

Environment friendly dyes

Sumifix HF		%owf	Application
Yellow 5GL		2.0	High light fastness & excellent compatibility with SR HF Turquoise Blue G for green shades.
Yellow 3R gran.		2.0	Standard yellow for trichromy with high light fastness.
Scarlet 2G gran.		2.0	Good wash-off properties & best compatibility with Red 2B for brilliant red shades.
Red G gran.		2.0	Standard red for trichromy with high washing fastness.
Red 2B gran.		2.0	Good wash-off properties & compatibility with Scarlet 2G for brilliant red shades.
Red 4B gran.		2.0	High compatibility red, for difficult and sensitive shades, for dyeing viscose and viscose blends.
Brown RL 150%		2.0	High light fastness brown.
Turquoise Blue G*		2.0	Good fastness & excellent compatibility with SF HF Yellow 5GL for green shades.
Blue 2R gran.		2.0	High light fastness royal blue for bright blue shades and combination dyeing.
Blue BG gran.		2.0	Standard blue for trichromatic dyeing with high washing fastness.
Blue GE gran.		2.0	High compatibility blue, for difficult and sensitive shades, for dyeing viscose and viscose blends.
Dark Blue BR gran.		2.0	Standard dark blue for trichromatic dyeing on viscose with good washing fastness.
Navy 2G		2.0	Standard navy with high buildup for trichromatic dyeing on cotton.

*Sumireact

Properties		Yellow 5GL	Yellow 3R gran.	Scarlet 2G gran.	Red G gran.	Red 2B gran.	Red 4B gran.	Brown RL 150%	Turquoise Blue G*	Blue 2R gran.	Blue BG gran.	Blue GE gran.	Dark Blue BR gran.	Navy 2G	
Swatches dyeing depth (% o.w.f.)		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Fastness properties	Chlorinated water (20ppm)	4	3-4	4	3-4	3-4	5	4-5	1-2	3-4	3	4	3-4	3-4	
	Perspiration contact	Staining on cotton	5	4-5	5	4-5	4-5	5	4-5	3-4	4-5	5	4-5	4-5	4-5
			5	4-5	5	4-5	4-5	5	4-5	3	4-5	5	4	4	4
	Washing 60°C	Staining on cotton	5	4-5	4	4	4-5	4-5	3-4	4-5	4-5	4	4-5	4-5	4
			5	5	4-5	4-5	4-5	5	4-5	4-5	4-5	4-5	4-5	5	4-5
	Perspiration light	Alkaline	4-5	4-5	3-4	3	3	4	4-5	3	3	3-4	3-4	3-4	3
		Acid	4-5	4-5	4-5	3-4	3-4	4	5	3	3-4	4	3-4	3-4	3-4
Light		4-5	5<	4-5	4-5	5	4	5	4-5	4-5	5<	5	5	4-5	
Dyeing properties	Dischargeability	+	+	(+)	(+)	-	(+)	+	(+)	-	(+)	+	+	+	
	Migration properties	+	+	+	+	(+)	+	(+)	+	+	+	+	+	(+)	
	Optimum Exhaust dyeing temp. (°C)	70	70	70	70	70	70	70	70	70	70	70	70	70	
Applicability	Printing	- (+)	(+) (+)	- (+)	(+) (+)	(+) (+)	- (+)	(+) (+)	(+) (+)	(+) (+)	(+) (+)	+	(+) (+)	(+) (+)	
	Continuous dyeing	- (+)	(+) (+)	(+) (+)	(+) (+)	(+) (+)	- (+)	(+) (+)	+	(+) (+)	(+) (+)	+	+	(+) (+)	
	Cold Pad Batch dyeing	-	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	+	+	(+)	
	Exhaust dyeing	+	+	+	+	+	+	+	+	+	+	+	+	+	
Solubility	Salt (Na ₂ SO ₄ = 30g/l)	20<	20<	20<	20<	20<	20<	20<	20	15	20<	20<	20<	20<	
	Water, 25°C (g/l)	100<	100<	100<	100<	100<	100<	100	65<	100<	100<	100<	100<	100<	
Arylamine free fabric dyeings (<5ppm)		0	0	0	0	Δ	X	0	0	0	0	0	0	0	

Legend for the table

Quotation of applicability

- + : Suitable
- (+) : Limited suitability
- : Unsuitable

Continuous dyeing

- Upper : One bath pad-dry steam
- Lower : Two bath pad-dry steam

Printing

- Upper : One phase process
- Lower : Two phase process

Fastness

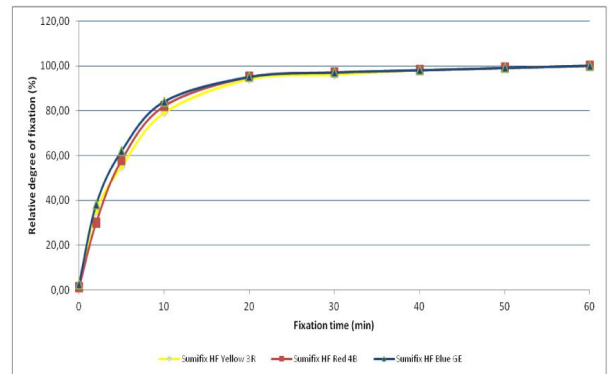
- Light : ISO 105/B02, Xenon Arc lamp
- Perspiration light : ATTS 25.7kJ/m², 420nm, 0.7W/m² Acid (upper) / Alkaline (lower)
- Washing : M&S C4A
- Perspiration contact : ISO 105 E04 Acid (upper) /Alkaline (lower)
- Chlorinated water : ISO 105 E03

- 0 : Suitable
- X : Not –suitable
- Δ : Limited concentration*

Trichromatic combinations

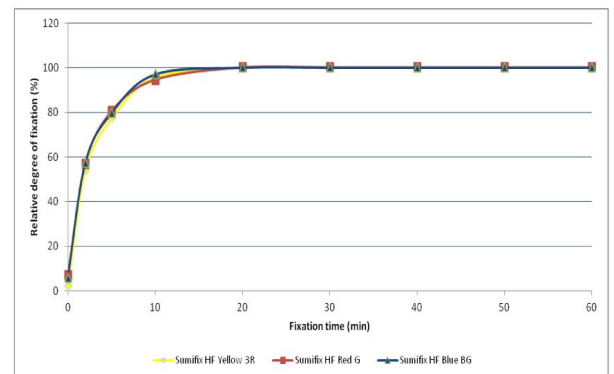
brown Shade

Sumifix HF Yellow 3R	1.42%
Sumifix HF Red 4B	1.28%
Sumifix HF Blue GE	0.72%
Total dye concentration	3.42%



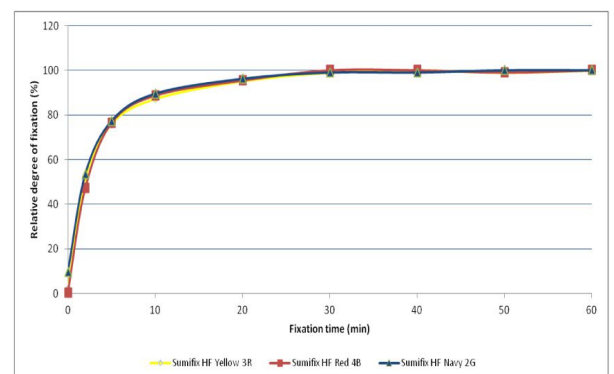
Grey Shade

Sumifix HF Yellow 3R	0,52%
Sumifix HF Red G	0,38%
Sumifix HF Blue BG	0,44%
Total dye concentration	1,34%



Green Shade

Sumifix HF Yellow 3R	0,98%
Sumifix HF Red 4B	0,59%
Sumifix HF Navy 2G	0,83%
Total dye concentration	2,40%



Trichromatic combinations recommended for exhaust dyeing on cotton and viscose:

Sumifix HF

Standard shades

Shade	Yellow element	Red element	Blue element
Pale to medium	SF HF Yellow 3R	SF HF Red G	SF HF Blue BG
Medium to deep	SF HF Yellow 3R	SF HF Red G SF HF Red 4B	SF HF Blue GE SF HF Dark Blue BR
Deep	SF HF Yellow 3R	SF HF Red G SF HF Red 4B	SF HF Blue GE SF HF Dark Blue BR

Non Standard Shades

Shade	Yellow element	Red element	Blue element
Bright Green and Turquoise	SF HF Yellow 5GL SF HF Yellow 3R	SF HF Red G SF HF Red 2B	SF HF Blue 2R SR HF Turquoise Blue G
Scarlet and Marlboro Red	SF HF Yellow 5GL SF HF Yellow 3R	SF HF Red G SF HF Red 2B SF HF Scarlet 2G SR SP Br. Orange RL 150%)	SF HF Blue 2R
Deep Red	SF HF Yellow 3R	SF HF Red G SF HF Red 4B	SF HF Blue BG SF HF Blue GE
High Light Fastness	SF HF Yellow 3R	SF HF Brown RL 150% SR SP Red LF SR SP Purple RLF 150%	SF HF Blue 2R SR SP Night Blue LF 150%: medium – deep
Special Blues: Royal-, Electric-, Sky-, Bright Blue	SF HF Yellow 3R	SF HF Red 2B	SF HF Blue 2R SF HF Turq. Blue GN