

Fastness as self shade

		Dyeing depth (1/6 SD)	Light		Oxidative bleach damage	Washing		Water
			ISO 105-B02	AATCC 16E 20AFU	M&S C10A	ISO 105- C06 C2S	AATCC 61-2A	ISO 105-E01
			Ch	Ch	Ch	Ch/CO	Ch/CO	Ch/CO
Exhaust dyeing	Yellow K-HL	0.67%	5	4-5	4-5	4-5/5	4-5/5	4-5/4-5
	Red K-HL	1.00%	4	4	4-5	4-5/4	4-5/4-5	4-5/4-5
	Blue K-HL	0.58%	4-5	4-5	4-5	4-5/4-5	4-5/4-5	4-5/4-5
	Violet K-HL	0.67%	4	4	4	4-5/5	4-5/5	4-5/4-5
	Grey K-HL	1.00%	4-5	4-5	3-4	4-5/4-5	4-5/4-5	4-5/4-5
Continuous dyeing	Yellow K-HL	6.67g/l	5	5	4-5	4-5/5	4-5/5	4-5/5
	Red K-HL	6.67g/l	4	4-5	4-5	4-5/5	4-5/5	4-5/5
	Blue K-HL	6.67g/l	5	4-5	4-5	4-5/5	4-5/5	4-5/5
	Violet K-HL	7.50g/l	5	4-5	4-5	4-5/5	4-5/5	4-5/5
	Grey K-HL	10.00g/l	5	4-5	4	4/5	4-5/5	4/5

*Material : Exhaust dyeing - Unmercerized cotton
Continuous dyeing - Mercerized cotton

Synozol K-HL dyes

FOR EXHAUST & CONTINUOUS DYEING



KYUNG-IN SYNTHETIC CORPORATION



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KYUNG-IN SYNTHETIC CORPORATION

Synozol K-HL dyes

NEW TO THE INDUSTRY

- One trichromatic combination for multiple processes
- Pale / Light shades with high light fastness
- Extremely cost efficient
- Unique range of dyes - market exclusive
- Tailing / Listing in Pad Application eliminated
- Perfect leveling in difficult shade area's
- Homogeneous Violet and Grey as supplementary products

Superior technical advantages with low cost

Can be used as an alternative to Vat dyes for pale shades

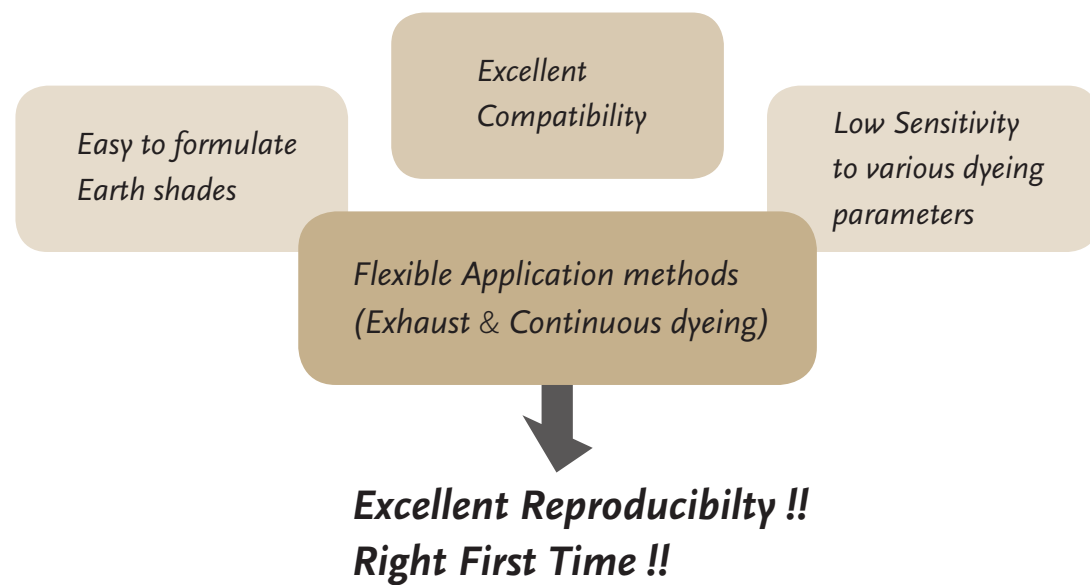
Proven dyestuff chemistry using just 3 core elements





Synozol K-HL dyes are specially designed for pale shade dyeing, giving improved benefits in terms of reproducibility and good light fastness for both exhaust and continuous dyeing.

**Unique alternative for pale shades with good light fastness
In Exhaust and Continuous dyeing**



Suitability

Synozol K-HL dyes				
	Exhaust			+++
	Padding	Cold Pad Batch		+++
		Continuous	PDPS	+++
			PDT	++
			E-control	++
+++ : suitable ++ : suitable with limits + : unsuitable	Cotton			+++
	Viscose rayon			+++
	PES/CO			+++
	PA/CO			++

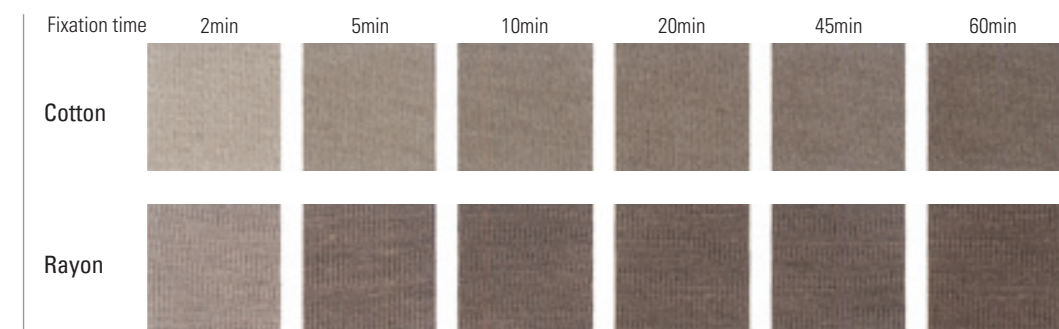
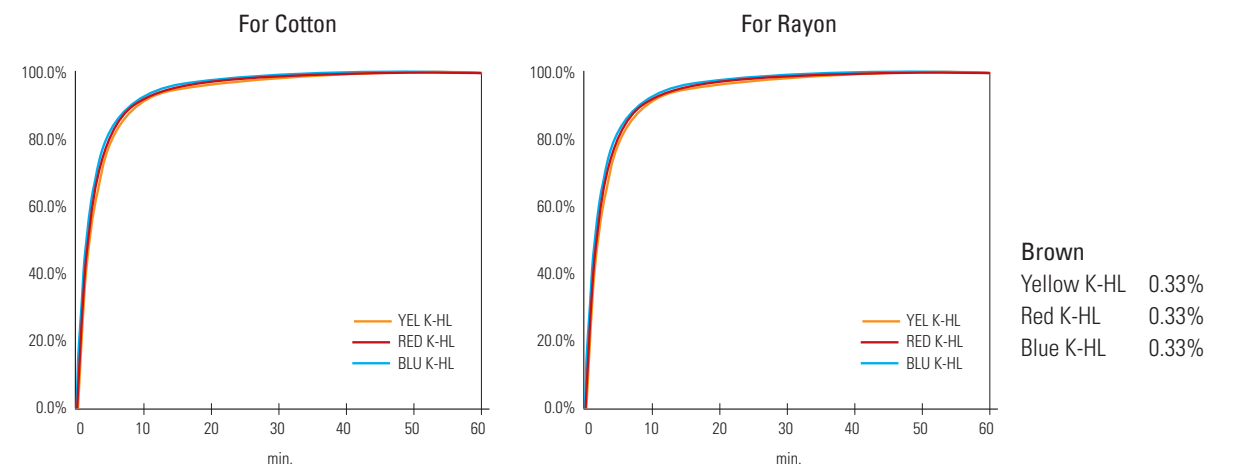
Synozol K-HL dyes *EXHAUST DYEING*

In the past, difficult shades (earth tones, greys, olives) gave problems of leveling and light fastness in exhaust dyeing and tailing /listing issues when dyed continuously. Vat dyes were invariably the only alternative UNTIL NOW!

Shade (1/6 Standard Depth) in Exhaust dyeing



Excellent Compatibility



LEVELING & REPRODUCIBILITY!

Combination



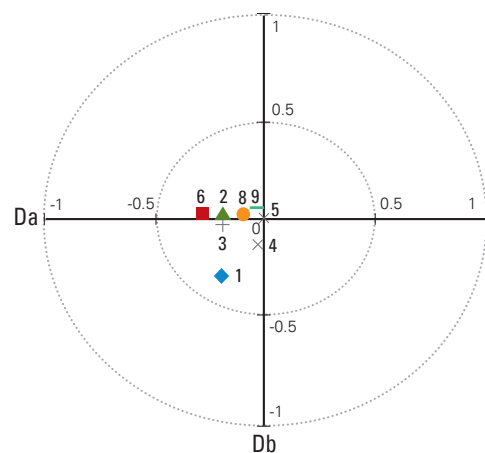
Recipe	Brown	Olive	Grey
Yellow K-HL	0.33%	0.50%	0.25%
Red K-HL	0.33%	0.25%	0.25%
Blue K-HL	0.33%	0.25%	0.50%

Fastness

	Light		Oxidative bleach damage	Washing				Water	
	ISO 105-B02	AATCC 16E 20AFU	M&S C10A	ISO 105-C06 C2S		AATCC 61-2A		ISO 105-E01	
	Ch	Ch	Ch	Ch	CO	Ch	CO	Ch	CO
Brown	4	4	4	4-5	5	4-5	5	4-5	5
Olive	4	4	4	4-5	5	4-5	5	4-5	5
Grey	4	4	4	4-5	5	4-5	5	4-5	5

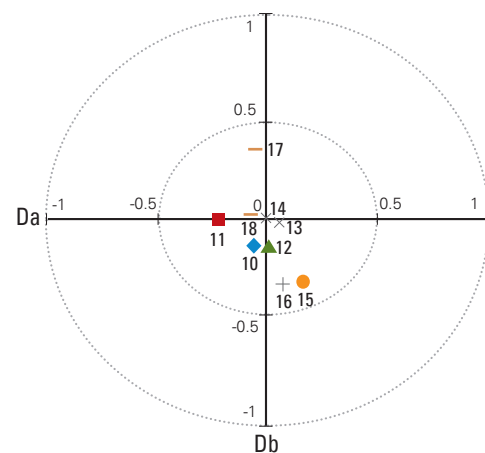
Low Sensitivity For Right First Time

Soda ash & Glauber's salt



Soda ash(g/l)	10	15	20	
Glauber's Salt (g/l)	20	1	2	3
	30	4	5(Std)	6
	40	7	8	9

Time & Temperature



Time(min)	30	40	50	
Temperature (C°)	55	10	11	12
	60	13	14(Std)	15
	65	16	17	18

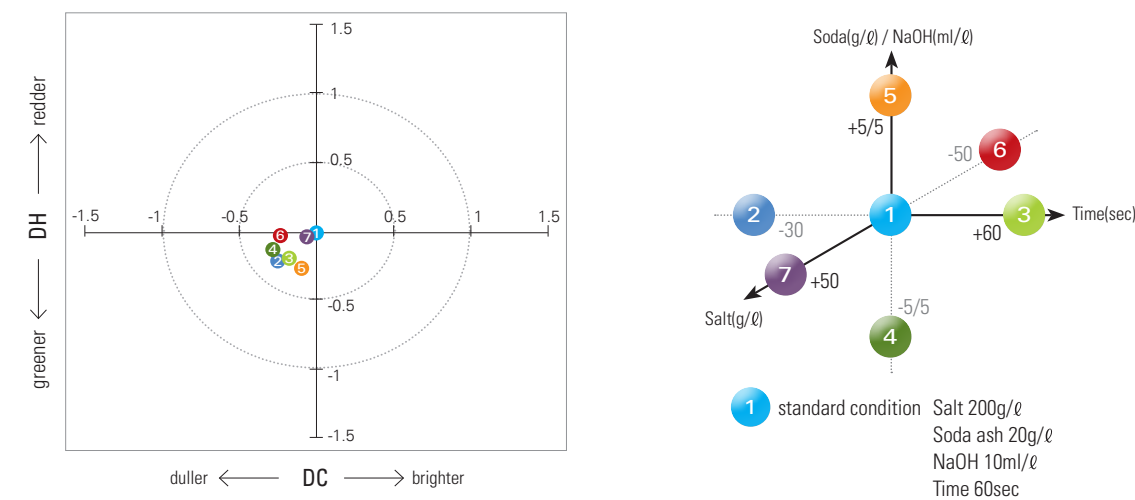
Synozol K-HL dyes CONTINUOUS DYEING

Continuous and cold pad batch dyers major problems come from tailing and side/center shade difference when pale shades are produced. Even when light fastness is achieved the shade continuity remained an issue UNTIL NOW!

Shade (1/6 Standard Depth) in Continuous dyeing



Low Sensitivity to Dyeing Factors in PDPS



PERFECT CONSISTENCY & REPRODUCIBILITY!

Combination

LT. Stone



LT. Brown



Steel Grey



Recipe
 Yellow K-HL 1.10g/l
 Red K-HL 0.90g/l
 Blue K-HL 0.78g/l

Yellow K-HL 4.05g/l
 Red K-HL 3.12g/l
 Blue K-HL 2.40g/l

Yellow K-HL 3.20g/l
 Red K-HL 2.50g/l
 Blue K-HL 4.00g/l

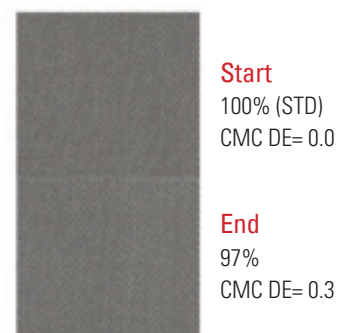
Fastness

	Light		Oxidative bleach damage	Washing				Water	
	ISO 105-B02	AATCC 16E 20AFU	M&S C10A	ISO 105-C06 C2S		AATCC 61-2A		ISO 105-E01	
	Ch	Ch	Ch	Ch	CO	Ch	CO	Ch	CO
LT. Stone	4	4-5	4-5	4-5	5	4-5	5	4-5	5
LT. Brown	4	4	4-5	4-5	5	4-5	5	4-5	5
Steel Grey	4	4	4	4-5	5	4-5	5	4-5	5

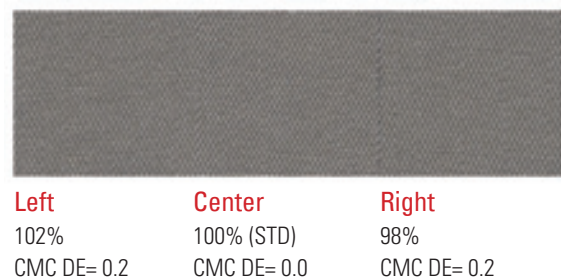
No Tailing & Listing

Light Olive
 Synozol Yellow K-HL 2.62g/l
 Synozol Red K-HL 2.89g/l
 Synozol Blue K-HL 3.19g/l

Tailing Property



Listing Property



Homogeneous dyes

Synozol Violet K-HL and Synozol Grey K-HL were developed to achieve easily, critical Violet and Grey pale shades with excellent light fastness properties, good reproducibility which are difficult to dye level with trichromatic combinations.

Shade (1/6 Standard Depth)

Exhaust dyeing



Violet K-HL
0.67%



Grey K-HL
1.00%

Continuous dyeing



Violet K-HL
7.5g/l



Grey K-HL
10.0g/l

Combination

Recipe1



Violet K-HL 0.10%
 Yellow K-HL 0.02%

Recipe2



Violet K-HL 0.10%
 Blue K-HL 0.02%

Recipe3



Grey K-HL 0.10%
 Yellow K-HL 0.02%

Recipe4



Grey K-HL 0.10%
 Violet K-HL 0.02%

Continuous dyeing



Violet K-HL 1.0g/l
 Yellow K-HL 0.2g/l



Violet K-HL 1.0g/l
 Blue K-HL 0.2g/l



Grey K-HL 1.0g/l
 Yellow K-HL 0.2g/l

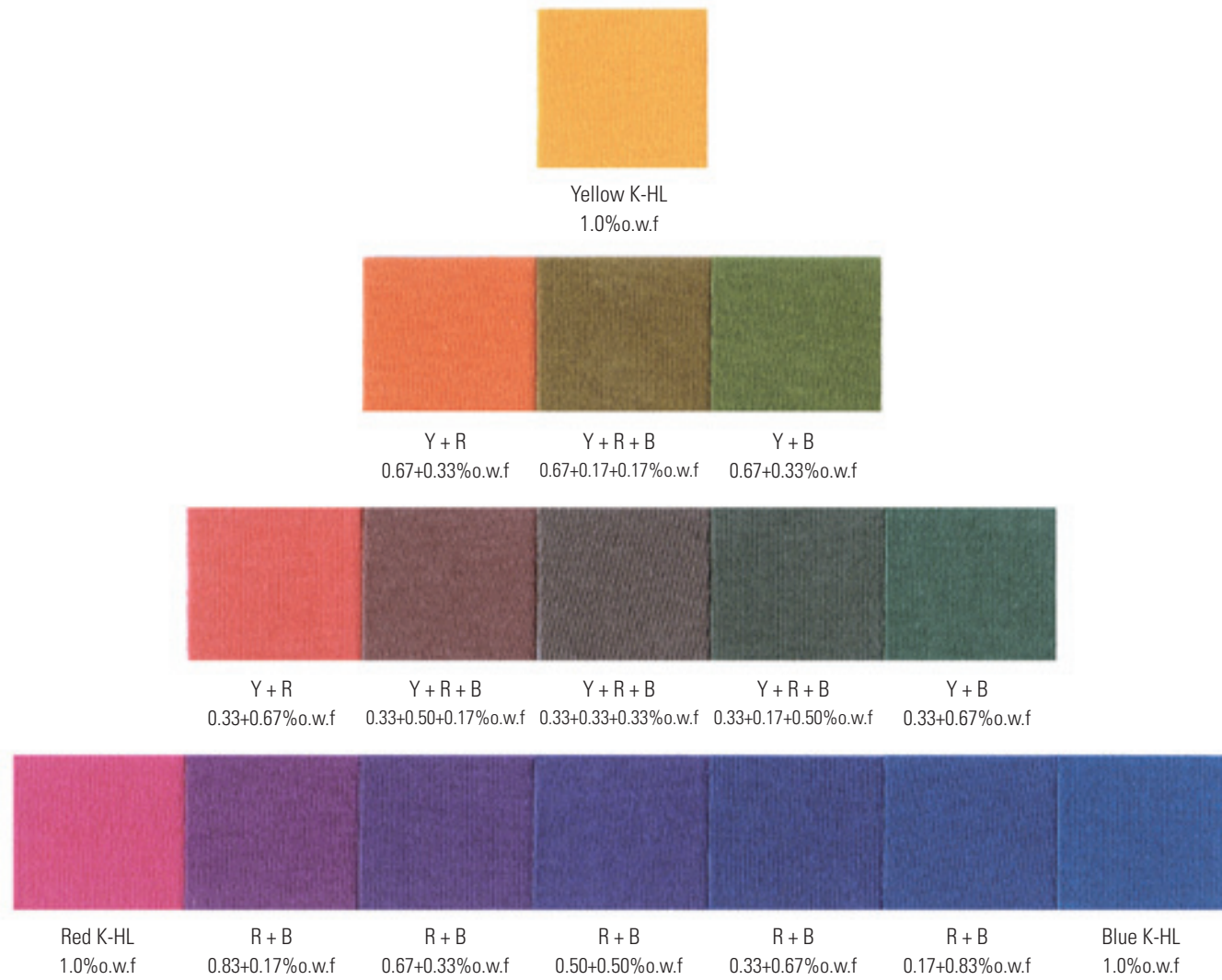


Grey K-HL 1.0g/l
 Violet K-HL 0.2g/l

		Light		Oxidative bleach damage	Washing				Water	
		ISO 105-B02	AATCC 16E 20AFU	M&S C10A	ISO 105-C06 C2S		AATCC 61-2A		ISO 105-E01	
		Ch	Ch	Ch	Ch	CO	Ch	CO	Ch	CO
Exhaust dyeing	Recipe1	4	4	4	4-5	5	4-5	5	4-5	5
	Recipe2	4	4	4	4-5	5	4-5	5	4-5	5
	Recipe3	4-5	4-5	4	4-5	5	4-5	5	4-5	5
	Recipe4	4	4-5	4	4-5	5	4-5	5	4-5	5
Continuous dyeing	Recipe1	4	3-4	4	4-5	5	4-5	5	4-5	5
	Recipe2	4	4	4-5	4-5	5	4-5	5	4-5	5
	Recipe3	4-5	4-5	3-4	4	5	4-5	5	4-5	5
	Recipe4	4	4-5	3-4	4	5	4-5	5	4-5	5

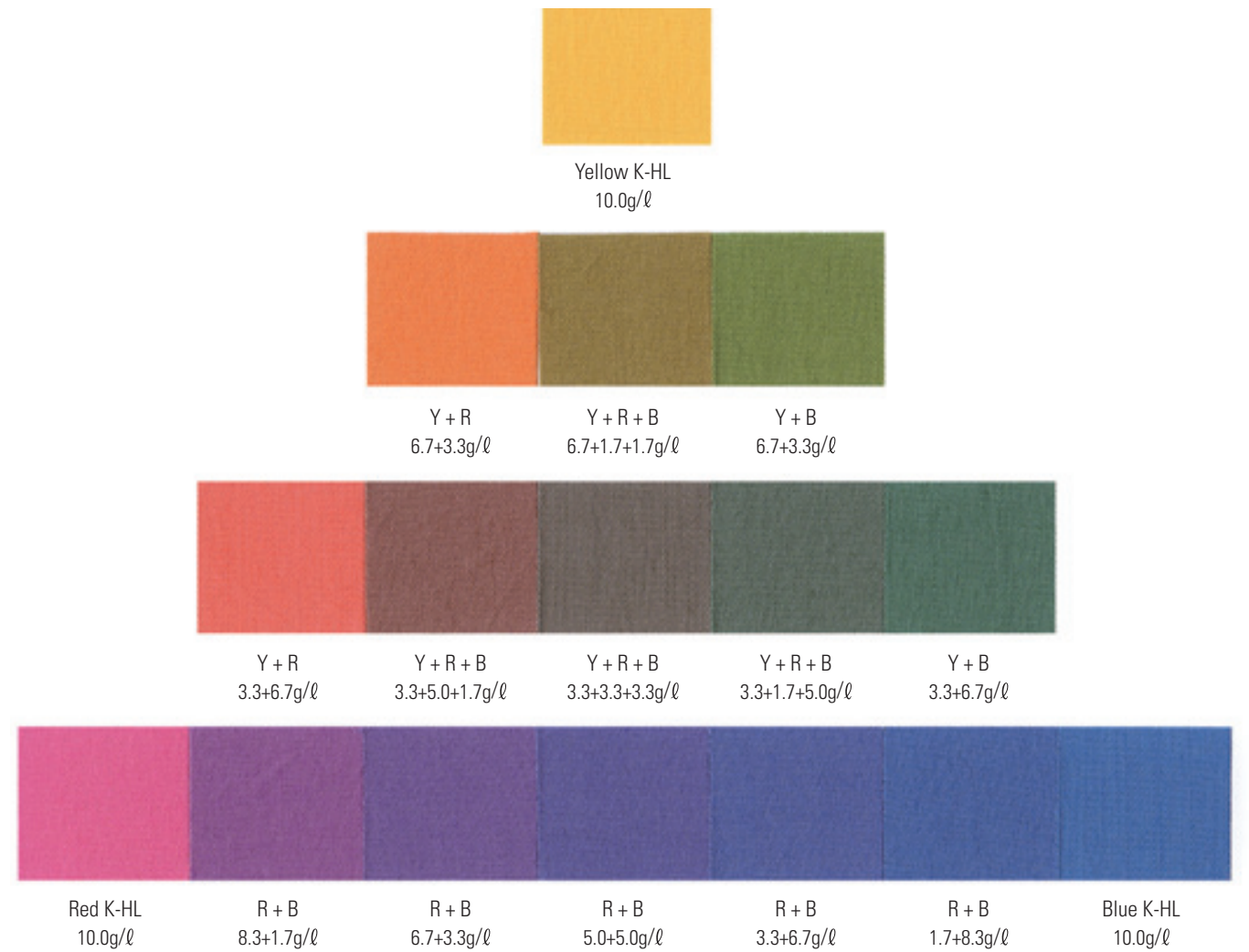
EXHAUST DYEING

Trichromatic Combination

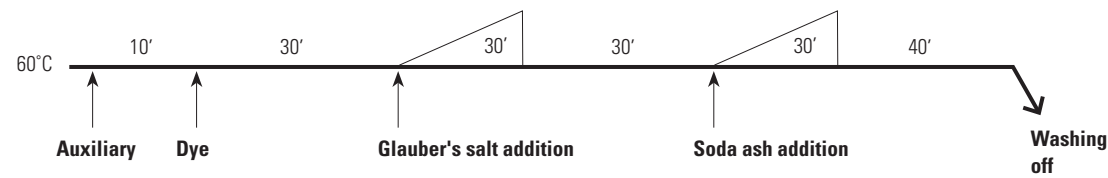


CONTINUOUS DYEING

Trichromatic Combination



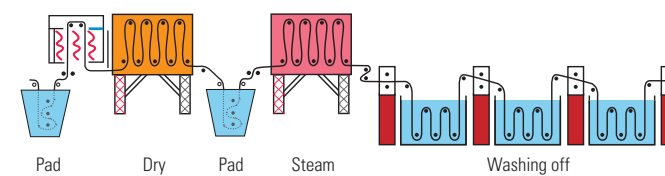
Recommended dyeing process



Unmercerized Cotton

Dye(%o.w.f)	<0.1%	0.1-0.5%	0.5-1.0%
Glauber's salt g/l	20	30	40
Soda ash g/l	10	15	15

Recommended dyeing process



- * Applicable in :
- Cold Pad Batch (minimum 24hours batching time for Grey K-HL)
 - Pad-dry-thermofix
 - E-control

	Chemical	Amount
Padding	Synozol Dyes	Xg/l
	Migration Inhibitor	10g/l
	Wetting Agent	1g/l
	Reduction Inhibitor	1g/l
	Liquor Temperature	25°C
	Liquor Pick up	60%
Drying	Temperature	120°C
	Time	1min
Alkali Padding	Soda ash	20g/l
	Caustic soda(38°Be)	10ml/l
	Glauber's salt	200g/l
	Liquor Temperature	25°C
Steaming (Fixation)	Liquor Pick up	80%
	Temperature	102°C
	Time	1min