May 2019

Clean air.
Clean surfaces.

photoment®

Photocatalytically active additive for concrete goods

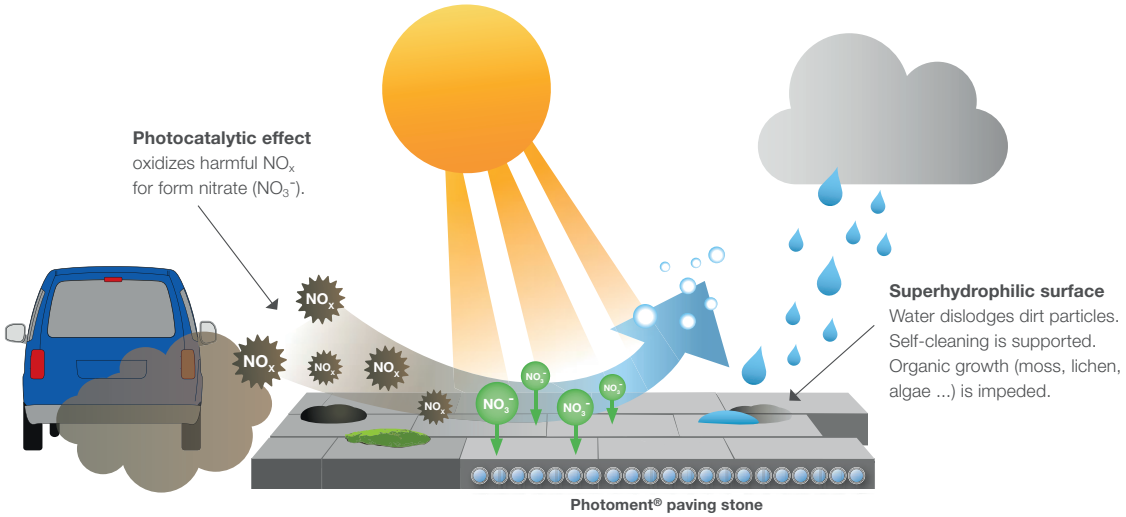
Photoment® is an innovative, photocatalytically active concrete additive. It consists of fine-grained, mainly glassy particles of oxides of silicon, aluminum and iron, and of titanium dioxide (TiO_2), which is also known and widely used as a white pigment e.g. for paints and plastics. When exposed to light, the Photoment® surface causes a photocatalytic reaction to occur. In this reaction, noxious nitrogen oxides (NO_x) are converted to harmless nitrates (NO_3 -). A further advantage of the Photoment® products is their superhydrophilic surface. Rainwater and dew spread out over a large area of that surface and dislodge dirt particles and organic substances, which are then flushed off with the next precipitation. In other words, a product containing Photoment® cleans itself and therefore remains cleaner for longer.*

All the properties of products containing Photoment® are preserved for the entire life of the products. The photocatalyst in Photoment® is not consumed, and consequently the reaction can be repeated any number of times. The special grain structure and the pozzolanic characteristics of Photoment® have a favorable effect on the properties of the concrete. The workability and in particular the compactability of fresh concrete are improved. The requirements of the applicable standards with regard to compressive strength, indirect tensile strength, resistance to abrasion, resistance to frost and deicing salt and color stability are fulfilled when Photoment® is used. This has been demonstrated in combination with the most commonly used cement types. All properties mentioned in the text above also apply to the product Photoment®Eco.

Typical product characteristics

Parameter	Unit	Value Photoment®	Value Photoment®Eco
Grain gross density	kg/cm³	2650	2610
Bulk density (loose)	kg/dm³	0,710–0,750	0,710–0,750
Fineness > 0,045 mm	M.-%	< 40	< 40
d50 (laser granulometry)	µm	3,0–6,0	3,0–6,0
Specific surface area (BET)	m²/g	50 –70	50 –70
Water demand **	M.-%	35–40	35–40
Color	L*	65–80	65–80
	a*	-2,0–2,0	-2,0–2,0
	b*	3–15	3–15
TiO_2-Crystal modification		Anatas	Anatas

** To standard stiffness as per DIN EN 196-3



* The self-cleaning effect is decisively dependent on compliance with the instructions for manufacturing and laying (can be found on **www.photoment.com/mediathek**).

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