

COLORED CONCRETE Powder pigments / pigment slurries



www.rct-germany.de



Powder pigments / pigment slurries

The design of buildings does not describe a fashion trend. It is rather a question of quality of life. Due to its versatility, its flexibility and the almost inexhaustible application possibilities, concrete as a building material is very much in vogue. Therefore, it is impossible to imagine creative and modern architecture without it.

The association of concrete with grey slab construction is no longer up-to-date. By adding pigments, an infinite number of individual designs are possible. There are no limits for your creativity!

Requirements for pigments for the coloration of cementitious building materials

Color pigments added to concrete are exposed to strong natural stresses, e.g. sunlight, weathering and the effects of the highly alkaline environment. The permanent brilliance of the colored concrete element can only be guaranteed if the pigments can withstand these natural stresses.

For the production of our liquid pigment slurries of the RCT COLOR series and the powder pigments of the RCT FEROX series, high-quality inorganic pigments are used.







The inherent color of the cement

There is a wide range of color nuances and shades between white and grey cements. Naturally, a white cement accepts the colors better and makes them appear more vivid than a grey one. Especially light colors, e.g. green, yellow or blue, can be displayed more intensively with white cement. For dark shades of black, brown or red, it does not matter whether you use grey or white cement.

The quantity of the dosage

The color pigments are dosed as a percentage of the cement content. If the cement content increases, the absolute amount of pigments increases as well. This has a positive effect on the color strength.

The higher the dosage of the pigments, the more the color intensity increases. However, once a certain amount has been reached, saturation is reached and no further change in color depth occurs. The dosage refers to the binding agent content.

The water-cement value

The evaporation rate in the hardened concrete is determined by the amount of free water not needed for hydration of the cement. The quantity and size of the cavities created by the reaction influences the refraction of the light. That means: the brightness of the concrete increases with a higher water-cement value.



The color of the aggregate

Usually, the grain is completely surrounded and encased by the cement paste. By weathering or mechanical influences, the grain structure is often exposed on the surface. Deliberately applied techniques of surface design, such as acidification, lead to contrasting results.

The storage conditions

The temperatures prevailing during the hydration phase of the young concrete influence the reaction products of the hardened cement paste. Storage in a warm curing chamber leads to significantly smaller cement crystals than the storage outdoors at lower temperatures. The size of the crystals determines the refraction of the light and consequently the appearance of the color.

Lime efflorescence in concrete is a natural phenomenon. It occurs very often at the beginning of the hydration process. It does not represent a defect in the concrete color. The white calcium carbonate that is deposited on the surface can be seen better on a colored concrete surface than on a grey or white concrete product, for example. The efflorescence can be removed with simple measures. And – in some cases – the efflorescence can also decreases again due to weathering influences.

Color charts

Of course, the following color charts can give only a rough overview.

Preliminary tests to determine the right dosage are absolutely necessary.

RCT COLOR

Liquid Pigment Slurries



GS Grey concrete White concrete 1. 1. RCT COLOR **RCT COLOR** G-21 4% 6% 4% 6% G-552 4% 6% 4% 6% 0-60 4% 6% 4% 6% S-50 4% 6% 4% 6% 4%

S-80 4% 6% 6%

S C GR W BL



RCT FEROX

9360 3%

5%

3%

5%

Powder pigments, granules

White concrete		Gr	Grey concrete		White concrete		G	Grey concrete	
RCT FEROX		RCT	RCT FEROX			RCT FEROX		RCT FEROX	
								Cementa – gris os	
9110	3%	5%	3%	5%	9420	3%	5%	3%	5%
					Please n can vary dark gre By chang cement deviation cement of the co	ote that grey from light gre y. ging the type or the cement ns in the color can change the bloring.	cements ey to of supplier, of the ie result		
9120	3%	5%	3%	5%	9420	3%	5%	3%	5%
9130	3%	5%	3%	5%	9610	3%	5%	3%	5%
9330	3%	5%	3%	5%	9663	3%	5%	3%	5%



TECHNICAL FEATURES

Pipe Density

Product

Pipe Density kg / dm³

RCT COLOR R-10	1,80 ± 0,05
RCT COLOR R-20	1,80 ± 0,05
RCT COLOR R-30	1,90 ± 0,05
RCT COLOR B-05	1,78 ± 0,05
RCT COLOR B-610	1,85 ± 0,05
RCT COLOR B-32	1,81 ± 0,05
RCT COLOR B-55	1,78 ± 0,05
RCT COLOR B-63	1,81 ± 0,05
RCT COLOR B-86	1,75 ± 0,05
RCT COLOR G-21	1,50 ± 0,05
RCT COLOR G-552	1,67 ± 0,05
RCT COLOR O-60	1,61 ± 0,05
RCT COLOR S-50	1,45 ± 0,05
RCT COLOR S-80	1,40 ± 0,05
RCT COLOR S-95	1,30 ± 0,05
RCT COLOR GR-35	1,90 ± 0,05
RCT COLOR W-800	1,60 ± 0,05
RCT COLOR BL-95	1,60 ± 0,05
RCT FEROX 9110*	ca. 5,0
RCT FEROX 9120*	ca. 5,0
RCT FEROX 9130*	ca. 5,0
RCT FEROX 9330*	ca. 4,6
RCT FEROX 9360*	ca. 4,6
RCT FEROX 9772*	ca. 4,0
RCT FEROX 9420*	ca. 4,1
RCT FEROX 9610*	ca. 4,7
RCT FEROX 9663*	ca. 4,8
RCT FEROX 9960*	ca. 4,3
BL 9500	ca. 4,5
GR 9800	ca. 5,2
Titandioxid	ca. 4,2

* tested according to CE: EN 12878



RCT develops, produces and distributes high quality chemical construction admixtures for the professional concrete and precast industry. Continuous research and development, innovative production processes and many years of experience in the concrete industry – that is the basis for our success.

Our performance is underlined by flexibility, competent advise on site by our field service and our worldwide partners, application support and a complete product range.

Products

- Fiber technology
- Concrete admixtures
- Pigments and liquid colors
- Concrete release agents
- Mixer protection
- Special products

RCT Reisacher Chemie & Technik

Hermann-Krum-Straße 7 88319 Aitrach Germany Phone +49 (0) 7565 942 687 – 0 Fax +49 (0) 7565 942 687 – 90

info@rct-germany.de www.rct-germany.de