

econfidence[®]
from DyStar[®] ✓

DyStar[®] 

Dianix[®] ECO Black HF

High Performance for Deep Blacks



Features and benefits

Dianix[®] ECO Black HF is the first AOX-free deep black in the Dianix[®] range. With Dianix[®] ECO Black HF, we are able to fulfill the growing demand on ecological requirements of dyes used in textile application and strengthen our commitment to sustainability. The product has good level of wet-fastness and light fastness suitable for exhaust and continuous dyeing. Because of the high color yield and good build-up properties on polyester microfiber and polyester blends it is very cost-effective.

- ✓ First AOX-free Deep Black in the Dianix[®] range
- ✓ Improved reduction stability compared to Blacks based on C.I. Disperse Blue 284
- ✓ Fewer reduction problems while dyeing loose stock, tops & yarn and fabrics on beam dyeing machines
- ✓ Good build-up of deep blacks at 130 °C on polyester microfiber and polyester blends
- ✓ Universal application in exhaust and continuous dyeing with good level of wet fastness
- ✓ Good compatibility with Dianix[®] XF/SF dyes
- ✓ Cost effectiveness through high color yield

Dianix[®] ECO Black HF: Performance and value in blacks



ECO 2

Eco Profile

- ✓ **AOX-free (no halogen components)**
- ✓ No MAK amines generated by reductive cleavage according to EU Directive 2002/61/EEC and German Consumer Goods Ordinance
- ✓ No allergenic disperse dyes according to Oeko-Tex® Standard 100
- ✓ No restricted polychlorinated aromatic compounds above acceptable trace level
- ✓ Heavy metal content well below ETAD® limit value guideline
- ✓ Full compliance with Oeko-Tex® Standard 100
- ✓ Meets all relevant Restricted Substance Lists (RSL)
- ✓ Listed in Dianix® Green Range
- ✓ bluesign® approved
- ✓ Cradle-to-Cradle®

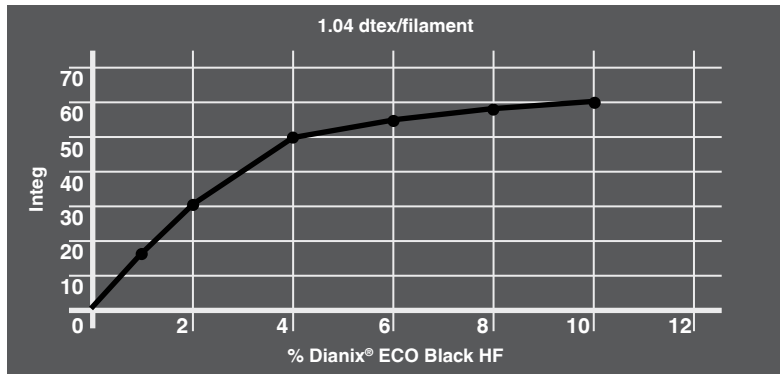


TECH **3**

Technical Profile

2.6%

Build-up on polyester microfiber



Wet fastness - 5.20% Dianix[®] ECO Black HF on Polyester 75D72F

	CA	CO	PA	PES	PAN	WO
Washing adidas [®] 40 °C	4-5	4-5	3-4	3-4	4-5	4-5
Washing Nike [®] 50 °C	4	4-5	4	4	4-5	4-5
Washing M&S 50 °C	4-5	4-5	3-4	4	4-5	4-5
Water severe ISO 105-E01	4-5	4-5	4-5	4-5	4-5	4-5

Sublimation fastness on 75D72F

	Polyester	Cotton
180 °C for 30 s		
210 °C for 30 s		

Reduction stability comparison

0.87% Dianix® ECO Black HF



Control dyeing

1.50% Black based on C.I. Disperse Blue 284

0.125% Sulfhydrate F 150

0.25% Sulfhydrate F 150

**0.25% Sulfhydrate F 150
2 g/l Sera® Con P-NR**

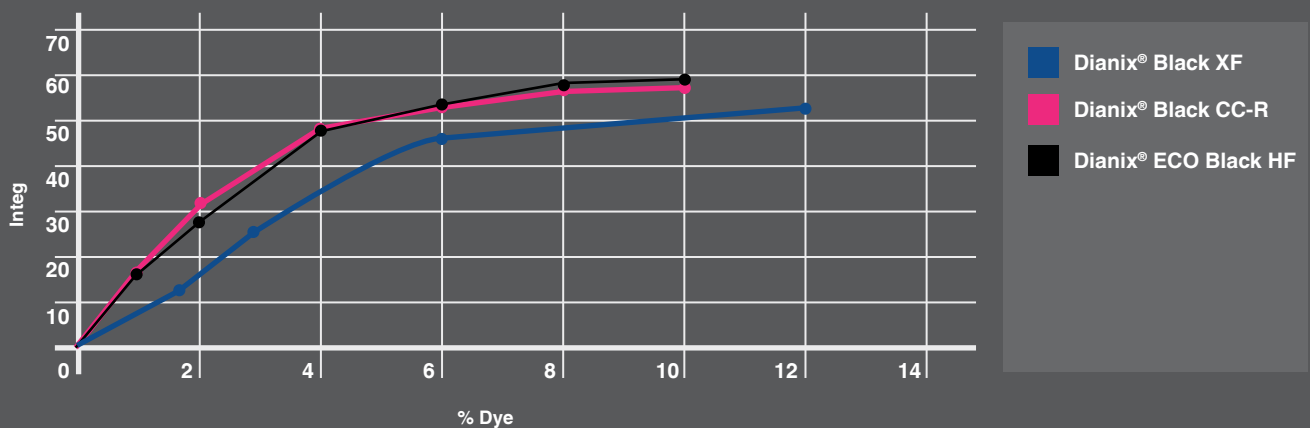
**0.25% Sulfhydrate F 150
5 g/l Sera® Con P-NR**



Control dyeing

Build-up comparison on polyester microfiber

1.04 dtex/filament



Suitability

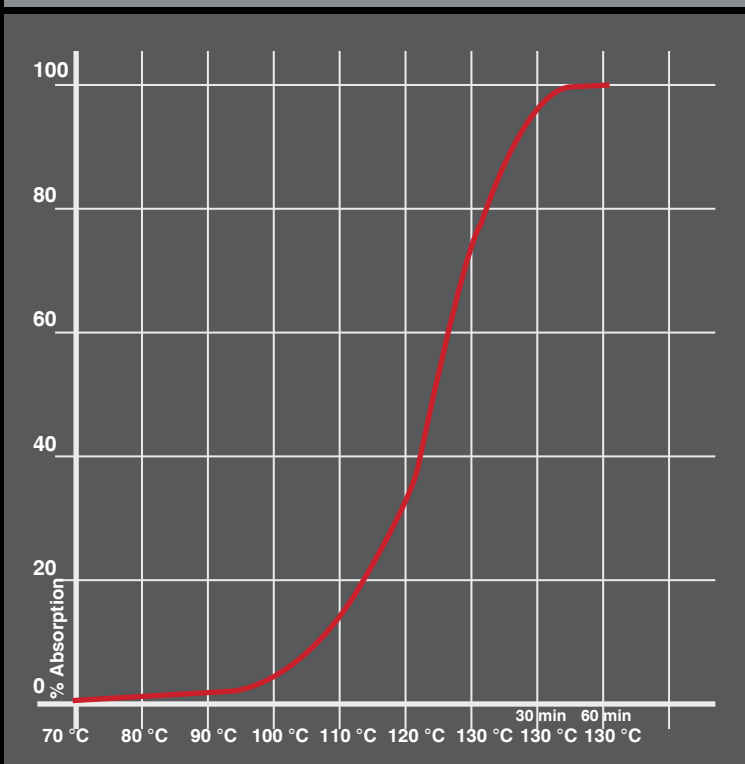
Depth of shade	HT		Carrier	Printing		Discharge Printing			
	Yarn	Piece		HTS	PS	Ground		Illumination	
						alk.	SnCL ₂	alk.	SnCL ₂
Pale	++	++	-	-	-	-	-	-	-
Medium	++	++	-	-	-	-	-	-	-
Dark	++	++	-	-	-	-	-	-	-

Depth of shade	HT (PES/CO)		Continuous (PES/CO)	PES/WO		CA	CTA	PA
	Yarn	Piece		Yarn	Piece			
Pale	++	++	++	-	-	-	-	-
Medium	++	++	++	-	-	-	-	-
Dark	++	++	++	-	-	-	-	-
Temperature			220 °C					

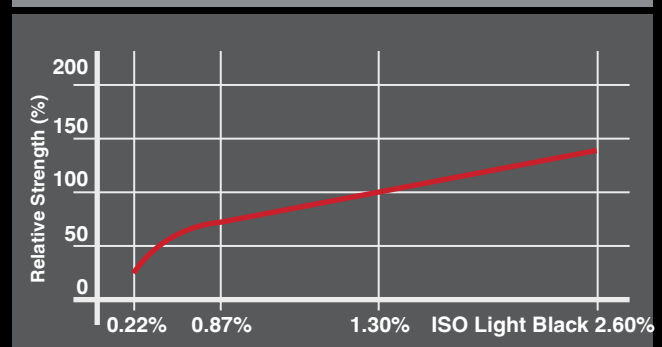
Dye characteristic

Level uptake	3	Artificial light	
Barre coverage	moderate	Tungsten	TL 84
Metal sensitivity Cu/Fe	4 greener / 4 - 5	redder	greener
pH stability	4.0 - 5.0		

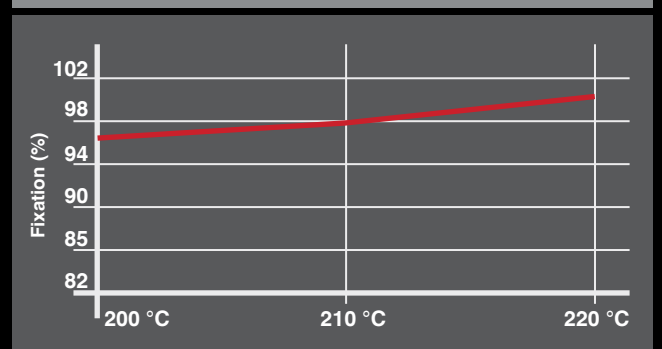
Rate of dyeing curve



Build-up



Temperature dependency (Thermofixation)



All fastness properties of the product were tested only as single product on standard materials and not in combinations/blends.

Dianix® ECO Black HF

Fastness properties on polyester

Black, reduction cleared postset 180 °C / 30 seconds		1/3 SD	1/2 SD	Black
Light fastness (Xenon arc) ISO 105-B02		5	5-6	6
Light fastness (Carbon arc) AATCC 16-2004 Option 3		L4-5	L5	L5-6
Sublimation fastness	30 s 180 °C ISO 105-P01	4-5	4-5	4

Black, reduction cleared postset 180 °C / 30 seconds		F	CA	CO	PA	PES	PAN	WO
Water fastness, severe ISO 105-E01		5	4	4	3 - 4	4	4 - 5	4
Home laundry / washing 50 °C ISO 105-C06-B2S		5	4	4 - 5	3 - 4	4	4 - 5	4
Home laundry / washing 60 °C ISO 105-C06-C2S		5	3 - 4	4	3	3 - 4	4	4
Washing 50 °C / 120 °F AATCC TM 61-2A		5	2 - 3	3 - 4	2 - 3	3	3 - 4	3
Perspiration ISO 105-E04	alkaline	5	4	4	3 - 4	4	4 - 5	4
	acid	5	4	4	3 - 4	4	4 - 5	4
Rubbing ISO 105-X12	dry			4 - 5				
	wet			4 - 5				

Fastness properties on polyester / cotton

PES/CO 50/50 Black postset 180 °C / 30 seconds		F	CA	CO	PA	PES	PAN	WO
Water fastness, severe ISO 105-E01	washed (80 °C)		3	4	3	4	4 - 5	4
	reduction clearing		3 - 4	4 - 5	3 - 4	4	4 - 5	4 - 5
Home laundry / washing 50 °C ISO 105-C06-B2S	washed (80 °C)		3	4	3	4	4 - 5	4
	reduction clearing		3 - 4	4 - 5	3	4	4 - 5	4 - 5
Home laundry / washing 60 °C ISO 105-C06-C2S	washed (80 °C)		3 - 4	4	3	3 - 4	4	4
	reduction clearing		3 - 4	4 - 5	3	3 - 4	4 - 5	4
Washing 50 °C / 120 °F AATCC TM 61-2A	washed (80 °C)		2 - 3	3 - 4	2 - 3	3	4	3
	reduction clearing		2 - 3	4 - 5	2 - 3	3	4 - 5	4
Perspiration fastness, alkaline ISO 105-E04	washed (80 °C)		3	3 - 4	3	3 - 4	4 - 5	3 - 4
	reduction clearing		3 - 4	4 - 5	3 - 4	4	4 - 5	4 - 5
Perspiration fastness, acid ISO 105-E04	washed (80 °C)		3	3 - 4	3	3 - 4	4 - 5	3 - 4
	reduction clearing		3 - 4	4 - 5	3 - 4	4	4 - 5	4 - 5
Rubbing, dry ISO 105-X12	washed (80 °C)			4 - 5				
	reduction clearing			4 - 5				

Other properties

	Staining in fiber blends		Wool 105 °C	Acrylic 105 °C	Dyeing in fiber blends	
	Cotton				Triacetate 120 °C	Polyamide 120 °C
	130 °C	Thermosol				
Rinsed	2 - 3	1	1R	1 - 2	2	1R
Reduction clearing	4R	4R	2R	2		

Sustainability is our responsibility. At DyStar, our products and services help customers worldwide reduce costs, shorten lead times and meet stringent quality and ecological specifications.

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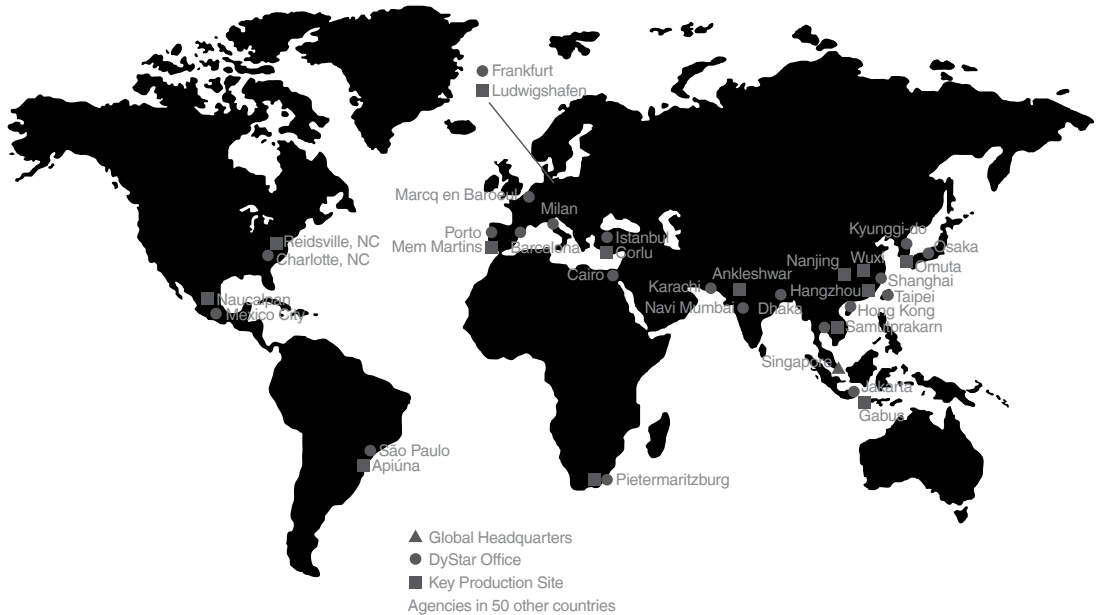
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