Cool down your paints
Xfast® stir-in pigments for solar heat management
Colors like before – but lower temperatures

Xfast® Black 0095

Intelligent solar heat management

Rising energy costs, pronounced urban heat-island effect and global warming increase the need for intelligent solar heat management solutions like cool paints. Roughly 50% of solar radiation is absorbed at the earth’s surface. Black surfaces usually absorb up to 90% of this energy and therefore get hot. White surfaces, on the other hand, absorb only up to 25% and tend to stay much cooler. But white is not always an option, very often color and especially dark shades are desired or even required. For cool paints, the starting point is always to look at the absorbing components in a formulation.

BASF offers a solution with the stir-in pigment Xfast® Black 0095 to formulate any shade with less absorption and heating up than conventional black pigments.
Cool with Xfast® – the stir-in class

Xfast® stir-in pigments are innovative, environmentally friendly granules that are applied for the coloration of water-based systems like e.g. white or transparent emulsion paints, facade paints, glazes, stains. They have outstanding advantages in terms of application and product features, which increase the efficiency of your production.

Ready-to-use, convenient and efficient

Xfast® is not only convenient and easy to use. Xfast® also replaces your current water-based pigment preparation. And it hardly matters which combination of binders, extenders and additives are used. BASF developers have tested most of these customer systems for their compatibility with Xfast®. It makes your work extremely rapid, very clean and absolutely reliable. This increases the efficiency of your production and cuts your costs.
Total Solar Reflectance (TSR) is the percentage of irradiated energy that is reflected by an object. If this is coated with a film based on Xfast® Black 0095, the TSR is 45%.

Usually objects such as roofs, facades or the interior of cars need to have a certain color. Therefore the pigment choice to achieve the desired color range is limited. To ensure the right color for the cool paint, the pigment or pigment combination with the right NIR properties has to be chosen. BASF can propose the most suitable pigmentation for any given color and substrate to create coolness.
Compared to carbon black (Xfast® Black 0066) or iron oxide black (Xfast® Black 0050) the specially developed black grade Xfast® Black 0095 do not absorb light in the NIR-range. A constant temperature difference of the absorbing and non-absorbing Xfast® grades will be obtained over the whole exposure time.

- Xfast® Black 0095 absorbs in VIS and is reflective in NIR
- TiO₂ reflects in VIS and in NIR, TSR = 85 %
- Carbon black and iron oxide black absorbs in VIS and in NIR, TSR: 4 %
By means of professional colorimetric software, BASF can exactly record and correctly match any desired shades. The Color-Matching-System comprises soft and hardware components that allow for perfect, fully automatic shade matching.

With this impressive robot technology BASF is setting further milestones in the production of coatings with Xfast® in order to support customers with guideline formulations.
Experimental values between heat build-up and color shade

- Film thickness 100 µm, halogen lamp (1000 W), exposure time 6 h

- Experimental values between TSR-value and color shade

- Film thickness 100 µm

Colors:
- Xfast® Black 0066 / Xfast® Black 0050
- Xfast® Black 0095
- TiO₂

- Forest green
- Wedgewood blue
- Burgundy
- Sandstone
- Black
- Dark grey
- Medium grey
- Light grey
- White
Contact worldwide

Asia
BASF Auxiliary Chemicals Co. Ltd.
Asia Technical Center for Coating
300 Jiangxinsha Road, Pudong
200137 Shanghai
China
Tel.: +86 21 3865-2262
Fax: +86 21 3865-2276

Europe
BASF SE
Coating & Plastic Chemicals
E-EVP/PX – J 550
67056 Ludwigshafen
Germany
Tel.: +49 621 60-72321
Fax: +49 621 60-6672321

North America
BASF Corporation
1609 Biddle Avenue
Wyandotte, MI 48192
USA
Tel.: +1 734 324-5278
Fax: +1 734 324-5185

Eastern Europe, Africa, West Asia
BASF SE
Regional Business Management
Coating & Plastic Chemicals
EUM/SE – Europe House
67056 Ludwigshafen
Germany
Tel.: +49 621 60-76429
Fax: +49 621 60-6676429

South America
BASF S.A.
Av. Faria Lima 3600 – 10° andar
Itaim Bibi – São Paulo – SP
04538-132
Brazil
Tel.: +55 11 3043-3680
Fax: +55 11 3043-3134

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests. Neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

® = registered trademark of BASF Group

www.basf.com/pigment