ON

LANXESS
Energizing Chemistry

BAYFERROX®
color for life.

TRACK

Color

Contents

Nature and man have filled the world with color. Trails, roads and plazas open up to us a wide variety of urban and natural landscapes.

Gone are the days when the ground beneath our feet and wheels was restricted to gray-in-gray; modern urban and landscape design has long used color as a design element. Colored asphaltic concrete and mastic asphalt guide traffic, show the way, designate zones and decorate plazas. In soft or strong tones, matched to the ambience of the surroundings – with colors that fit our lives.

shows the way

Worlds of color

The foundations for our market success as the world's leading manufacturer of inorganic pigments can be found in our 80 years of experience. We constantly orient ourselves on the most stringent market requirements, thus driving us to continuously build upon our know-how advantage. Our quality pigments are backed by a complete service package, from total quality management to individual consultation on applications.

Our customers can choose from a broad palette of pigments for the coloration of bituminous mixtures as the raw materials for asphaltic concrete and mastic asphalt. Our range of lightfast, weather-stable pigment grades with high tinting strength guarantee long-lasting colors in any field of application.

Parking lot in Nimes. Attractive interplay of color, light and shadow.

Color brings joy to life

Color pigments

Inorganic pigments such as iron oxide red, chrome oxide or mixed phase pigments are ideally suited for the coloration of bituminous mixtures. With its broad color palette, LANXESS also offers the greatest possible design freedom, with the color being influenced solely by the bitumen used.

Dark standard bitumens are most commonly colored red using heat stable iron oxide red pigments with high tinting strength. Alternatives to the familiar red shades can be created using heat stable chrome oxide green or zinc ferrite yellow.

By using light-colored specialty bitumens, the color spectrum can be extended to even include white surfaces. Most manufacturers today offer these grades of bitumen. In addition to the pigments already mentioned, iron oxide yellow, brown and black can also be used with light bitumen. However, certain restrictions pertaining to heat stability must be observed at mixing temperatures above 160 – 180 °C, which occur in the production of mastic asphalt.

Pedestrian zone in Marseilles. Gently curving shapes of light colors.

Playground in Seoul. Colors designate safe environments.

Road with bus lane in Seoul. Colors help ensure safe connections.

Marketplace in Ales. Open space and meeting point with South-of-France charm.

Colors are nature’s smile

Color selection

Yellow asphalt trail through the Camarque. Color in harmony with nature.

The coloration of bituminous mixtures

The most important inorganic pigments from LANXESS Deutschland GmbH for the coloration of asphaltic concrete and mastic asphalt

Bitumen grade	Shade	Recommended pigment grades	Recommended pigment concentration (%)
Standard bitumen	Red	Bayferrox® 130	3 – 4
	Yellow	–	–
	Brown	–	–
	Green	–	–
Light-colored specialty bitumen	Red	Bayferrox® 130	1 – 2
	Yellow	Bayferrox® 3950	1 – 2
	Brown	Bayferrox® 645 T	1 – 2
	Green	Chrome Oxide Green GN	1 – 2

Left: “Forum” exhibition and cultural center in Barcelona. Color lends character to open spaces.

Right: State Garden Show 2005 in Leverkusen: On colored trails through a world of fascination.

Adding color

An important question, especially in the face of the larger quantities of iron oxide red used, is how to most easily add the pigments to the mixture. Two different plant types are used depending on the requirements.

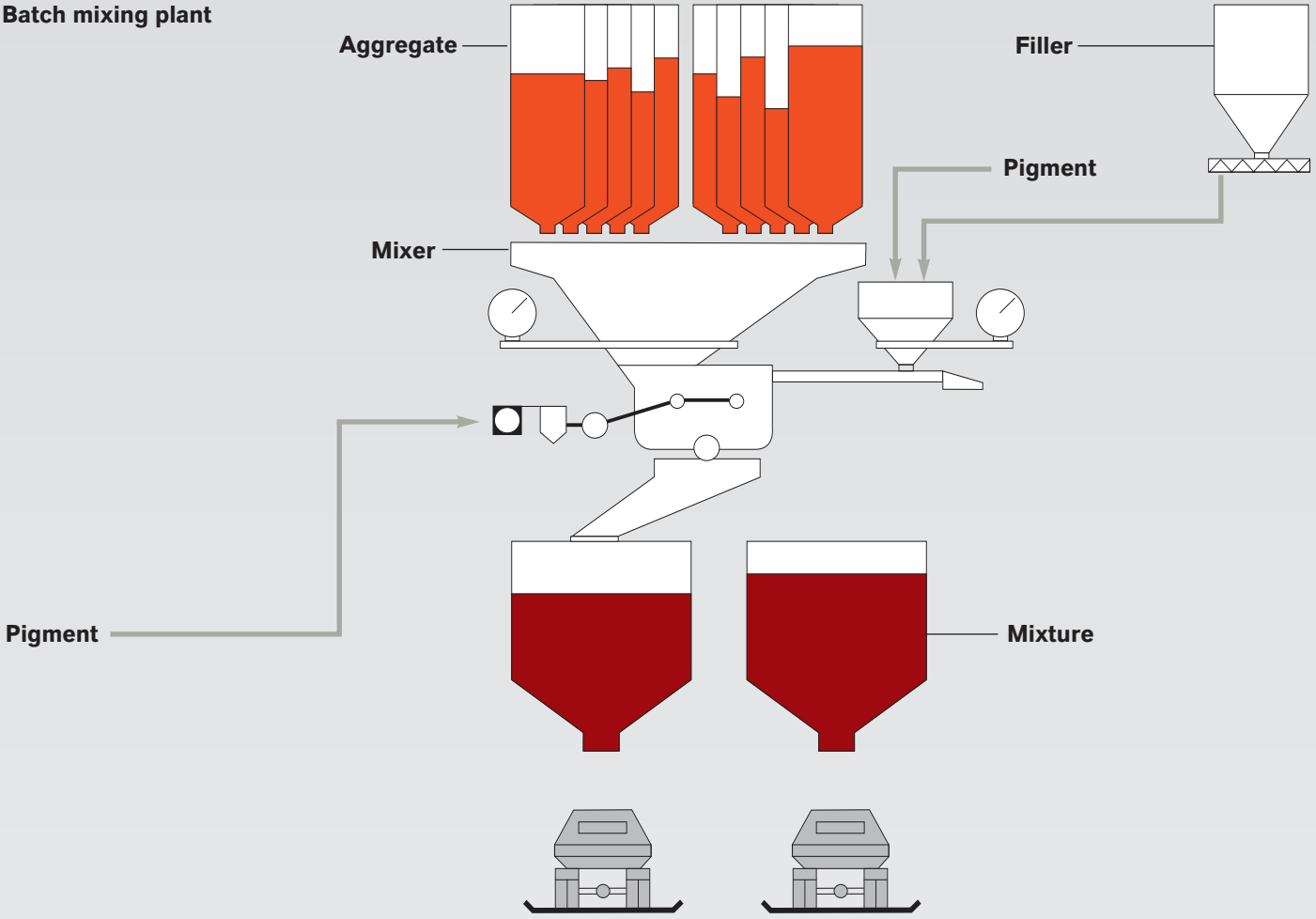
Batch mixing plant

Here the pigment is often added by hand. Because they dissolve completely at 130 –140 °C, the 20 or 25 kg polyethylene sacks do not even have to be opened. This prevents the formation of dust and allows the easy addition to the mixture via a slide or a hatch. Mixing time is only 60 – 90 seconds. To prevent the pigment from clumping, it should be added during a premix phase 10 –15 seconds before the bitumen is sprayed in.

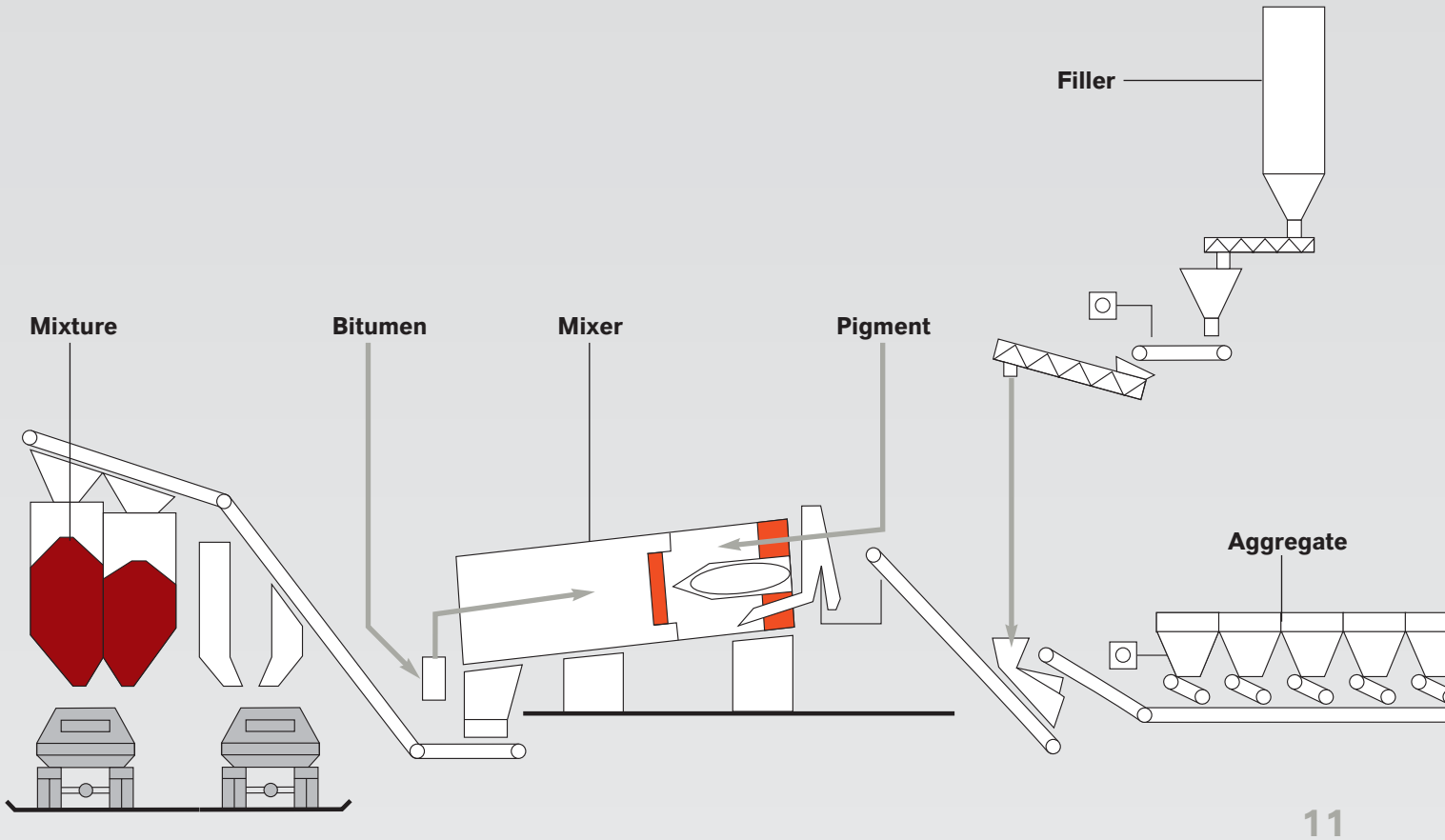
Continuous mixing plant

It is not generally possible to add the pigment by hand, as these plants do not normally have a sufficiently large fill opening. And with capacities of roughly 400 t/h, significant manual effort would be required with plants of this type. The problem can be solved by installing a metering unit for the addition of the pigment, however.

Batch mixing plant



Continuous mixing plant



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