

Inorganic pigments from LANXESS for colored concrete safety barriers

Pilot project makes roads safer and more attractive

Cologne – For the first time, colored concrete safety barriers are ensuring safety on German roads – and enhancing their visual appeal, too. Instead of drab gray, three sections in green, ocher, red and yellow blend perfectly into the Baden-Wuerttemberg landscape. The liquid colors used for coloring the cast-in-situ concrete are based on the weather-stable inorganic pigments from specialty chemicals company LANXESS.

The K 1060 in the Böblingen region of Germany connects the town of Renningen and its industrial areas to the general road network. Part of the regional road redevelopment agreed in November 2014 required providing protective measures at various points. Tenders were invited for cast-in-situ concrete walls with the option of coloring these. “The companies commissioned agreed on colored cast-in-situ concrete as the most sustainable solution to ensure the desired color effect would not be impaired by unavoidable damage. The idea of using different colors for individual sections was also developed to make them blend into the surroundings more effectively,” said graduate engineer Andreas Klein, head of the highways department responsible at Böblingen district council, adding: “Gray concrete walls are also monotonous. Color, on the other hand, breaks things up, can be easily adapted to the surroundings, attracts attention and truly raises spirits!”

The three sections of the pilot project have a total length of around half a kilometer. The area that has been integrated into a landscaped embankment to support a cycle path is colored with green Colortherm chromium oxide pigments. Orange Bayferrox iron oxide pigments were used for the opposite side of the road, with the color matched to

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the stone wall behind and creating a contrast to the abutment of a bridge.

A red shade was selected by Renningen council for the section in front of the public works department that the employees of the civil engineering office look out on. The start and finish of this section of the concrete safety barrier were produced in yellow to enhance visibility. "This aids safety and also looks really stylish," said Klein, "and the color transitions are perfect."

The construction company that carried out the work was Dortmund-based VSB Infra GmbH & Co. KG, a national service provider for traffic areas and protective systems made of concrete. The company's slipform paver used in Renningen applied concrete at a steady rate of 1.5 meters a minute. The colored ready-mixed concrete for continuous casting was supplied to the site by TBR Frischbeton Stuttgart GmbH. The liquid colors used were manufactured by Harold Scholz GmbH & Co. KG, Recklinghausen, using Bayferrox and Colortherm pigments.

A total of 180 cubic meters of concrete were used for the pilot project. A truck mixer load of approximately eight cubic meters was sufficient for 20 to 25 meters of concrete safety barrier. Kay Petersen, Managing Director of VSB Infra, could also well imagine slipform gutters and curbs made of colored cast-in-situ concrete as a design element for city centers. "This makes no difference to our slipform paver. Cleaning is only necessary for a planned abrupt color change. It is not required for a gradual color transition," he added.

Michael Averdick, application engineer in the Inorganic Pigments business unit at LANXESS, would welcome more color in road design: "We see significant market potential in this area. Towns and cities and local authorities could put colored curbs directly out to tender for parking zones and hazardous areas. After all, unlike classic paint, colored concrete does not require any maintenance."

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Colored exposed concrete sections made of cast-in-situ concrete create a visual impact and can separate different areas such as bus lanes, crossings and cycle paths clearly and durably, thus boosting safety. The design possibilities are virtually limitless – the environmentally safe Bayferrox and Colortherm inorganic color pigments from LANXESS are available in red, yellow, green, brown and black. A total of more than 100 different shades are available for a wide range of application areas. The pigments are cement- and alkali-resistant and completely weather- and light-stable. Detailed information can be found on the internet at www.bayferrox.com.

LANXESS is a leading specialty chemicals company with sales of EUR 8.3 billion in 2013 and about 16,700 employees in 29 countries. The company is currently represented at 52 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals. LANXESS is a member of the leading sustainability indices Dow Jones Sustainability Index (DJSI World and DJSI Europe) and FTSE4Good.

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