MICROGEL®

Acid-Gel for the production of acid-etched concrete surfaces

PRODUCTS FOR GOOD-LOOKING CONCRETE

Product Description:

MICROGEL® products are a mix of acidic liquids (low pH-value) combined with agents that control the viscosity, also called EAGs (Engineered Acid Gel). ***MICROGEL®*** reacts with the surface-near alkaline-based (high ph-value) cement. This leads to a neutralisation and so a micro-thin layer of the concrete surface can be removed via water-pressure and the sand/aggregate matrix underneath the concrete skin is revealed uniformly, giving the concrete surface a special look. The depth of this acidification is approx. 0.3 mm and is therefore much less than the results which can be achieved e.g. by sandblasting or by micro exposed aggregate.

Left: "standard" concrete surface
Right: same concrete with acid-etched surface

Advantages:

Due to its gel-like characteristics and the easy and accurate application, **MICROGEL®** creates very evenly etched concrete surfaces, and is also suitable for vertical surfaces. Users will notice the difference to standard hydrochloric acid or similar instantly, because those materials work very aggressively, therefore sometimes irregularly and causing noticeable "streaks" on verticals or may cause spots that are noticeable only after the concrete has dried. **MICROGEL®** is much more suitable because it gives users time to apply uniformly and also allows to use the material on vertical surfaces evenly due to the high viscosity and its good adhesion properties.

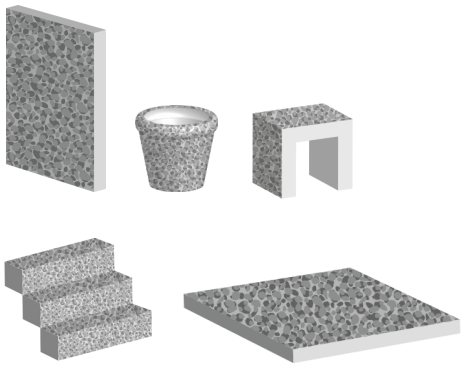
These high precision and high efficiency advantages in application consequently also lead to a low consumption rate and a competitive cost structure.

MICROGEL® is available in 5 different versions. There are no really significant differences between the different versions rather, just nuances that reflect the various fields of applications. We will be pleased to explain and help you to select.

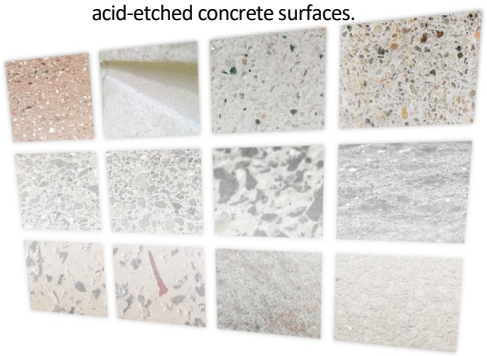
Fields of Application:

MICROGEL® is used for the production of acid-washed, natural stone-like concrete surfaces, for example for

- architectural precast concrete, for example facade elements
- small precast, for example steps, planters, benches, curbstones ...
- artificial stone / reconstituted stone
- cast stone or any other special concrete mix design or special ways of production, like SCC, GRC, HPC ...
- highlighting logos or graphics by using vinyl stencils.



In our photo gallery you will find more acid-etched concrete surfaces.



And in our online video gallery you will find videos about the application of **MICROGEL®**.

Product description:

MICROGEL® contains acidic, surface-active ingredients to obtain a fine micro-exposure resp. slightly roughened concrete surfaces after application.

Consumption:

Depending on the absorbency, strength and age of concrete surface, approx. 200-250 gr/sqm per application.

Packaging:

20 kg plastic pail

Storage:

Store inside a suitable warehouse (not outdoors).
Store in a cool and dry place. Can be stored for approx. 12 months in original containers.

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Application instructions:

Usual precautions when handling chemicals should be observed (e.g. no eating, drinking, or smoking at the place of work). Additional instructions, which can be found on the corresponding product labelling or in the Safety Data Sheet, must be observed. If you do not have a copy of the current Safety Data Sheet, we will be pleased to send you one.

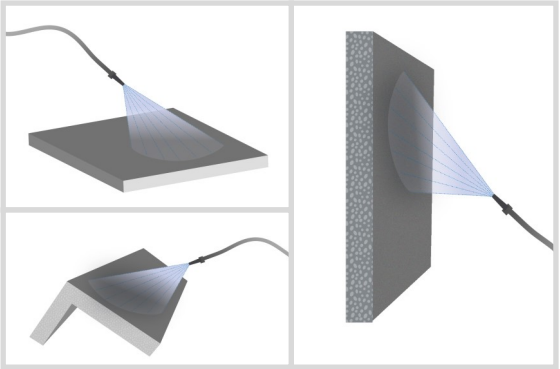
Acids may corrode metal surfaces which is why we recommend covering those surfaces if they are nearby. Same applies for all sensitive surfaces which may get affected by the application or residues.

The concrete elements to be treated should be between 1 and 5 days old, but may also be older. The concrete surface should be saturated well with water before the **MICROGEL®** is applied. The "ready for use" **MICROGEL®** can be applied to the concrete surface with a brush. Application via sprayer is principally also possible, provided that the sprayer is suitable for the high viscosity resp. the acid-content of the **MICROGEL®** (see "Available MICROGEL®-versions" below). The reaction phase is visually easy to recognise and can be intensified by manual brushing and should be determined in pilot tests. The duration of the reaction phase depends on a number of different factors and usually takes some minutes. Clean the surface with plenty of water. Repeat the application if the surface shows irregularities or an insufficient roughening depth. Wash the concrete surface with plenty of clean water at the end of the application. We recommend using a high pressure water washer to make sure that no residues remain on the surface. Feel free to contact our technical support team to discuss your parameters and best procedures.

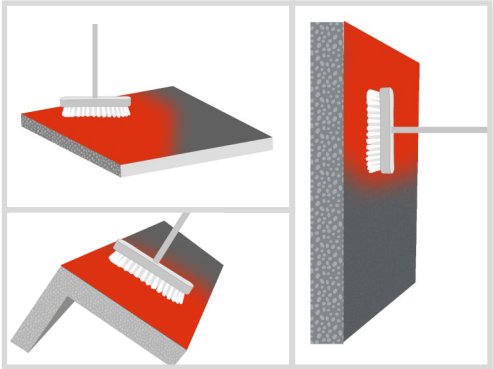
We recommend applying one of our ***COLORFRESH®*** or ***COLORTEC®*** protective coatings soon after.

Application steps:

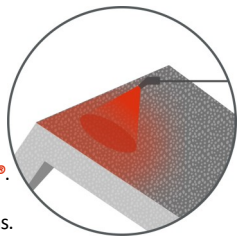
1. Saturate the concrete surface well with plenty of water right before starting application. Use ***MICROGEL®*** on wet concrete surfaces only.



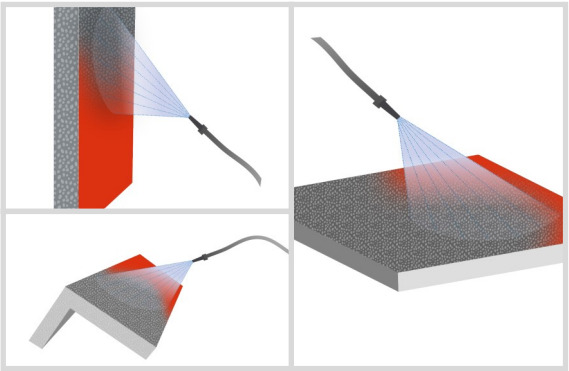
2.1. Apply ***MICROGEL®*** uniformly onto the surface. Distribute the material by a brush (the brush should have soft plastic bristles. Insider tip: Gently rub the ***MICROGEL®*** on the concrete surface for a few minutes. This will improve reactivity, uniformity and efficiency.



2.2 Alternatively you can also spray on ***MICROGEL®***. Please contact us for sprayer recommendations.



3. Use a high-pressure water washer to clean the concrete surface thorougly.



4. Repeat the procedure 2-3 times until you find a uniform acid-etched result. It is difficult to predict how many application repeats will be necessary because this depends on the strength of the concrete.

Continued on page 3.

Click here for more detailed guidelines of application procedures.

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Available MICROGEL® versions:

- **version "spezial"** – low-odour
- **version "forte"** – maximum efficiency
- **version "V02"** – for vertical spray-application
- **version "connect"** – high viscosity
- **NEW: version "free"** – odour-free/environmentally optimised, non-corrosive to metal

Further characteristics of the different products can be found in our brochure "EAG's (ENGINEERED ACID GEL) FOR THE PRODUCTION OF ACID-ETCHED CONCRETE SURFACES **MICROGEL®** "

All MICROGEL® versions are suitable for vertical and horizontal application. The differences in between the **MICROGEL®** versions are nuances in application characteristics and are mainly found in aspects of viscosity, adhesion, sprayability and reactivity.

MICROGEL® free shows a more significant difference because it has no odour and does not corrode metal, which makes this product version popular among our customers if they have to apply **MICROGEL®** at jobsites and everywhere where the application paramaters and/or surroundings are sensitive.

HEBAU has also developed a reasonably priced sprayer for vertical spray applications, which allows an accurate and non-misting application (suitable for all **MICROGEL®** versions, except for „connect"). Delivery on request.

When applied according to the instructions, the reaction between the acid components in the **MICROGEL®** and the alkaline concrete surface lead to a neutralisation of the active ingredients. Therefore, if sufficient water is used to wash off a **MICROGEL®** treated surface, the **MICROGEL®** will probably not lead to a significant alteration of the pH-value. If there are concerns, we recommend checking the pH-value of the water, e.g. with litmus paper.

Please note, that it is always necessary to carry out pilot tests which realistically correspond to the planned production process and application procedure.

Legal notice:

The technical information contained here, in particular relating to the function, use and handling of our products, is given to the best of our knowledge and is based on our present knowledge and experience of the products when appropriately stored and handled, and applied under normal conditions in accordance with the standard fields of application, as described in page 1. Due to the large variety of possible use and application scenarios, this data sheet raises no claim to completeness, but is solely intended to provide a non-binding decision support, which needs to be reconfirmed by the end-user through pilot tests. Pilot tests are always necessary and should be carried out following the advice given in the current Product Data Sheet and under realistic practical conditions, i.e. conditions must realistically correspond to the planned production process and application procedure. Case-related acquired knowledge is not directly transferable to similar applications. Product specifications are subject to alterations without notice.

Only the most recent issue of the Product Data Sheet is valid, which will be supplied on request or can be found on our website under www.hebau.de. Illustrations in our data sheets, brochures etc. are merely exemplary and not binding. Photos may have been edited.

We guarantee for the perfect quality of our material according to our specifications. We do not take any liability resp. warranty for the desired end result, as we solely act as supplier of the products and the application of the products and other influencing factors are beyond our control and our field of responsibility.

Our General Terms and Conditions apply. This information is valid for professional users. Our products are not recommended for private end-users.

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Microgel free

Hazard + precautionary statements according to CLP regulation / (EC) No 1272/2008

UN 1789

Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/ doctor.
P501 Dispose of contents/container in accordance with local regulations.

Microgel spezial, forte, connect

Hazard + precautionary statements according to CLP regulation / (EC) No 1272/2008

Danger / UN 1789

Hazard statements
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/ vapours/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/ doctor.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local regulations.

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	MICROGEL® version "spezial"	MICROGEL® version "forte"	MICROGEL® version "V02"	MICROGEL® version "connect"	MICROGEL® version "free"
Application characteristics					New formula!
suitable for application by brush	✓	✓	✓	✓	✓
suitable for application by HEBAU sprayers	✓	✓	✓	-	✓
suitable for application on horizontal surfaces	✓	✓	✓	✓	✓
suitable for application on vertical surfaces	✓	✓	✓✓	✓✓	✓
suitable for precast concrete (including GRC, cast stone, self-compacting concrete, HPC ...)	✓	✓	✓	✓	✓
suitable for construction site applications	-	-	-	-	✓
Requirements for best results:					
surface must be pre-saturated with water	✓	✓	✓	✓	✓
age of concrete	unlimited	unlimited	unlimited	unlimited	unlimited
even distribution of aggregates in concrete surface	is always essential for best surface uniformity				
Characteristics of MICROGEL®:					
effectiveness	standard	increased	increased	increased	standard
odour	odour-reduced	standard	standard	optimized	free of odour
reaction time	standard	optimized	optimized	optimized	standard
gel-like	✓	✓	✓	✓✓	✓
thixotropic	✓	✓	✓	✓	✓
viscosity	standard	standard	increased	increased	standard
corrosive to metal	yes	yes	yes	yes	no
Waste water:					
harmless	✓	✓	✓	✓	✓✓
nitrate-free	✓	✓	✓	✓	✓✓
Fields of application:					
architectural and decorative concrete	✓	✓	✓	✓	✓
intensive cleaning of the concrete	✓✓	✓	✓	✓	✓✓
slip-resistant (anti-slip) concrete surfaces	✓	✓	✓	✓	✓

Symbol explanation: ✓ applicable/suitable ✓✓ very applicable/suitable - not applicable/suitable

Also recommended:

High performance mould release agent	WABICON HP	Eases first **MICROGEL®** application, because active ingredients support clean concrete surface upon demoulding (no demoulding oil residue on concrete surface).
Superplasticiser, designed for architectural/ decorative concrete	ARCON-Fluid*easy*	Helps to avoid segregations and to reduce vibration towards semi-self-compacting concrete.
Integral colour pigments	ICPs	Available as powder, slurry or granulated pigments
Protective coating - option I	COLORFRESH® *intensiv*	Protects against efflorescence, dirt and weathering effects — can be used early after **MICROGEL®** application - enhances surface colour and creates a silky sheen.
Protective coating - option II	COLORFRESH® *effect*	Protects against efflorescence, dirt and weathering effects — can be used early after **MICROGEL®** application — creates a wet-look finish.
Protective coating - option III	COLORTEC® *MAX*	Protects against efflorescence, dirt and weathering effects — can be used early after **MICROGEL®** application — remains invisible/matt finish.

Please study our technical data sheets prior to application and always conduct pilot tests under real application and production parameters and allowing for a suitable period of observation.

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