

## Features and Benefits

Dianix® XF2 is the next generation of high wet fastness dyes meeting most demanding retailer and brand specifications for high wet-fast outlets.

- ✓ Dianix XF2 is a new high wet fastness range consisting of twelve dyes
- ✓ Further development of the well established Dianix XF dyes
- ✓ Excellent wet fastness performance
- ✓ Good build-up at 130 °C
- ✓ Highly suitable for dyeing polyester and polyester/ elastane blends
- ✓ Good compatibility for Right-First-Time dyeing of ternary shades

## Important wash fastness tests at a glance

Wash Fastness Test	Test Conditions				
	Detergent	Beaker Size / Liquor	Temperature / Time	Steel Balls	Specimen Size
adidas®	4 g/l ECE	500 ml / 9:1	40 °C / 30 min	25	4 cm x 10 cm
Puma®	4 g/l ECE + 1 g/l sodium perborate tetrahydrate + 0.15 g/l TAED 100% active	550 ml / 20:1	40 °C / 30 min	25	4 cm x 10 cm
Nike® ISO 105-C06; B1M	4 g/l ECE	550 ml / 150ml	50 °C / 45 min	50	4 cm x 10 cm
AATCC IIA	0.15% AATCC WOB	1200 ml / 150ml	49 °C / 45 min	50	5 cm x 15 cm
M&S C4A	4 g/l ECE + 1 g/l sodium perborate tetrahydrate	550 ml / 50:1	50 °C / 30 min	none	4 cm x 10 cm
ISO 105-C06 B2S	4 g/l ECE + 1 g/l sodium perborate tetrahydrate	550 ml / 150 ml	50 °C / 30 min	25	4 cm x 10 cm
ISO 105-C06 C2S	4 g/l ECE + 1 g/l sodium perborate tetrahydrate	550 ml / 150 ml	60 °C / 30 min	25	4 cm x 10 cm

## Eco Profile

- ✓ 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 Standard 100 by Oeko-Tex®
- ✓ No restricted polychlorinated aromatic compounds above acceptable trace level
- ✓ Heavy metal content well below ETAD® limit value guideline
- ✓ Full compliance with Standard 100 by Oeko-Tex
- ✓ Meets relevant Restricted Substance Lists (RSL), please consult eliot®
- ✓ Dianix® Dark Blue XF2, Dianix Navy XF2, Dianix Black XF2, Dianix Black XF2 300% and Dianix Black XF2 Liquid are free of organic chlorine
- ✓ AOX-free dyes are Dianix Yellow XF2, Dianix Yellow Brown XF2, Dianix Red XF2, Dianix Rubine XF2, Dianix Blue XF2 and Dianix Turquoise XF2

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## Dianix® XF2 dyes

The best solution for high wet-fast outlets

- Universal application
- High productivity
- Very good wet fastness performance

## Sera® process auxiliaries

The best solution for reliable processing

- Sera products for pre-treatment
- Sera products for dyeing
- Sera products for after-treatment

## Evo® finishing products

The best solution for all textile effects

- Evo Care products – wellness finishes for textiles
- Evo products for comfort – lifestyle finishes for textiles
- Evo products for protection – protective finishes for textiles
- Evo products for sportswear – functional finishes for textiles

Committed to Sustainability

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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Global Headquarters  
 DyStar Singapore Pte Ltd  
 Tel: +65 66 71 28 00 Fax: +65 66 59 13 28  
 DyStar.Singapore@DyStar.com  
 www.DyStar.com

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031.0002.04.1702

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Dianix® XF2 Dyes  
 The next generation of high wet fastness dyes



# Dianix® XF2

## Dyeing properties and applications

	Yellow XF2	Yellow Brown XF2	Red XF2	Rubine XF2	Royal XF2	Blue XF2*		Turquoise XF2	Dark Blue XF2*	Navy XF2*	Black XF2*	Black XF2 300%*	Black XF2 Liquid*
1/1 standard depth as illustrated	0.42	1.20	1.50	0.95	1.25	1.15		2.00	N2.10	N2.10	B4.50	B3.37	B9.00
Level uptake	3	2	2	3	3	2		1	3	3	2	2	2
Barré coverage	very good	moderate	very good	limited	limited	limited		limited	limited	limited	moderate	moderate	moderate
pH stability	4.0-5.5	4.0-5.5	4.0-4.5	3.0-5.0	3.0-5.0	3.5-4.5		4.0-4.5	3.5-4.5	3.5-4.5	4.0-5.0	4.0-5.0	4.0-5.0
Thermofixation (optimum temperature °C)	220 °C	220 °C	220 °C	220 °C	220 °C	220 °C		220 °C	220 °C	220 °C	220 °C	220 °C	220 °C
PES yarn, tops	++	++	++	++	++	++		++	++	++	++	++	++
PES piece	++	++	++	++	++	++		++	++	++	++	++	++
PES/Cell. yarn	++	++	++	++	++	++		++	++	++	++	++	++
PES/Cell. piece	++	++	++	++	++	++		++	++	++	++	++	++
PES/Elastane	++	++	++	++	++	++		++	++	++	++	++	++
Printing HTS fixation	++	++	++	++	++	++		++	++	++	++	++	++
Printing PS fixation	++	++	++	++	++	++		++	++	++	++	++	++
Fastness to light ISO 105-B02	7	5-6	4	4-5	4	4-5		4	5	5	5	5	5
Fastness to Sublimation ISO 105-P01 180 °C 30 sec. - staining on PES	4-5	4-5	4-5	4-5	5	4-5		4-5	4-5	4-5	4-5	4-5	4-5
Fastness to washing adidas® 40 °C - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4/4/4	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	3-4/4-5/4	3-4/4-5/4	3-4/4-5/4
Fastness to washing Puma® 40 °C - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	5/5/5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4-5/4-5	4/4-5/4-5	4/4-5/4-5
Fastness to washing Nike® 50 °C - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/5/5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4/4-5	4/4/4-5	4/4/4-5
Fastness to washing AATCC IIA 49 °C - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4/4-5/4-5	4/4-5/4-5	3-4/4/3-4	3-4/4/3-4	3-4/4/3-4
Fastness to washing M&S C4A 50 °C - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	5/5/5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4-5/4-5	4/4-5/4-5	4/4-5/4-5
Fastness to washing ISO 105-C06 C2S 60 °C - staining on PA/PES/CTA	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5	5/5/5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	3-4/4/4	3-4/4/4	3-4/4/4
Fastness to water ISO 105-E01 - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4/4-5/4	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4/4	4/4/4	4/4/4
Fastness to perspiration ISO 105-E04, acid - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4/4-5/4	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4-5/4	4/4-5/4	4/4-5/4
Fastness to perspiration ISO 105-E04, alkaline - staining on PA/PES/CA	4-5/4-5/4-5	4-5/4-5/4-5	4/4-5/4	4-5/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4/4/4-5	4/4/4-5	4/4-5/4	4/4-5/4	4/4-5/4

### Explanations

Illustration of depth of shades on regular PES.

All fastness tests were carried out in 1/1 S.D. on 75D/72F PES fabric (1.04 dtex) after heat setting for 30 sec. at 180 °C. In the case of Navy and Black, the ISO Light Navy/Black depth was used. Wet fastness results are grey scale ratings of staining on multifibre adjacent

\* Use of 2 g/l Sera® Con P-AB to avoid reduction of dyestuff

### Suitabilities

- ++ suitable
- + suitable with restrictions, e.g. depth of shade, technical requirements
- not suitable

### Level uptake

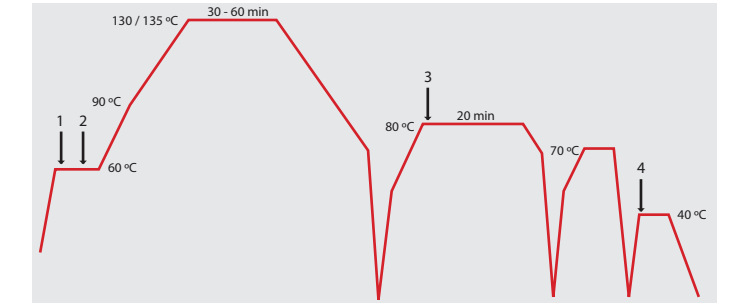
- 1 = poor
- 2 = medium to good
- 3 = very good

### Dyeing recommendations

1. Dyehouse water quality should be ≤ 5 ° German hardness and used for all processes including rinsing
2. Add sequestering agent to the dyebath (1 g/l Sera Quest M-USP)
3. Use of 2 g/l Sera Con P-AB recommended for Dianix® Blue XF2, Dianix Dark Blue XF2, Dianix Navy XF2, Dianix Black XF2, Dianix Black XF2 300% and Dianix Black XF2 Liquid
4. Keep pH-value during the whole dyeing process between pH 4.0 - 4.2
5. In general build-up to very dark shades is superior at dyeing temperature of 135 °C compared to dyeing temperature of 130 °C

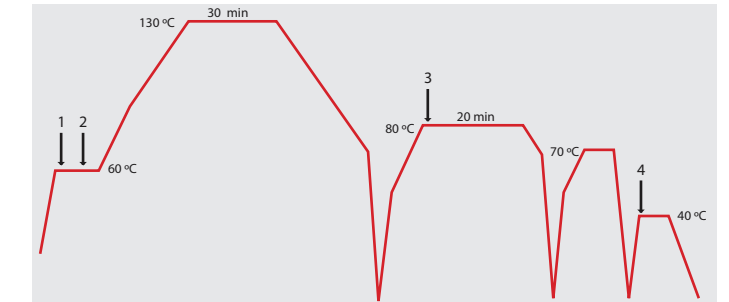
### Recommended dyeing methods

On polyester and polyester/cellulose blends



1. 1 - 2% Sera® Gal P-SDL  
2 g/l Sera Lube M-CF  
1 g/l Sera Quest M-USP  
2 g/l Sera Con P-AB\*  
pH 4.0 - 4.5 Sera Con M-BD
2. x% Dianix® XF2 dyes
3. Alkaline reductive clearing  
3 - ml/l caustic soda 50 °Be  
1 - 2 g/l Sera Con M-FAS  
or  
Acid reductive clearing  
(without draining the dyebath)  
2 g/l Sera Con P-ACT  
pH 3.5 - 4.0
4. pH 5 - 6 with acetic acid

On polyester/elastane blends



1. 2-3% Sera Gal P-SDL  
2 g/l Sera Lube M-CF  
1 g/l Sera Quest M-USP  
2 g/l Sera Con P-AB\*  
pH 4.0 - 4.5 Sera Con M-BD
2. x% Dianix XF2 dyes
3. Alkaline reductive clearing  
6 ml/l caustic soda 50 °Be  
4 g/l hydrosulphite  
3 g/l Sera Wash M-VFN
4. pH 5 - 6 with acetic acid

\* Recommended for Dianix Blue XF2, Dianix Dark Blue XF2, Dianix Navy XF2, Dianix Black XF2, Dianix Black XF2 300% and Dianix Black XF2 Liquid