Red, Yellow, Green, Orange, Grey, Cream, Blue and Green/Brown. Note: 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 colours.	
Density	Mixture: ~1.97 kg/L	BS 6319 Part5
Volatile organic compound (VOC) content	≤ 50g/L	

TECHNICAL INFORMATION

Abrasion resistance	AR 0.5	(BS 8204)
Resistance to impact	Heavy duty	
Compressive strength	48-53MPa	BS6319:Part 2
Flexural strength	21 MPa	ISO178
Modulus of elasticity in flexure	3250-4000 MPa	BS 6319 Part6
Tensile resistance	~9 MPa	BS 6319 Part7
Tensile adhesion strength	≥ 2MPa (concrete failure)	
Coefficient of thermal expansion	$3.6*10^{-5}°C^{-1}$	ASTM C531 Part4.05
Chemical resistance	Extensive chemical resistance tables are available in the separate data sheet ‘A guide to the chemical resistance of Ucrete Flooring’.	
Resistance to fire	$B_{FL} – S_1$	EN13501 Part 1

SYSTEM INFORMATION

Systems	Coating system	Product
	Primer	Sika® Ucrete® MF
	Topcoat	Sika® Ucrete® MF

APPLICATION INFORMATION

Mixing ratio	Parts A:B:C:Pigment= 2.52 : 2.86 : 14.4 : 0.5 (Mix full units only.)

Consumption

Coating System	Product	Consumption
Primer (~1mm)	Sika® Ucrete® MF	~2.0 kg/m²
Topcoat (3-5mm)	Sika® Ucrete® MF	6.0~10 kg/m²

Note:These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level and wastage etc.

Product temperature

+5 °C min./+30°C max.
Optimal application temperatures range : 15°C - 25°C

Ambient air temperature

+5 °C min./+30°C max.
Optimal application temperatures range : 15°C - 25°C

Relative air humidity

80% r.h. max.

Dew point

Beware of condensation!
The substrate and uncured floor must be at least 3°C above the dew point to reduce the risk of condensation or blooming on the floor finish.

Substrate temperature

+10°C min. / +30°C max.

Substrate moisture content

< 8% pbw moisture content.
Test method: Sika®-Tramex meter or CM - measurement.
No rising moisture according to ASTM (Polyethylene-sheet).

Pot life

Temperature	Time
+20 °C	~25 minutes

Waiting time / Overcoating

Before applying Sika® Ucrete® MF on Sika® Ucrete® MF/-PLC, allow:

Substrate temperature	Minimum	Maximum
+10°C	~36 hours	~12 days
+20°C	~24 hours	~7 days
+30°C	~12 hours	~4 days

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied product ready for use

Temperature/ Thickness	Foot traffic	Light traffic	Full cure
+20°C / 4mm	10~12 hours	14~16 hours	5 days

Note:At low temperature the curing need longer time.

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

- Substrates will normally be concrete or polymer modified screeds, but some other types of substrates may be suitable, please consult your Sika sales representative or technician for details.
- If you are unsure of the surface type or quality of the substrate, please test some samples in small area first.
- The optimum temperature for the material and the environment is 15-25°C. If the actual substrate or ambient temperature is below 15°C, consult Sika's sales or technician for precautions before applying the material, and take warming measures such as air-conditioning if necessary, or defects may result.
- This product should not be applied to vertical or suspended surfaces. For application to vertical surfaces, refer to other suitable products such as Sika® Ucrete® RG.
- Due to thermal shock, the use of steam cleaning may cause the floor to delaminate. For floors requiring steam cleaning, please use other suitable products such as Sika® Ucrete® UD 200.
- Due to the fact that the material is produced in batches, it is not possible to guarantee complete colour consistency. Therefore when using Sika® Ucrete® products, please do not mix different batch numbers in the same area.

ECOLOGY, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

EQUIPMENT

Sika® Ucrete® MF must be thoroughly mixed using a low speed electric stirrer (400 -600rpm) or other suitable equipment.

SUBSTRATE QUALITY / PRE-TREATMENT

- The base concrete must be of sufficient strength (compressive strength of at least 25 N/mm² and tensile strength of at least 1.5 N/mm²).
- The concrete surface must be treated by mechanical means such as sandblasting, shotblasting and grinding to thoroughly remove cement floats, oil contamination and loose concrete of insufficient strength and to expose holes, while obtaining substrate with good surface strength and roughness (longitudinally open textured surface).
- Holes and cracks in the concrete surface must be repaired and filled with suitable Sika specialised systems such as Sika® Ucrete®, Sikafloor®, Sikadur® and Sikagard® first.
- If the substrate is uneven, it needs to be levelled with Sika's special levelling mortar to obtain a more even and aesthetic appearance.
- All dust, particles and rubbish on the surface of the substrate must be cleaned up by vacuuming etc before application.
- Anchor grooves - All free edges of Sika® Ucrete® floors (including perimeters, trenches or drains) need to be provided with additional cutting gap in order to distribute the mechanical and thermal stresses. To achieve stress dispersion, formed or cut grooves can be placed in the concrete. The depth and width of the grooves should be twice the thickness of the Sika® Ucrete® floor system. Additional information on the edges can be found in the additional material supplied. If necessary, all free edges can be protected with mechanically installed metal strips, additionally thin edges must not be used as anchoring grooves.
- Expansion joints - Expansion joints are provided at the intersection of different materials on the base. Separate zones according to thermal stresses, vibrations and surrounding load-bearing columns, see additional details.

MIXING

- The temperature will affect the mixing effect; the temperature of the material itself before use is 15°C-25°C; if the construction is in low temperature in winter, it is recommended to store the material in an indoor air-conditioned room at 15°C-25°C for at least 24h before use.
- Prepare a large mixing container in advance and start the mixer:
- First pour Part D (color paste) into Part A and stir for 15 seconds, then add Part B and stir for 20 seconds. Then slowly pour Part C (powder) in while stirring, the adding process takes about 15 seconds. Note that it should not be poured into the mixer quickly. After adding Part C and Part D, stir further for more than 2 minutes to ensure that all powders and base materials are completely mixed.
- The mixing time should be consistent for each group of materials.
- During mixing, it is also necessary to use a straight-sided trowel to scrape off the ingredients (Parts A+B+C+D) that are stained on the sides and bottom of the container, and this should be done at least once to ensure complete mixing. It is only necessary to mix all the ingredients in the factory package.

APPLICATION

- Prior to application, confirm the water content, relative humidity and dew point of the substrate.
- Primer: Mix and apply Sika® Ucrete® MF/-PLC material on the floor and apply it with a trowel or squeegee to the required thickness.
- Check that the primer is completely sealed and that it is fully sealed and cured before applying the top coat.
- Topcoat: Mix and apply Sika® Ucrete® MF material to the floor; apply to the desired thickness with a defoaming roller, trowel or squeegee according to the instructions. Before the surface begins to cure, carefully scrape the newly mixed material along the transition zone of the previously applied material. Immediately thereafter, defoam the material by rolling the defoamer roller in a cross direction to remove any air from the material.

A large area must be adequately staffed; the entire construction process must be compact and the material must be quickly bridged between two shipments of material to ensure a wet joint, otherwise lap marks and color differences may occur.

CLEANING OF TOOLS

Clean all tools and application equipment with Thinner C immediately after use. Hardened / cured material can only be mechanically removed.

MAINTENANCE

CLEANING

Regular cleaning and maintenance will enhance the life and appearance of any floor. Sika® Ucrete® MF is cleaned using industry standard cleaning chemicals and equipment. The use of a food industry standard scrubber drier machine is recommended. Please consult your local cleaning chemical or equipment supplier.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the

declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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