ASAHI DYES AND CHEMICALS 株式会社



Asahispers® SWF

High Wet Fastness Disperse Dyes

Asahispers® SWF

Polyester is one of the most important textile fibre and its consumption is increasing globally.The high end fastness demand from brands and retailers (B&R) are quite challenging, specially on critical substrates like polyester micro-fibre, polyester-elastane and polyester-cotton. Not only this, B&R are also becoming conscious to set their Restricted Substances List - RSL limits.

Asahispers® SWF a new high performance disperse dyes meets new trend fastness requirements of B&R and highest product safety standard.

General properties

- Strong tinctorial value & High color yield.
- Excellent fastness properties on micro polyester.
- No cross-staining on elastane fibers.
- Achieves high wet and sublimation fastness.
- Versatile in process application.

Product Safety Standards

- Fulfill restriction of SVHC and Azo dyes under the Reach Regulation, Annex XVII.
- Does not contain allergic disperse dyes according to Oeko-Tex® Standard 100.
- Does not contain restricted poly-chlorinated aromatic compounds above acceptable trace level.
- Minimized quinoline and PAH contaminations in compliance with regulations.
- Full compliance with Oeko-Tex® Standard 100.

Fastness Properties

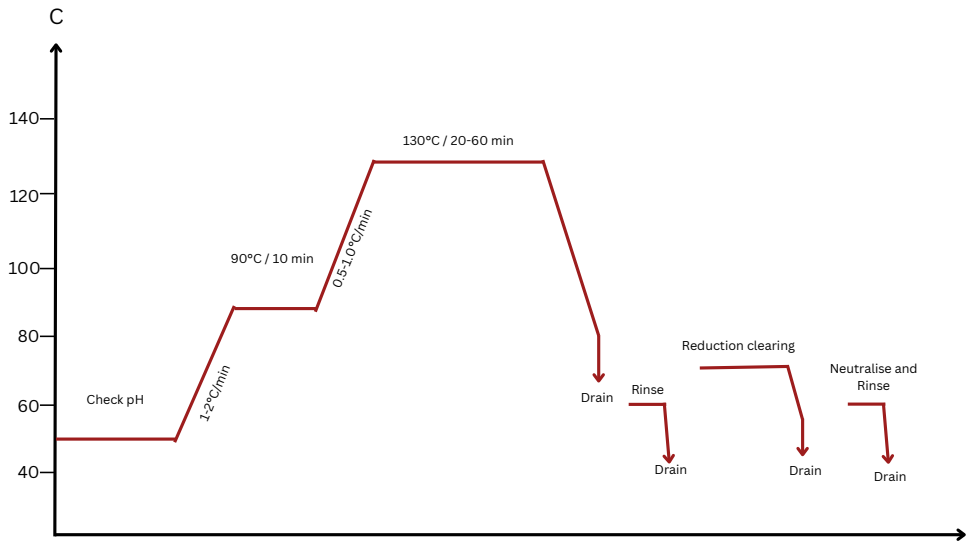
Asahispers® SWF

Asahispers® SWF			Asahispers® GoldenYellow SWF New	Asahipers® Yellow Brown SWF New	Asahispers®Deep Red SWF New	Asahispers® Rubine SWF	Asahispers® Blue SWF	Asahispers® Deep Blue SWF	Asahispers® Navy Blue SWF	Asahispers® Black SWF New
Fabric: Polyester 100 %										
Dyeing Depth%			1.5	1.2	1.2	1.2	0.7	3.0	3.0	4.0
pH Range			3-5	3-5	4-5	4-5	3-5	3-5	3-4.5	3-4.5
Light	ISO 105:B02	1/1 SD	6	5-6	4-5	5-6	5-6	4-5	4-5	4-5
Perspiration (Alkaline)	ISO 105:E04	CC	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PES	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Sublimation	ISO 105:P01	CC	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PES	3	3-4	4	4	3-4	3-4	3-4	3-4
Water	ISO 105:E01	CC	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PES	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Chlorinated Water	ISO 105:E03	20 ppm	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5
		50 ppm	4-5	3-4	4	3	3-4	4	4	4
Washing	ISO 105:C06-A2S	CC	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PES	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PA	4	4-5	4	4	4	4	4	4
Washing	ISO 105:C06-C2S	CC	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
		PES	4-5	4-5	4-5	4-5	4	4	4	4
		PA	4	4	4	3-4	3-4	3-4	3-4	3-4

CC: Colour Change PES: Staining of polyester PA: Staining of polyamide

Dyeing of 100% polyester

Asahispers® SWF



Asahispers® SWF Dyes	x %
Dispersing agent	0.5-2.0 g/l
Leveling agent	0.5-2.0 g/l
Acid buffer	1.0-2.0 g/l (To adjust pH to 4.0-4.5)

Dyeing at 130-135°C for 20-60 min (depending on depth of shades) Rinse : warm and cold

Reduction clear

Caustic Soda 36°CBe	4.0 ml/l	
Sodium Hydrosulfite	2.0 g/l	10-20 min at 70-80°C
Anti-back staining agent	1.0 g/l	

Dyeing of polyester-elastane blends

Polyester-elastane blend is quite challenging for the dyer as it entails finding a compromise between fastness and loss of elasticity. The elasticity of elastane is significantly reduced above 115°C, also disperse dye heavily stains elastane fibre, resulting into poor wet fastness properties. Dye selection is an important criteria, some of them are as follows :

1. Good build-up on polyester at low temperature
2. Easy cleaning by RC process

Asahispers® SWF Dyes	x %
Dispersing agent	0.5-2.0 g/l
Leveling agent	0.5-2.0 g/l
Diffusion accelerant	0.5-2.0 g/l
Acid buffer (pH 4.0)	3.0-4.0 g/l (To adjust pH to 4.0-4.5)

Holding time 30-45 min at 130°C, cooling down and drain.

Reduction clearing

Caustic Soda 36° Be	4-8 ml/l	
Sodium Hydrosulfite	4-6 g/l	30 min at 85-90°C
Anti-back staining agent	1 g/l	

Note: Depending upon the fabric construction and depth of shade, 2 reduction clearings maybe necessary.

Continuous dyeing of Polyester-Cellulose

Dyeing the polyester component: Pad-Dry-Thermosol

Pad:

Asahispers® SWF dyes	x g/l
Asahifix® XP dyes	y g/l
Wetting agent	1 g/l
Dispersing agent	1 g/l
Migration Inhibitor	10-15 g/l
Mild oxidizing agent	5 g/l
with acetic acid	pH 4.0-4.5

Pick up: 50-70%

Pre-dry: with IR, residual moisture approx. 30%

Dry: 120-140°C

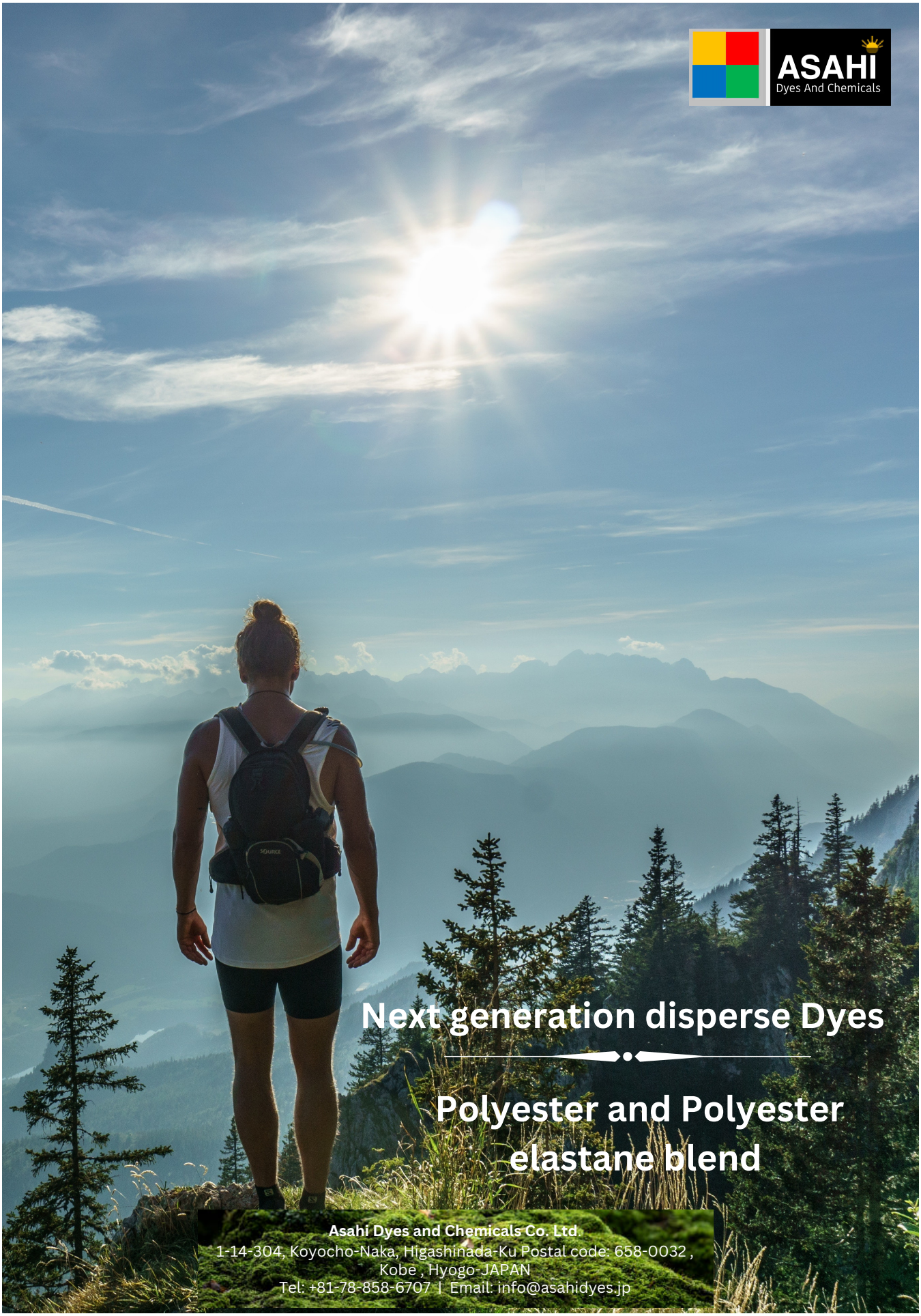
Thermosol: 180-220°C, 30-60s

Development of Cellulosic component: Chemical- Pad

Padding the chemicals

Caustic soda 36°Bé	15 ml/l
Soda ash	20 g/l
Glauber's salt	210-250 g/l
Padding temperature	20–30°C
Liquor pick up	70–80%

Steaming 60-90 seconds with saturated steam



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