



PRODUCTS FOR
GOOD-LOOKING
CONCRETE

REACTIVE CONCRETE SURFACE DEACTIVATOR FOR EXPOSED AGGREGATE CONCRETE

CSE[®] DEACTIVATOR





*Would you have recognised it?
Yes, it's exposed aggregate concrete.*

Exposed aggregate concrete – how to reveal real beauty

Although exposed aggregate concrete is already well-known to the producers of concrete surfaces and architects, today exposed aggregate concrete is not only revealing standard river gravel, but also contains and shows quarried natural stone aggregates in multiple colours and sizes, which is why this concrete surface is finding new friends. The advantages are indisputable, also concerning sustainability, as the surface is extremely hard-wearing, anti-slip, visually harmonious and requires no regular follow-up treatment or maintenance measures, as for example by surfaces which have been painted or plastered.

All that you need to create a modern look is to choose a nice aggregate, perhaps white cement instead of grey cement and to do the “exposing job”. Of course today you no longer use so-called retarder pastes, but rather apply modern products like **HEBAU's CSE® Deactivators**, outperforming the retarder pastes technically and functionally to ensure the desired concrete surface result, even under difficult production conditions. Photos of different exposed aggregate concrete surfaces can be found in our [photo gallery](#).

These “deactivators” are liquid, paint-like materials and contain active ingredients, whose primary task is to prevent the hydration of the top layer of the cement paste in a previously defined “exposure depth”, whilst the concrete beyond this “exposure depth” hydrates normally. In this process the **CSE® Deactivator** only reacts with the cement paste of the fresh/green concrete in this particular depth, which leads to a neutralization. That's the whole trick. The deactivated cement paste on the surface is then removed by “washing” with a high-pressure cleaner. The aggregates in the concrete are now exposed and therefore it is referred to as “exposed aggregate concrete” (from an exposure depth of 2 mm) resp. “micro exposed aggregate concrete” (up to an exposure depth of 2 mm).

By the way: No need to be concerned about the chemicals in the products. The active ingredients used are ecologically harmless, even in the “wash-off” water, which is created during the washing of the surface.

Enquiry

Exposed aggregate concrete surfaces have following advantages:

- Appealing visual effect, because a natural stone like look and haptic can be achieved, e.g. by precast concrete wall elements and by cast stone.
- Anti-slip effect because of increased roughness of surface, e.g. good for steps and pavings.
- Long-term maintenance-free surfaces properties, as the surface mainly consists of the durable aggregates and relatively little cement (ratio approx. 80:20)

The **CSE® Deactivators** which are required to produce such concrete surfaces can be applied in 2 different methods. When the deactivator is applied to the mould surface before the concrete is casted (similar to the application of a mould release agent), then this is referred to a so-called negative or face-down application, for example widely used in precast concrete applications. ([Watch negative application on youtube](#))

It is also possible to spray the **CSE® Deactivator** directly onto the fresh concrete, for example after trowelling, as done when using cast-in-place concrete for decorative concrete paving. This is then referred to as the so-called positive or top-surface application. ([Watch top-surface application on youtube](#))

We supply products with corresponding special functions for both methods of application, e.g. with high mould bonding characteristics, important during negative application to withstand abrasion resistance during the pouring and vibrating of the concrete, or with integrated curing and rain protection functions, good during positive application if cast-in-place concrete is poured outside. Details on the types of application can be found in the technical data sheets in our [download center](#).

The selection mainly depends on the concrete mix design and the parameters of concrete production and curing. Our technical consultants provide examples of suitable concrete mix designs ([Rosso-Verona](#) und [Basalt-Black](#)), give advices about the dos and don'ts, offer support during testing with samples, can give seminars to your staff ...

Enquiry

CSE®-exposure depth type	CSE® 005	CSE® 01	CSE® 02	CSE® 10	CSE® 25	CSE® 50	CSE® 70	CSE® 130	CSE® 200	CSE® 300	CSE® 400
Suitable for concrete with following aggregate sizes: (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
Approximate exposure depth: (in mm)	0.3	0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	7.0



*Examples of exposed aggregate concrete surfaces:
Surface characteristics will also depend on choice of cement, aggregates, pigments ...*

In order to achieve the desired exposure depth, **CSE® Deactivator** is available in 4 different versions and each version offers 11 different exposure-depth types.

For both, negative and positive applications:

- **CSE® version “pro”**, solvent-based
- **CSE® version “nova”**, water-based

Only for positive applications:

- **CSE® version “solotop”**, water-based
- **CSE® version “multitop”**, water-based with incorporated curing membrane & rain-protection-function

We also recommend:

<u>CSE® Transform</u>	<i>special mould release agent for easy mould-cleaning. Only available in combination with CSE® Deactivator version “pro”.</i>
<u>CSE® Cleaner</u>	<i>to clean tools, moulds and sprayers ... Only available in combination with CSE® Deactivator version “pro”.</i>
RSE 300	<i>Liquid joint roughening agent for concrete construction joints. For good bonding/adhesion on all types of concrete construction joints.</i>
Sprayer	<i>Special low-pressure sprayer with corrosion-resistant components. For MICROGEL® and CSE® spray applications.</i>

retarder papers

In addition to the liquid deactivators we also offer so-called retarder papers, a special paper coated with deactivating agents. The application of retarder papers can be a good alternative to the liquid deactivators, especially for the production of smaller precast concrete pieces.

Please contact us if you need support for best product selection.

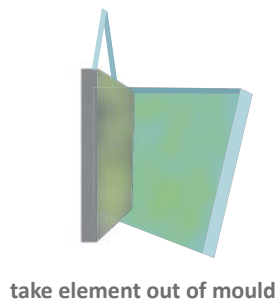
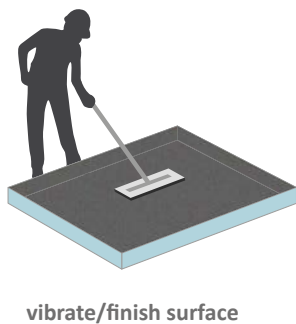
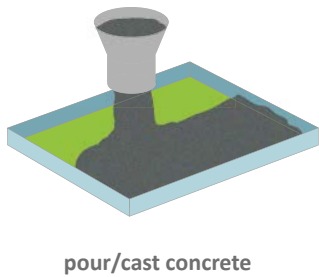


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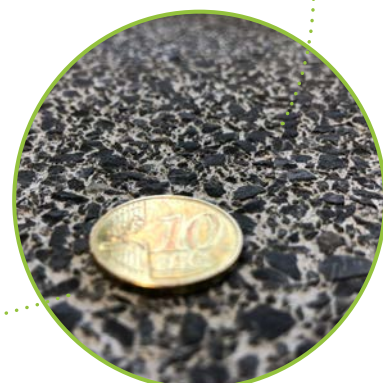
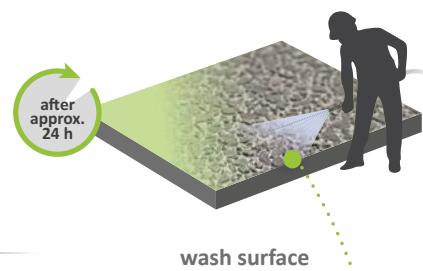
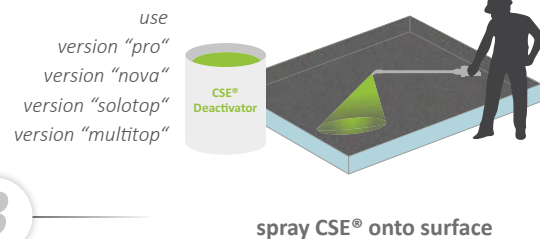
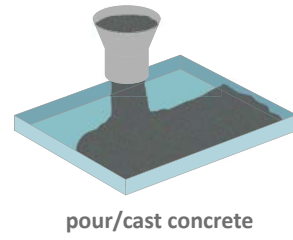


There are two possible ways to apply CSE® Deactivators:

Negative (face down) application



Positive (top surface) application



Products for the production of exposed aggregate concrete surfaces

<u>CSE® Deactivator</u> version "pro"	<u>CSE® Deactivator</u> version "nova"	<u>CSE® Deactivator</u> version "solotop"	<u>CSE® Deactivator</u> version "multitop"	<u>Retarder paper</u> RSE 01, SE	<u>Retarder paper</u> 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	✓	✓	✓	✓	-	○

suitable for the following ways of application:

horizontal face down poured precast	✓	✓	-	-	○	○
vertical mould poured precast	✓	✓	-	-	-	-
vertical mould cast-in-place	✓	○	-	-	-	-
horizontal face-up	✓	✓	✓✓	✓✓	-	-
zero-slump pressed concrete	✓	✓	✓✓	✓✓	○	○
face down pressed tiles	-	-	-	-	✓✓	✓✓

Also recommended:

PCE-based super plasticiser, designed for architectural / decorative concrete	<i>Arcon-Fluid⁺Plus</i>	Avoids segregations and helps to reduce vibration towards semi-self-compacting or self-levelling concrete.
protective coating - option I	<i>COLORFRESH® intensiv</i>	Applicable immediately after wash-out procedure – enhances surface colour and creates a silky sheen.
protective coating - option II	<i>COLORFRESH® effect</i>	Applicable immediately after wash-out procedure – creates a wet-look finish.
protective coating - option III	<i>COLORTEC® MAX</i>	Applicable immediately after wash-out procedure – remains invisible/matt finish

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

Please study our technical data sheets prior to application and always conduct pilot tests under real application and production parameters and a suitable observation time. Status 10/2020, All informations are subject to changes.

