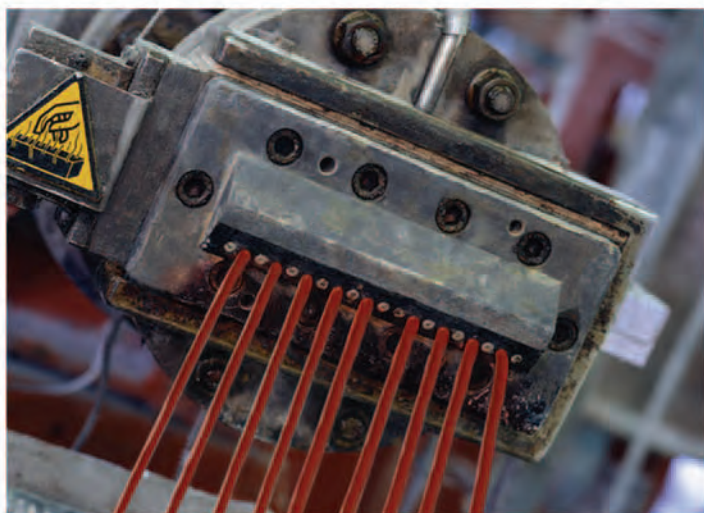




VENTRACO CHEMIE B.V.

Additives and Pigments for Asphalt



FERROXON
COLORFALT
RHEOFALT



Ventraco Chemie B.V.

Ventraco Chemie B.V. has been specialized in colouring asphalt since 1991. The last 10 years Ventraco has changed from a distributor of powder pigments into a company specialized in additives for the asphalt industry.

In this brochure you find an outline of our products.

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FLOMAC Dosing System



FERROXON

Ferroxon Powderpigment

Product: Ferroxon powderpigments are mineral pigments which can be ordered in different colours and packaging.

Colourtypes:

Ferroxon iron oxide red nr.130S, 410, 430, 435 en 422

Ferroxon iron oxide yellow nr.510 en 920

Ferroxon iron oxide orange nr.560

Ferroxon titanium dioxide white nr.145

Ferroxon chromium oxide green nr.750

Ferroxon cobaltblue nr.800 or cementblue nr. 820

Other colours, such as brown or black, can be ordered on request.

Packaging: bulk deliveries, big bags and 25kg low melting plastic bags.

Any other small packaging in PE bags can be ordered on request.



Ferroxon iron oxide red nr. 130SLG

Product: this is an iron oxide red pigment that has been grinded more coarsely, which makes it possible for bulk deliveries to be blown into the silotank more easily than our other standard powderpigments.

This pigment has especially been developed for our clients who use bulk(powder).

Delivery: in silotruck or in big bags of 1 ton netto.

FERROXON

Ferroxon Iron oxide Red Nr. 130G

Product: this iron oxide pigment has especially been developed for our customers who make use of automatic dosing systems. The difference with our 410AG low dust is that the grain of the 130G is much stronger. This makes it possible to transport the pigment over a longer distance with air, without causing any damage to the pigment/granule.

This type of pigment has especially been developed for the asphalt industry and contains a small amount of polymer.

Delivery: in silotruck or in big bags of 1 ton netto.



Ferroxon Low Dust Red nr.410AG

Product: Ferroxon Low Dust Red nr. 410AG is an iron oxide red with a low percentage of dust. This makes it easy to transport with air.

Delivery: in silotruck or in big bags of 1 ton netto.

COLORFALT

Colorfalt History

The first iron oxide pellets based on hydrogenated fatty acids date from the nineties. These pigment pellets could only be used for limited applications and the mechanical qualities were not very good. It was technically impossible to apply a higher dosage than 1%. Therefore this product could only be used together with clear binder.

1995 adaptations of the carrier to a low-melting polyethylene.

It is now possible to produce coloured asphalt together with black binder. The disadvantage of the PE carrier however, was that despite the low melting point, the pellets had to be melted at a higher temperature and needed a longer mixing time.



1999 a new production line has been set up and we are now able to produce Colorfalt Premium pellets. These pellets have an EVA carrier and a much more universal character. Now it is also possible to colour modified binder with the Colorfalt pellets. An advantage of the use of EVA is that it increases the stability of the asphalt. The premium quality is easy to mix and has a high colour strength compared to the pellets which had PE as a basis. The melting point of the carrier is now below 90°C.

2005 the production line for the other colours has been set up and is ready to be used.

Colorfalt is now available in red, blue, green, yellow and white. Colorfalt V Red is still the colour which is used the most, both in The Netherlands and abroad.

2006 the production capacity in Roermond had been doubled and the production line of the Colorfalt Clear Binder has been set up.

2007 Colorfalt has now become a complete system containing both colour pellets and clear binder pellets. This offers many advantages for the asphalt producers in the Netherlands, but especially abroad. It is no longer necessary to transport and store fluid binder. This also counts for the pigment which can now be transported and stored without any pollution to the environment.

COLORFALT

Colorfalt Facts

Did you know that:

- The need for iron oxide pellets which are easy to handle came from the asphalt producers themselves.
- Colorfalt was the first company introducing a 100% dustfree pellet.
- Colorfalt is being sold in more than 10 European countries.
- Colorfalt is the only producer of longlasting organic colours for the road industry. (clear blue and green etc.)
- More than 400.000 tons of red asphalt has been produced since the introduction of the Colorfalt pellets.
- Colorfalt is a 100% Dutch product, developed and produced in Holland.
- Colorfalt has a higher colour strength and the pigment is also better embedded in the bitumen. Because of this the pigment will not so easily be washed out.
- Ventraco is the only company who will not only sell the pigment pellet to their customers but also gives technical support to the asphalt industry.
- When applicated together with modified clear bitumen, for a higher road classification, it is not necessary to use modified bitumen.



COLORFALT

Colorfalt Information

Colorfalt pellets are used for high-quality colouring of asphalt. We have made an outline of all the advantages of this product.

Colorfalt.....

Is absolutely dust-free

Not low-dust, but no-dust! Which means: no more powder or dust in your asphalt mixing plant, on your factory site or on your clothing.

Can be dosed automatically

Since Colorfalt can be dosed automatically, you will no longer need to hire any extra personnel for producing coloured asphalt: this can save you significant amounts of labour costs. Moreover, the production of small quantities of coloured asphalt no longer needs to be a problem, which means that you can produce coloured asphalt at any time without needing extra people.

Has a high colour intensity

Colorfalt has higher colour intensity than comparable powder pigments. The reason for this is that the pellet disperses more quickly than powder. Thus, you can reduce the pigment level to obtain a comparable level of colour intensity as with other products. The optimum for your asphalt plant can best be established in practice, but as a rule of thumb we advise:

- With clear bitumen, 1.5% FERROXON powder pigment and 1% COLORFALT colour pellets

- With black bitumen, 5% FERROXON powder pigment and 3% COLORFALT colour pellets.

Guarantees a premium quality asphalt

Colorfalt does not only guarantee intense colouring, but also ensures that the quality of the asphalt increases considerably compared to asphalt produced with conventional powder pigment. In view of the importance of delivering high-quality asphalt, even if regulations do not require modified asphalt, this is a huge advantage.

Moreover, coloured asphalt is increasingly used in critical applications such as bus lanes, cross roads, and roads made with a streetprint.

Can be supplied in various packages

Colorfalt can be ordered in PE bags of 10kg or 25kg and in big bags of 1 ton.



COLORFALT

Colorfalt V Red Pigment

Designed specifically for use in the coloured asphalt market, Colorfalt V Red is a new granulated product from Ventraco Chemie that offers a non-dusting, free-flowing pigment that disperses rapidly in bitumen and resin systems, to give excellent color development.



Utilizing a low-melt EVA carrier, Colorfalt V Red is manufactured using premium grade synthetic iron oxide. By maximizing the iron oxide content in the granule, Colorfalt V Red offers excellent light and weather fastness, and an environmentally friendly alternative to more traditional asphalt coloring systems.

Typical Properties	
Pigment	Red Iron Oxide
Pigment content	Ca. 80 %
Carrier	E.V.A.
Granule shape	Cylindrical
Granule size (average)	3mm x 1mm
Melting point	90 – 120 °C

Characteristics	Colorfalt V Red
Light Fastness (1% dosage measured on the Blue Wool Scale, DIN 53387-2-E; 500 hours)	8
Weather Fastness (1% dosage measured on the ISO Grey Scale, DIN 53387-1A-X; 3,000 hours)	4-5
Heat Resistance (1% dosage with a residence time of 5 min.)	300 °C (DPA – 003)

Application:

Due to the nature of the polymer used in Colorfalt V Red, the granule will become a modified asphalt, and it should be regarded as such. The mix time for the asphalt mix may have to be extended by a few seconds to allow full granule melt, depending on the type of asphalt mixer, the quantity of granule added, and the coarseness of the asphalt mix.

COLORFALT

Colorfalt Design Colours

Our Colorfalt Design collection contains two different colour lines: the V series and the W series.

All our Colorfalt Design colours are pellets especially made for colouring asphalt, easy to use and clean in production.

All Colorfalt Design colours will not only colour the asphalt but also give the asphalt extra strength and stability and a denser top surface.

All Colorfalt Design colours have a better colour strength, leading to considerable lower dosage!

On the long term the best result is accomplished by the combination of Colorfalt pellets with aggregates of the same (or nearly the same) colour.

- V series (inorganic based)
- **V White** a titanium dioxide based colour pellet (V-white is also used for mixing and blending in combination with other colours)
- **V Yellow** an iron oxide based colour pellet (limited heat resistance)
- **V Green** a chromium oxide based colour pellet
- W series (organic based)
- **W Blue** a very powerful colour pellet composed of three different pigments
- **W Green** a very powerful colour pellet, leading to a bright colour
- **W Yellow** an organic based pigment, absolutely heat resistant
- **W Red** organic based pigment, brighter than the standard Colorfalt V red
- **W Violet** organic based pellet, offering a very unique bright colour shade

On request we can make any shade of colour to your wish (provided the requested quantities are substantial enough).



COLORFALT

Colorfalt Clear Binder Pellets

The Clear Binder was developed due to many requests from the road industry in Holland and abroad. Many parties were interested in these clear bitumen which was not fluid and could also be stored in a solid form. Several producers of clear bitumen had tried to find solutions for this, however not all trials were successful. Not one party was able to produce the bitumen in a pellet form.

Ventraco is the only party who has been able to develop these bitumen as pellets keeping the same advantages of the ordinary clear binder and which can easily be dosed in the same way as the Colorfalt pigment pellets. This makes it possible for the asphalt plants to work with the clear bitumen without having to make any adaptations to their plant. The Colorfalt Clear Binder is not a substitute for the fluid clear bitumen but must be seen as an addition/supplement. Asphalt producers will now be able to use the clear binder without being dependent of the location of the project. This makes it very attractive to use the clear binder.

Why Clear Bitumen?

The colouring of bitumen using clear binder saves 1/3 of the necessary pigment / Colorfalt. Another advantage is that the end result will be a much cleaner and more intense colour. Many of the available liquid clear bitumen show problems with the stability and are therefore delivered in the modified versions.



This is not the case with the Colorfalt Clear Binder, which is only one type of bitumen which can definitely be used for crossings and roundabouts especially in combination with the Colorfalt pellets. The Clear Binder consists of different polymers such as special waxes, these have been added to improve the adhesion on the minerals which means a longer durability of the asphalt.

Colorfalt Clear Binder is added in the mixing tank after the dosage of the minerals. After the pellets have melted the mixture is ready to be used. The Colorfalt pigment pellet can either be added together with the Clear Binder or afterwards. Due to the mixing time we advise to add the Colorfalt pigment pellets shortly after the clear binder pellets have been added.

COLORFALT

Colorfalt Clear Binder

Why Clear Binder in dry pellets?

Logistically there is no difference between the supply of bitumen and other solid additives. This means cheaper transportation.

No high storage costs as no heated bitumen tanks are needed. The Clear Binder can be stored in either silo tanks or bigbags.

No high costs for separate bitumen pipes and dosing systems for fluid bitumen. The pellets can often be dosed through the existing dosingsystem. For smaller quantities it is even possible to dose by hand.

In contrast with the fluid bitumen the Clear Binder can be stored indefinitely. Fluid bitumen degenerate during a certain amount of time and eventually are used in ordinary asphalt due to too long storage time which makes the product no longer usable.

There is only one type of Clear Binder. It is a universal binder offering high stability and one quality. It can be used for all sorts of asphalt, even ZOAB (very open asphalt).

Can be used in every asphalt plant, without any necessary modifications.



RHEOFALT

Rheofalt WKR-2

The WKR types were developed in the late eighties and are actually the result of a large rheological research into the characteristics of standard penetration bitumen. As there was (and still is) little known about the visco-elastic characteristics of bitumen, we started an extended research on bitumen. It soon became clear that the standard bitumen have limited mechanical characteristics. This raised the question if it would be possible to change these characteristics in such a way that sustainable asphalt could be developed.

This project resulted in a few hundred polymer-mixtures with many different properties. The base for all modifications was that it had to be possible to add the modification in a standard batchmixer without no, or just small, adaptations. Next to that an ordinary asfaltteam should be able to work with the modified asphalt with minimal instructions.

Of the many mixtures that had been developed the WKR has been applied the most. In 1991 the first (road) trials were done with this modification. All applications of the WKR have been used at heavy loaded locations. RheoFalt WKR-2 consists of a mixture of EVA's, waxes and anti-oxidants. It is still the only modification that can be added batchwise and is based on a blend of polymers.



Why Rheofalt® WKR-2:

- The perfect modification for asphalt in dry pellets
- Specially designed for asphalt application
- The only modification which contains a blend of polymers
- Low shear and quick dispersion in asphalt mix
- The only modification with the same mixing behavior on laboratory scale and in the plant
- If desired the WKR can be mixed with low shear in the bitumen tank
- Also contains anti-oxidants and adhesion promoters
- Extreme adhesion on the aggregate for better durability
- Automatic and batch dosing is possible
- Can be recycled in ordinary asphalt

RHEOFALT

Rheofalt LT70

This Rheofalt product is the only mono-modification of our productline consisting of FT waxes. These waxes were already frequently used in the asphalt industry. The types used, however, had a meltingpoint of 115°C . This is quite high for a low temperature additive. The application-temperature will then be between the 140 and 110°C. Many people who use the FT waxes compress the asphalt at too low temperatures. This has a very negative effect on the properties of the mixture. By using FT waxes it is possible to lower the process temperature with 30 to 40°C. This means that the processing temperature can be between 140 en 70°C.



Why RheoFalt LT-70:

RHEOFALT® LT70 / additive for low temperature asphalt

- Reduction of asphalt temperature up to 70°C
- Improves workability of the asphalt mix
- Asphalt transportation over longer distances is possible
- 30 to 40 Degrees more workability than other FT waxes
- Improves asphalt stability
- Can be recycled in ordinary asphalt



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