

## 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.

- ✓ 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 Deep Red XF2, Dianix Rubine XF2, Dianix Blue XF2 and Dianix Turquoise XF2

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from DyStar®

## 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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## Dianix® XF2 Dyes

The next generation of high wet fastness dyes



Dianix® XF2	Yellow XF2	Yellow Brown XF2	Red XF2	Deep Red XF2	Rubine XF2	Royal XF2		Blue XF2*	Turquoise XF2	Dark Blue XF2*	Navy XF2*	Black XF2* Black XF2 Liquid*	Black XF2 300%* Black XF2 Liquid*
Dyeing properties and applications													
1/1 standard depth as illustrated	0.42	1.20	1.50	1.15	0.95	1.25		1.15	2.00	N2.10	N2.10	B4.50	B3.37
Liquid (strength versus powder %)												50	37.5
Level uptake	3	2	2	2	3	3		2	1	3	3	2	2
Barré coverage	very good	moderate	very good	limited	limited	limited		limited	limited	limited	limited	moderate	moderate
pH stability	4.0-5.5	4.0-5.5	4.0-4.5	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
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	4-5	4		4-5	4	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	4-5	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	4/4-5/4-5	4-5/4-5/4-5	4-5/4-5/4-5		4-5/4-5/4-5	4-5/4-5/4-5	4/4/4-5	4/4/4-5	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	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
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	4-5/4-5/4-5	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
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	4/4-5/4-5	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
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	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
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	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
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	4-5/4-5/4-5	4/4/4-5	4/4/4-5	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	4-5/4-5/4-5	4/4/4-5	4/4/4-5	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	4-5/4-5/4-5	4/4/4-5	4/4/4-5	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

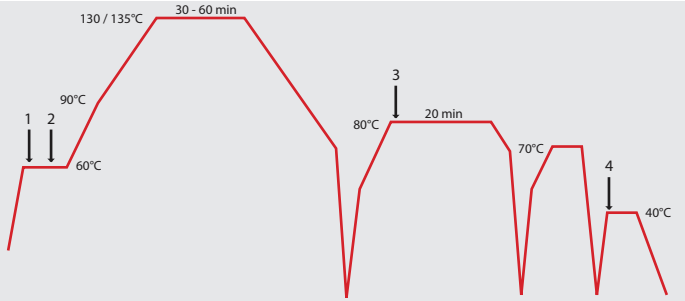
- 1 = poor
- 2 = medium to good
- 3 = very good

### Dyeing recommendations

- Dyehouse water quality should be ≤ 5° German hardness and used for all processes including rinsing
- Add sequestering agent to the dyebath (1 g/l Sera Quest M-USP)
- 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
- Keep pH-value during the whole dyeing process between pH 4.0 - 4.2
- In general build-up to very dark shades is superior at dyeing temperature of 135°C compared to dyeing temperature of 130°C

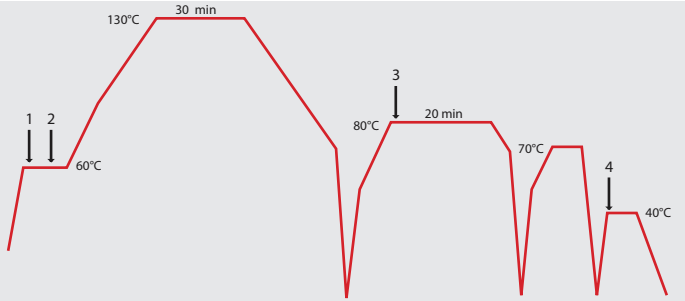
### Recommended dyeing methods

On polyester and polyester/cellulose blends



- 1 - 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
- 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
- pH 5 - 6 with acetic acid

On polyester/elastane blends



- 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
- x% Dianix XF2 dyes
3. Alkaline reductive clearing  
6 m/l caustic soda 50°Be  
4 g/l hydrosulphite  
3 g/l Sera Wash M-VFN
- 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