

CSE[®] reactive surface deactivator

Version „multitop“



Introduction:

The brand **CSE[®]** characterises a group of liquid deactivators for the production of exposed aggregate concrete surfaces, for example, to make architectural prefabricated/precast concrete panels, small precast elements and products, cast stone, cast-in-place walls and pavings and „rough“ construction joints.

To reach exposed aggregate concrete the first layer of cementitious material is removed so that the aggregates become visible. To control and ease this process the **CSE[®] Deactivator** reacts chemically upon surface contact with the fresh concrete during the hydration and stops the cement from hardening there. The fresh concrete below this surface layer hydrates and hardens like normal. Later, usually after 24 hours, the surface can be washed off, which means that the „deactivated“ cementitious material is removed by waterjet and the aggregates are revealed. The depth of this wash-out texture is called and specified by the exposure depth in millimeters.

CSE[®] Deactivator is available in 4 different versions and each comes in 11 different exposure depths. All versions have been developed with special features to reach perfect results when used in the two main ways of application - the „negative“ application (when the **CSE[®] Deactivator** is applied onto a mould surface) and the „positive“ application (when the **CSE[®] Deactivator** is sprayed onto a freshly poured concrete surface). See [Available Versions](#) for more information. This data sheet covers all aspects when using **CSE[®] „multitop“**.

Product Description:

The version **CSE[®] „multitop“** has been modified to perform excellently especially when used in the „positive“ application, also called „top surface“, which is widely used to produce cast-in-place walkways, driveways and similar with a decorative or non-slip exposed aggregate surface. For best suitability for these construction site applications and conditions **CSE[®] „multitop“** contains special ingredients to ease the lives of the contractors especially during hot summer applications or while making micro-exposed / sand finish surfaces. **CSE[®] „multitop“** is available in 11 different exposure depth types - see page 2.

Characteristics:

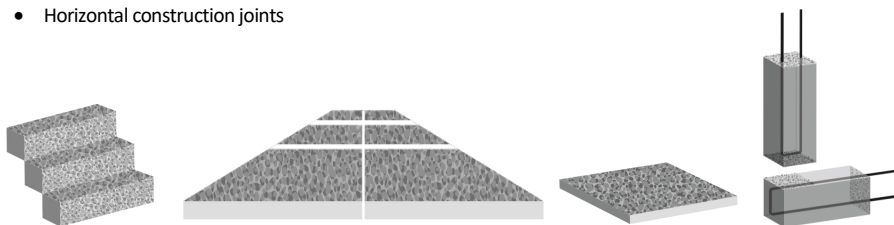
- water-based
- film-forming after drying
- contains curing membrane agent
- contains best and approved active ingredients
- based on CSE[®]-Deactivator technology
- chemically engineered formulation
- **NEW:** with „mino“- effect
- available in 11 different exposure depth types
- colour-coded / pigment added
- **NEW:** with special „weekend“-ingredient
- **NEW:** viscosity control
- **NEW:** now with water-hold back buffer

Benefits:

- eco-friendly and non-hazardous
- protects against rain and resulting surface damage
- slows down the dry-out and supports a uniform hydration
- works with all kinds of concrete and cements
- for reliable performance, regardless of consumption rate
- for easy application and low consumption
- for highest reliability when making micro-exposed / sand-finish surfaces
- all architectural or functional options possible
- for good visibility of coat after application
- for „later“ wash-out (pilot test necessary)
- for best spray-application performance
- for fast and easy wash-out

Fields of Application:

- Small zero-slump precast, for example steps, curbstones ...
- Extruded (hollow-core) wall panels
- Cast-in-place concrete floors/paving
- Horizontal construction joints



ENQUIRY

Click here for pictures showing examples of exposed aggregate concrete in our [Gallery](#).



Available Versions:	Version „pro“ for negative and positive application, solvent-based, ideal for architectural precast concrete (heavy and small precast) Click here for tech data sheet	Version „nova“ for negative and positive application, water-based, ideal for architectural precast concrete (heavy and small precast) and for construction joints Click here for tech data sheet	Version „solotop“ only for positive application, water-based, ideal for small precast and decorative cast-in-place paving Click here for tech data sheet	Version „multitop“ only for positive application, with built-in curing membrane and rain-protection, water-based, ideal for decorative cast-in-place concrete paving
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Exposure depth selection:

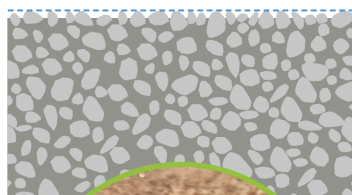
- Usually exposed aggregate concrete mixes have „gapped“ aggregate sizes for best surface uniformity.
- The selection of the exposure depth, the choice of the **CSE® Deactivator** product and the choice and size of the aggregates are connected to each other. The wash out depth should consider to still allow a good bond of the aggregates on the surface. So the reveal of surface should not go deeper than 40% of the aggregates - see table below:
- Advice: HEBAU provides free of charge [concrete mix designs](#) as guidelines for a good concrete mix.

CSE® Deactivator is available in 11 different exposure depth types:

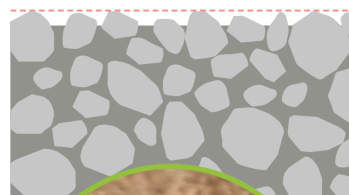
Type:	CSE® mino	CSE® 01	CSE® 02	CSE® 10	CSE® 25	CSE® 50	CSE® 70	CSE® 130	CSE® 200	CSE® 300	CSE® 400
Size of aggregates (in mm)	0 - 4/8	0 - 4/8	2 - 8	2 - 8	4 - 8	6 - 8/12	8 - 16	8 - 16/22	12 - 16/32	16 - 32	16 - 32/54
Exposure depth (in mm)	approx. 0,3	approx. 0,5	approx. 1,0	approx. 1,5	approx. 2,0	approx. 2,5	approx. 3,0	approx. 4,0	approx. 5,0	approx. 6,0	approx. 7,0
Colour code	lilac	blue	brown	green	yellow	pink	grey	white	orange	violet	violet

Please note, that all the information about the exposure depths and recommended **CSE®** types is only a guideline, because the final exposure-depth is not only controlled by the chosen type of **CSE® Deactivator**, but also effected by many other factors, for example by the amount of cement and sand, by the type of cement (grey/white, fast setting/slow setting), from the water-cement-ratio, by the demoulding period (e.g. by weekend production), etc.

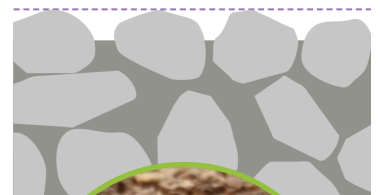
■ Exposure depth approx. 1,5 mm



■ Exposure depth approx. 3 mm



■ Exposure depth approx. 6 mm



Click here for pictures showing more examples of exposed aggregate concrete in our [Gallery](#)

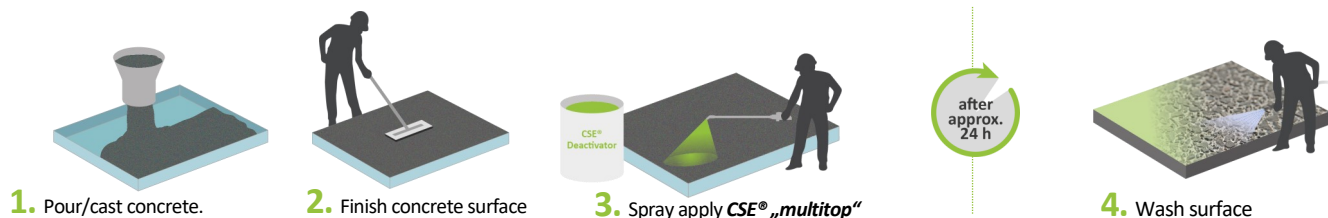
Instructions for Use:

CSE® Deactivators are liquid products and must be stirred up thoroughly before use. Close the bucket/container tightly right away after taking out material.

The **CSE® „multitop“** should be sprayed onto the fresh concrete surface, taking care to cover the surface thoroughly and evenly. The concrete surface must be smooth, free of excess surface water (bleeding water) and should be especially free of any segregations. The drying time of the **CSE® „multitop“** depends on the outside temperatures and the consumption of the material and may vary between 30 and 60 minutes. After that drying time the film-forming protection against rain is widely established.

For mino- und micro-exposure depth applications — use of **CSE® „multitop“** exposure depth types „mino“ & „01“: Please consider an application and coverage rate that covers the concrete surface well. You may spray the surface generously so that the colour code of the **CSE® „multitop“** shows clearly and evenly.

Positive / top-surface application method of CSE® „multitop“ (simplified example of the production of exposed aggregate concrete - [click here for more detailed guidelines of application procedures](#))



more instructions for „Wash-out“, „General Instructions“ - see page 3

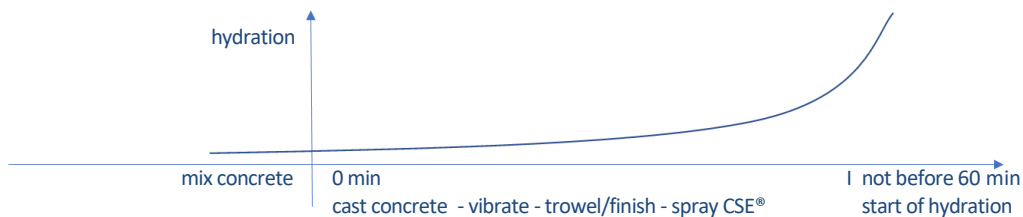
Instructions for use (continued):

Wash out:

The wash-out of the exposed aggregate surface normally takes place within 24 hours, resp. when the concrete has reached demoulding stability. However for weekend production it can also be carried out after 48 or 72 hours, but this must be tested in pilot trials. It is very important to keep the same washing-rhythm when producing a coherent series of elements. The washing-rhythm may have to be adjusted if the outside temperatures change considerably. The most efficient way of washing the panels is with a high-pressure water-jet. If the **CSE® Deactivator** is applied appropriately and skilfully (thin coating), no traces of the active ingredients of the **CSE® Deactivator** should be found in the wash-off water, as the active ingredients are used up during the reaction with the concrete.

In general:

The choice of the right type of the **CSE® Deactivator** for each individual case should be made through trials, i.e. the test samples should be produced according to the exact production reality regarding the concrete mix design, production course and time, thickness of the concrete panel and the resulting setting temperature. The concrete mix design and consistency and the casting/pouring technique must rule out the possibility of segregations and of the concrete setting too quickly. The initial setting of the concrete should not start earlier than 60 minutes after the concrete has been poured, finished and sprayed.



All positive data determined in the trials, including the optimal finishing technique, should be transferred to the production process as exactly as possible. Deliberate or accidental changes to the optimal defined production process can be compensated for by using a different type of **CSE® Deactivator**, or by changing the mix design or course of production. Running tests in just small sample sizes can be misleading, so a full size mock-up is recommended.



Feel free to contact the HEBAU technical support team before you start a project.

Colour coding: We have added a colour pigment to the **CSE® Deactivator** to enable a clearer distinction between the different exposure depths types and to simplify re-ordering. The pigment has **no** functional characteristic or effect. The colour is also used to visualise the amount applied and thus to avoid over- and under-application.

How to clean tools: Please use water or water based cleaning agents to clean sprayers and other tools from **CSE® „multitop“**. Do not use solvent based cleaners.

Accessories and support products:

- HEBAU Multi-Sprayer for **CSE® „multitop“**

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Usual precautions and actions 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.

See an overview and the Legal Notice on page 4.



Consumption:

For standard exposure depth applications: Depending on the configuration of the spraying device and manual application rate,

1 kg for approx. 7 - 15 sqm.

For „mino“ and „micro“ exposure depth applications:

1 kg for approx. 5 - 7,5 sqm.

Packaging:

18 kg buckets, 30 buckets / pallet
optional 120 kg drum, 1000 kg IBC

Storage:

Store inside, in a suitable warehouse (not outdoors) at +5°C and +25°C.

Store dry, protect against frost and avoid exposure to direct sunlight.

Attention: Storing and using the products at construction sites might not represent the specified storage conditions.

If stored under the specified conditions, the product can be stored for approx. 12 months in original, tightly closed container.

If not kept under the specified conditions, or beyond this period of time, the products might nevertheless be good for use, if no deviance from the standard appearance (colour, viscosity, odor, miscibility etc.) is noticed and the performance of the product is tested appropriately prior to use.

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



Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P262 Do not get in eyes, on skin, or on clothing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local regulations.

ENQUIRY

Overview

CSE® Deactivator version "pro"	CSE® Deactivator version "nova"	CSE® Deactivator version "solotop"	CSE® Deactivator version "multitop"	Retarder paper RSE 01, SE	Retarder paper WB (different types)
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Suitable for the following concrete surfaces:

micro exposure depth (sand finish)	✓	✓	✓	✓	-
light, medium and deep exposure depths	✓	✓	✓	✓	✓
aesthetical / architectural surface	✓	✓	✓	✓	✓
anti-slip surface	✓	✓	✓	✓	✓
high adhesion surface	✓	✓	✓	✓	0

Suitable for the following applications:

horizontal face down poured precast	✓	✓	-	-	✓	✓
vertical mould poured precast	✓	✓	-	-	-	-
vertical mould cast-in-place	✓	0	-	-	-	-
horizontal face-up	✓	✓	✓✓	✓✓	-	-
zero-slump pressed concrete	✓	✓	✓✓	✓✓	0	0
face down pressed tiles	-	-	-	-	✓✓	✓✓
also with HPC, UHPC, SCC, GFRC ...	✓	✓	✓	✓	0	0
in structural concrete engineering to obtain construction joints with "rough" surface texture	✓	✓	0	0	-	-
and for protecting the front surface of bricks when making brick-embedded precast facades	✓	✓	-	-	0	✓

Also recommended:

PCE-based super plasticiser, designed for architectural / decorative concrete	ARCON-Fluid ^{++plus}	Avoids segregations and helps to reduce vibration towards semi-self-compacting or self-levelling concrete.
Integral colour pigments	ICPs	Available as powder, slurry or granulated pigments
Protective coating - option I	COLORFRESH® <i>intensiv</i>	Applicable immediately after wash-out procedure - enhances surface colour and creates a silky sheen.
Protective coating - option II	COLORFRESH® <i>effect</i>	Applicable immediately after wash-out procedure - creates a wet-look finish.
Protective coating - option III	COLORTEC® MAX	Applicable immediately after wash-out procedure - remains invisible/matt finish.

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

Symbol explanation: ✓✓ very suitable/applicable ✓ suitable/applicable 0 partially suitable/applicable - not suitable/applicable

Legal notice:

The technical information herein contained, 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 on page 1-3. 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 mere examples 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.