Coralite FL

"High performance Reactive Dyes"

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"High performance Reactive Dyes"

Coralite FL

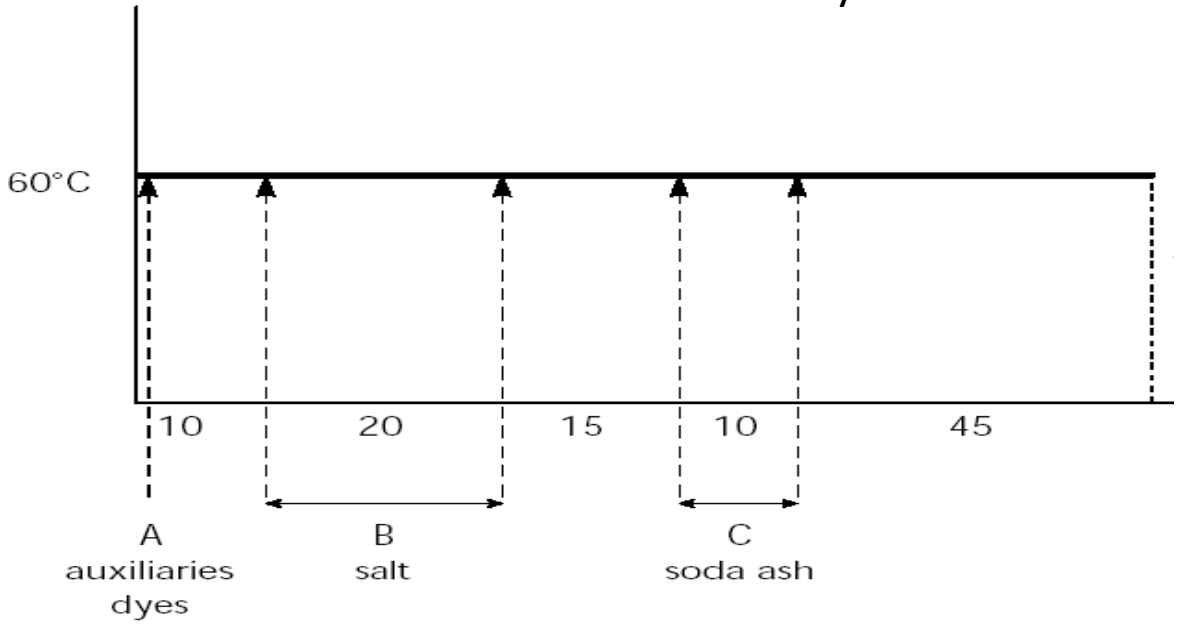
Fluorotriazine Chemistry
High Light fastness
Meeting Retailer specifications
versatile application.

Coralite FL – Dyes

Exhaust Dyeing - I

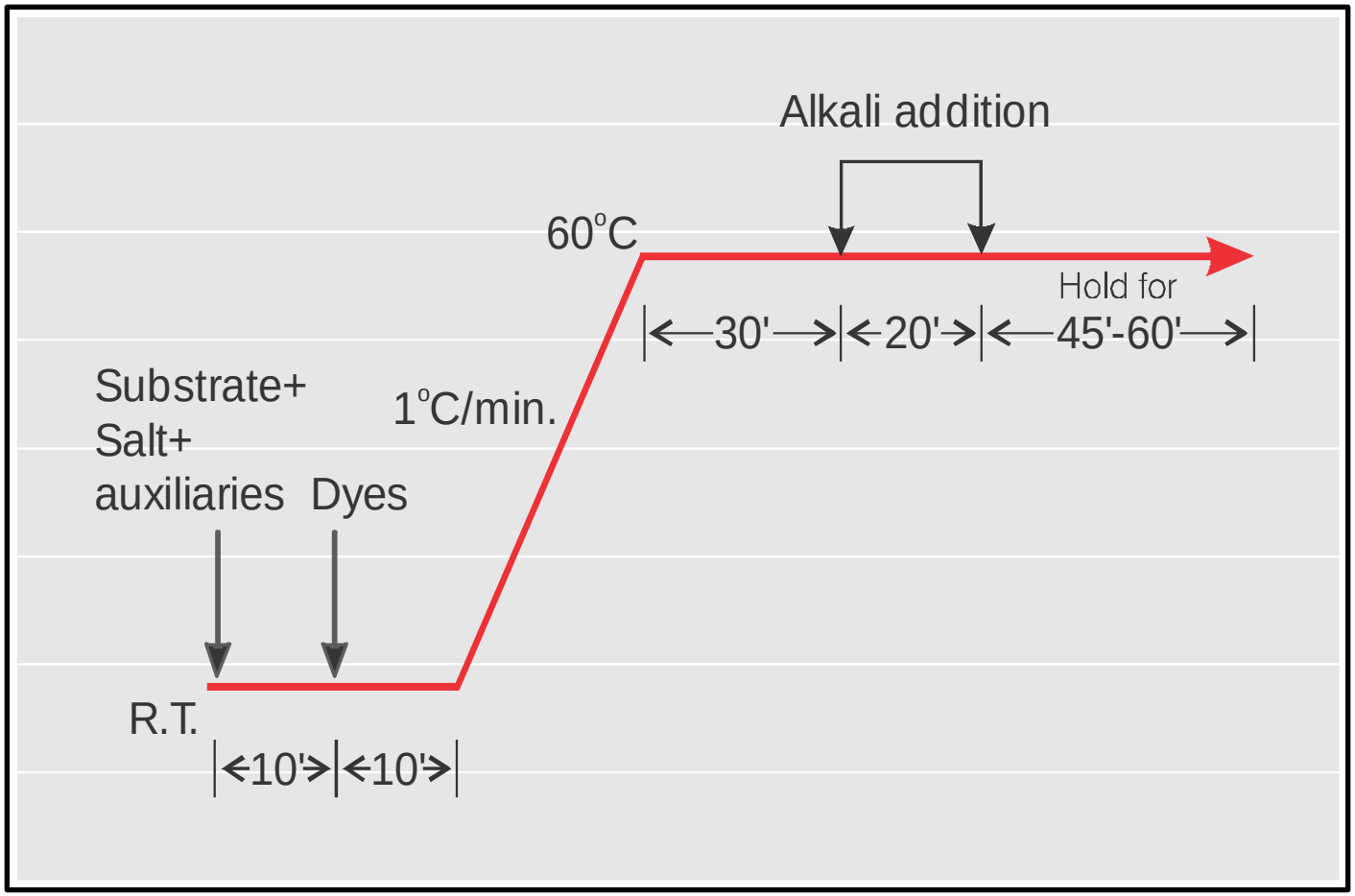
Isothermal Process

Coralite FL requires less alkali than conventional Reactive dyes.



Concentration	<0.5%	0.5 – 1.0%	1.0 – 2.0%	2.0 – 3.0%	> 3.0%
Salt (gpl)	20-30	30-40	40-50	50-60	60-70
Soda –ash (gpl)	6-8	8	8-12	12-14	15

Exhaust dyeing II-Temperature Rise Process



Coralite FL – Dyes

Cold – Pad – Batch method
With Sodium silicate / caustic soda
> Dosing pump required
> Short fixation time
> Good bath stability

Padding

Details	gpl
Dyes	X
Albaflow Conti	1-2
Albatex DBS	2
Sodium Silicate (69-77°TW) / 37-40°Be	70ml/lt
Caustic soda (66°TW – 36° Be)	15-33ml/lt

Padding Temperature	20-30°C
Liquor pick-up	60-70%
Fixation	8-12 hrs. at 25°C

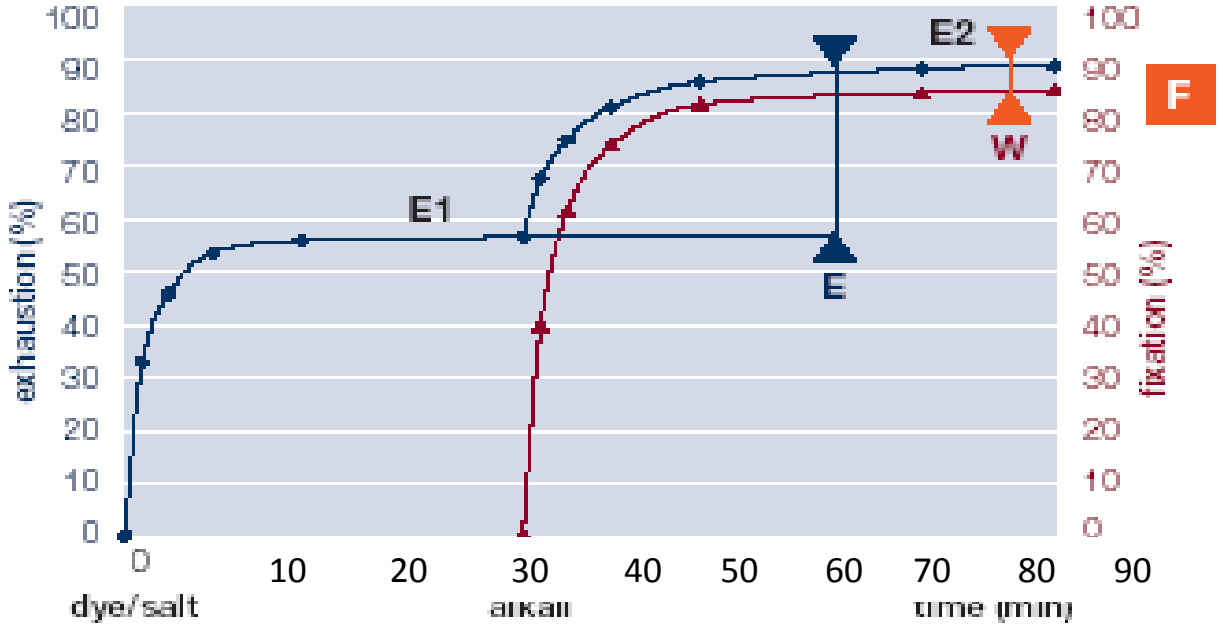
Coralite FL – Dyes

Dyes	g/l	<10	20	30	40	50	60	>70
Sodium silicate 37-40°Be / 69-77°TW	ml/lt	70	70	70	70	70	70	70
Caustic soda 36°Be / 66°TW	ml/lt	15	18	21	24	27	30	33
Sodium silicate 40-43°Be / 77-85°TW	ml/lt	60	60	60	60	60	60	60
Caustic soda 36°Be / 66°TW	ml/lt	16	19	22	25	28	31	34
Sodium silicate 48-50°Be / 100-106°TW	ml/lt	50	50	50	50	50	50	50
Caustic soda 36°Be / 66°TW	ml/lt	9	12	15	18	21	24	27

Coralite FL – Dyes

Medium substantivity and high fixation rate contribute to

- good levelness
- excellent washing off
- good reproducibility



E1 Primary Exhaustion

E2 Secondary Exhaustion

F Fixation rate on the fibre

E Exhausted dye on fibre after alkali addition

W wash - off

---------- **Exhaustion curve**

---------- **Fixation curve.**

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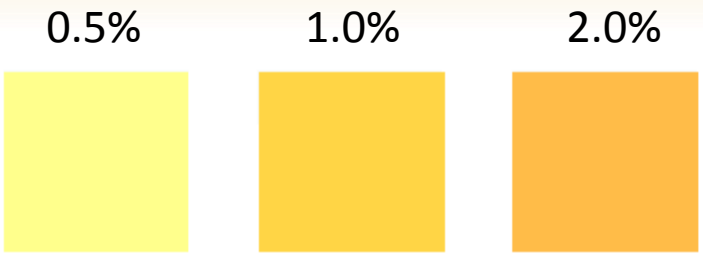
Highlights	Dyers satisfaction
Excellent fastness levels: - Light fastness - Oxidative Bleach - Home laundering	Fulfills brand and retailer requirements
Outstanding reproducibility : - Homogeneous affinity - Stable in alkali and acid condition - Robust trichromates	Right – First – Time
High Reactivity and Fixation - Versatile in application - High fixation - Easy wash –off	Conforms to Ecology aspects.

Coralite FL – Dyes



Coralite Yellow FL-2R

High light fast Golden Yellow ,
Excellent Chlorine and M&S C-10A fastness

Coralite Red FL-2B

High light fast, heavy -metal free Red
Suitable in all continuous application
Excellent multiple washing fastness

Coralite Blue FL-R

High Light fast Blue dye
Suitable in all continuous application
Excellent Multiple wash fastness

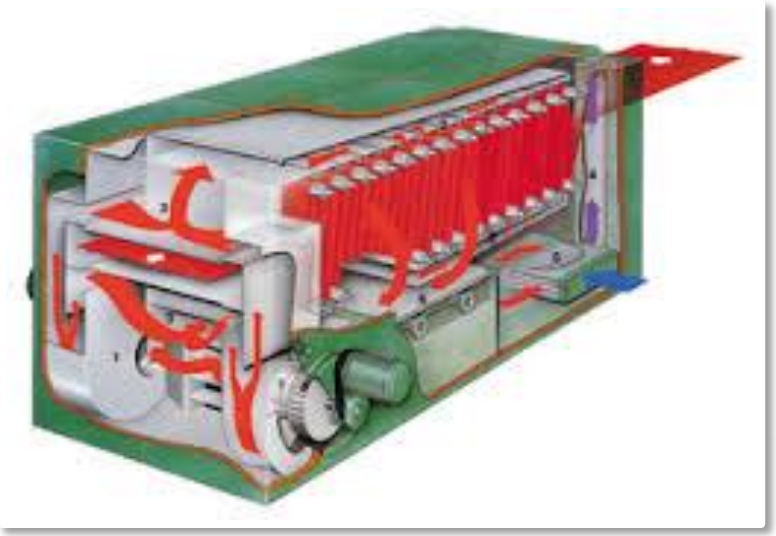
Coralite FL – Dyes

Application suitability

- Exhaust dyeing- Fabric and Yarn

- Cold Pad Batch dyeing

Coralite FL – Dyes



Application suitability

- Pad-Dry-Pad-Steam &
- Pad-steam

- E-Control

Coralite Yellow FL-2R

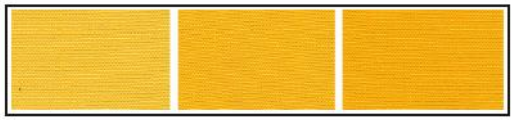
- High light fast reactive Yellow dye based on Fluoro triazine.
- Suitable for exhaust and Cold Pad Batch application.
- Recommended trichromy with Red FL-2B and Blue FL-R .

1/1 - S/D - (1.80%)

Fastness Properties (1/1 S/D)

Solubility g/l at 30°C	Solubility 50 g/l G. Salt at 50°C	Fastness to Washing C10:C3:2006		Perborate Washing/50°C M & S C4A		Fastness to Water Sever M & S C-6		Fastness to Perspiration (M & S C-7)				Oxidative Bleach M & S C-10A (Alteration)	Hypochlorite Bleaching ISO 105 N01 (Alteration)	Peroxide Bleaching ISO 105 N02 (Alteration)	Chlorine Fastness (20ppm) ISO 105 E03 (Alteration)	Chlorine Fastness (50ppm) ISO 105 E03 (Alteration)	Fastness to Rubbing ISO 105 X-12		Dischargeability	Fixation Value
								Acidic		Alkaline										
		Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining	Alteration	Staining						Dry	Wet		
140	100	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4 on tone	4-5	4-5	4-5	4-5	4-5	4	D	>80%

Mercerised woven fabric (by exhaust dyeing)



0.50% 1.00% 1.50%

Mercerised twill Fabric (by cold pad batch method)

5g/l 10g/l 15g/l

Fastness to Light

	1.80%	0.30%	0.15%	0.08%
	1/1 SD	1/6 S/D	1/12 SD	1/24 SD
AATCC 16 E 16:3 2012 Option (20AFU)	4.5	4.5	4.5	4.5
AATCC 16 E 16:3 2012 Option (40AFU)	4.5	4.0	4.0	3.5
ISO 105 B02 : 2013 (Up to grade-6)	6	5-6	5	4-5
M & S C-9 (Up to grade-4)	4+ On tone	4+ On tone	4+ On tone	4+ On tone
M & S C-9A	4-5 On tone	4-5 On tone	4-5 On tone	4-5 On tone
Nike alkaline perspiration (Nike Method)	4.5	4.5	4.5	4.5
Nike acid perspiration (Nike Method)	4.5	4.5	4.5	4.5

Coralite Red FL-2B

- High light fast reactive Red dye based on Fluoro triazine.
- Suitable in exhaust and continuous application.
- Recommended trichromy Yellow FL-2R and Blue FL-R .

1/1 - S/D - (4.00%)

Fastness Properties (1/1 S/D)

Solubility g/l at 30°C	Solubility 50 g/l G. Salt at 50°C	Fastness to Washing C10:C3:2006		Perborate Washing/50°C M & S C4A		Fastness to Water Sever M & S C-6		Fastness to Perspiration (M & S C-7)				Oxidative Bleach M & S C-10A (Alteration)	Hypochlorite Bleaching ISO 105 N01 (Alteration)	Peroxide Bleaching ISO 105 N02 (Alteration)	Chlorine Fastness (20ppm) ISO 105 E03 (Alteration)	Chlorine Fastness (50ppm) ISO 105 E03 (Alteration)	Fastness to Rubbing ISO 105 X-12		Dischargeability	Fixation Value
								Acidic		Alkaline										
		Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining	Alteration	Staining						Dry	Wet		
85	35	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5 on tone	2	4-5	4	3	4-5	3	D	>80%

Mercerised woven fabric (by exhaust dyeing)

0.50% 1.00% 1.50%

Mercerised twill Fabric (by cold pad batch method)

5g/l 10g/l 15g/l

Fastness to Light

	4.00%	0.66%	0.33%	0.16%
	1/1 SD	1/6 S/D	1/12 SD	1/24 SD
ISO 105 B02 1994 (Up to grade-6)	6+	4	3-4	3
AATCC 16E 2004 Option (20AFU)	4.5	4.5	4.5	4.5
AATCC 16E 2004 Option (40AFU)	4.5	4-0	4.0	4.0
M & S C-9 (Up to grade-4)	4+ On tone	4+ On tone	4+ On tone	4+ On tone
M & S C-9A	4-5 On tone	4-5 On tone	4-5 On tone	4-5 On tone
Nike alkaline perspiration (Nike Method)	4.5	4.5	4.5	4.5
Nike acid perspiration (Nike Method)	4.5	4.5	4.5	4.5

Coralite Blue FL-R

- High light fast reactive Red dye based on Fluoro triazine.
- Suitable for exhaust and continuous application.
- Recommended trichromy Yellow FL-2R and Blue FL-R .

1/1 - S/D - (4.00%)

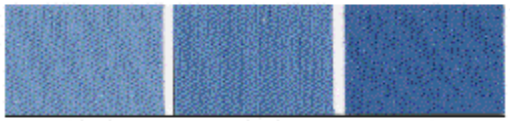
Fastness Properties (1/1 S/D)

Solubility g/l at 30°C	Solubility 50 g/l G. Salt at 50°C	Fastness to Washing C10:C3:2006		Perborate Washing/50°C M & S C4A		Fastness to Water Sever M & S C-6		Fastness to Perspiration (M & S C-7)				Oxidative Bleach M & S C-10A (Alteration)	Hypochlorite Bleaching ISO 105 N01 (Alteration)	Peroxide Bleaching ISO 105 N02 (Alteration)	Chlorine Fastness (20 ppm) ISO 105 E03 (Alteration)	Chlorine Fastness (50 ppm) ISO 105 E03 (Alteration)	Fastness to Rubbing ISO 105 X-12		Dischargeability	Fixation Value
								Acidic		Alkaline							Dry	Wet		
		Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining on Cotton	Alteration	Staining	Alteration	Staining									
85	35	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5 on tone	2	4-5	4	3	4-5	3	D	>80%

Unmercerised Cotton Knit Fabric (by exhaust dyeing)

0.50 % 1.00 % 1.50 %

Mercerised twill Fabric (by cold pad batch method)



5g/l 10g/l 15g/l

Fastness to Light

	4.00%	0.66%	0.33%	0.16%
	1/1 SD	1/6 S/D	1/12 SD	1/24 SD
ISO 105 B02 1994 (Up to grade-6)	6+	4	3-4	3
AATCC 16E 2004 Option (20AFU)	4.5	4.5	4.5	4.5
AATCC 16E 2004 Option (40AFU)	4.5	4-0	4.0	4.0
M & S C-9 (Up to grade-4)	4+ On tone	4+ On tone	4+ On tone	4+ On tone
M & S C-9A	4-5 On tone	4-5 On tone	4-5 On tone	4-5 On tone
Nike alkaline perspiration (Nike Method)	4.5	4.5	4.5	4.5
Nike acid perspiration (Nike Method)	4.5	4.5	4.5	4.5

Coralite FL – Dyes

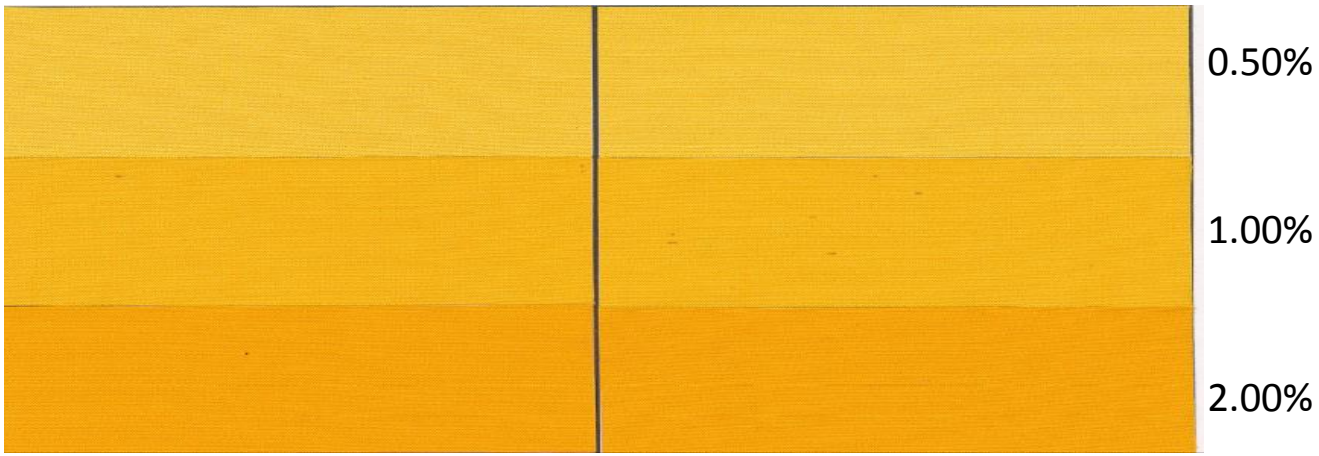
** Comparative dyeing report on mercerised woven fabric **

(Exhaust dyeing method)

M. L. R. – 1 : 10

Temp./Time: – 60°C/60 min.

Reactive Yellow FN2R **Coralite Yellow FL-2R**



Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Yellow FN2R	0.50%	100%	Control				
Coralite Yellow FL-2R	0.50%	97.98%	0.25	0.20	-0.04	0.04	-0.25
Reactive Yellow FN2R	1.00%	100%	Control				
Coralite Yellow FL-2R	1.00%	96.49%	0.32	0.10	-0.27	-0.21	-0.19
Reactive Yellow FN2R	2.00%	100%	Control				
Coralite Yellow FL-2R	2.00%	98%	0.35	0.12	-0.29	-0.26	-0.23

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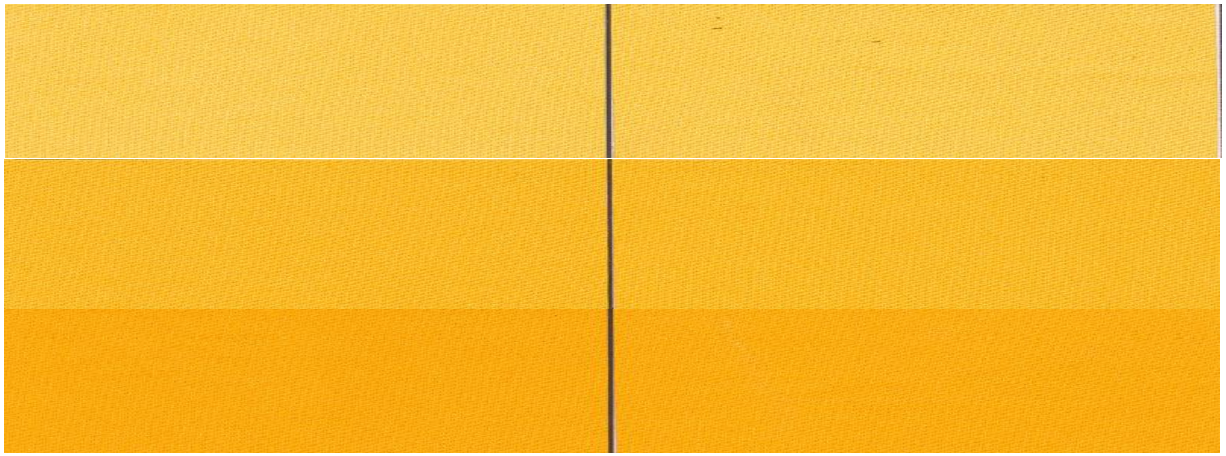
** Comparative padding report on mercerised twill fabric **

(Cold-Pad-Batch method)

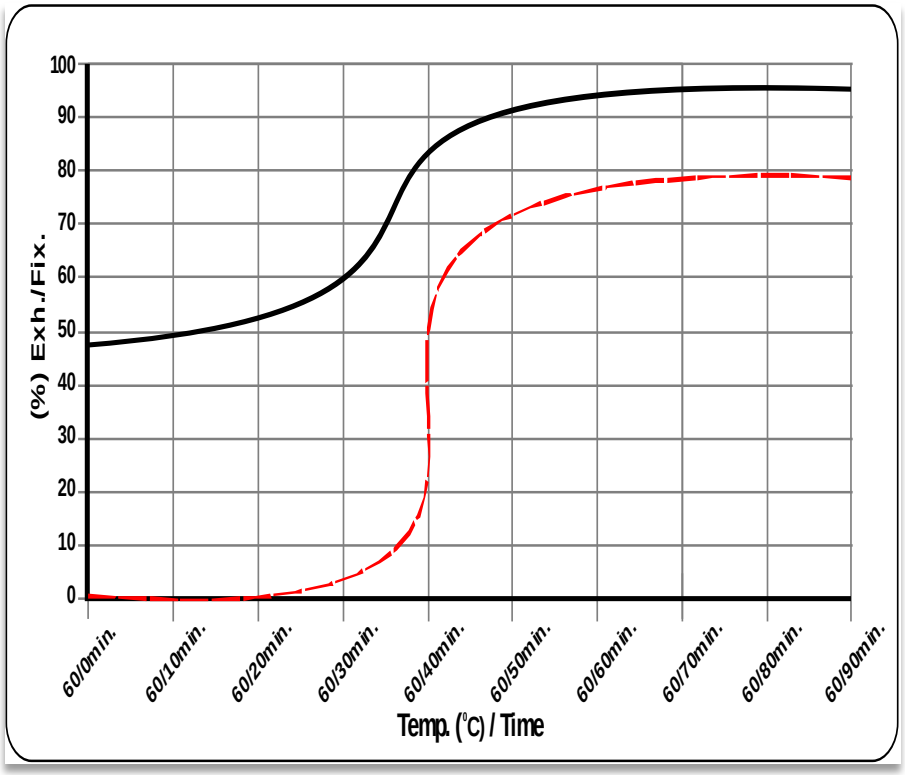
Reactive Yellow FN2R **Coralite Yellow FL-2R**

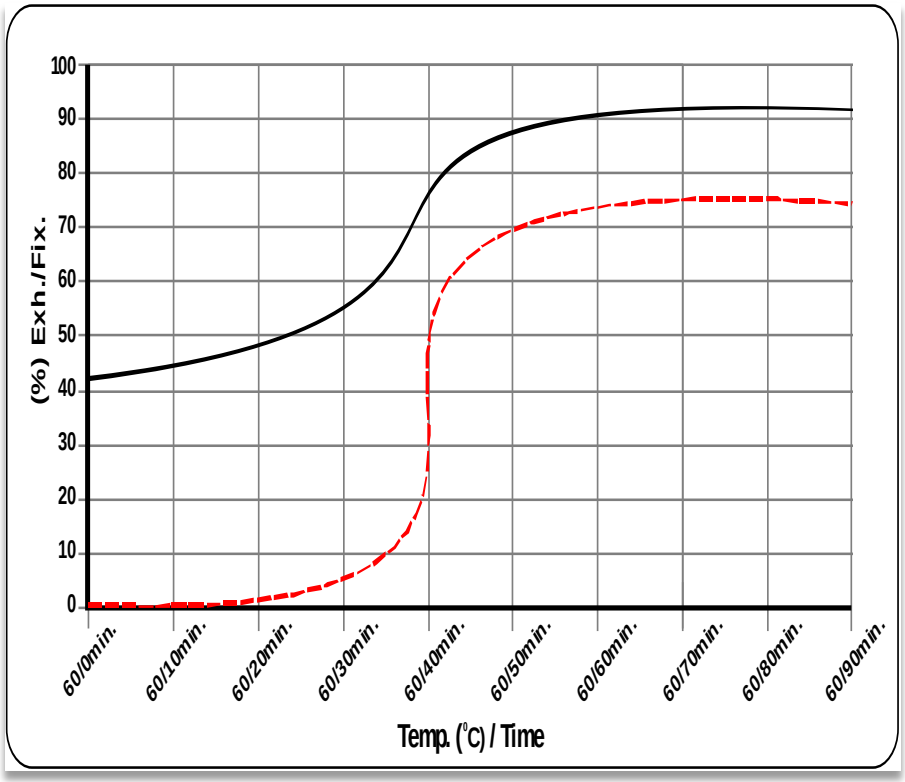


Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Yellow FN2R	5 gpl	100%	Control				
Coralite Yellow FN2R	5 gpl	94%	0.35	0.01	-0.31	-0.30	-0.10
Reactive Yellow FN2R	10 gpl	100%	Control				
Coralite Yellow FN2R	10 gpl	98.97%	0.15	-0.06	0.12	0.09	0.09
Reactive Yellow FN2R	20 gpl	100%	Control				
Coralite Yellow FN2R	20 gpl	99.98%	0.28	0.27	0.05	0.15	-0.23

Coralite FL – Dyes

SEF profile - Reactive Yellow FN-2R Vs. Coralite Yellow FL-2R





Coralite FL – Dyes

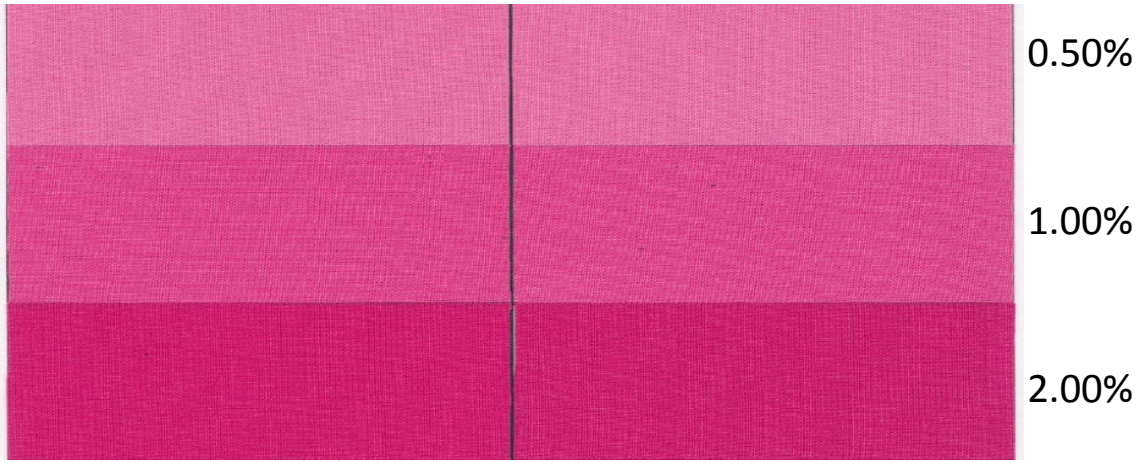
** Comparative dyeing report on mercerised woven fabric **

(Exhaust dyeing method)

M. L. R. – 1 : 10

Temp./Time: – 60°C/60 min.

Reactive Red FN2BL **Coralite Red FL-2B**



Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Red FN2BL	0.50%	100%	Control				
Coralite Red FL-2B	0.50%	97.15%	0.32	-0.32	-0.02	-0.30	-0.10
Reactive Red FN2BL	1.00%	100%	Control				
Coralite Red FL-2B	1.00%	97.46%	0.37	-0.36	0.01	-0.36	-0.07
Reactive Red FN2BL	2.00%	100%	Control				
Coralite Red FL-2B	2.00%	98%	0.48	-0.45	-0.08	-0.44	-0.14

Coralite FL – Dyes

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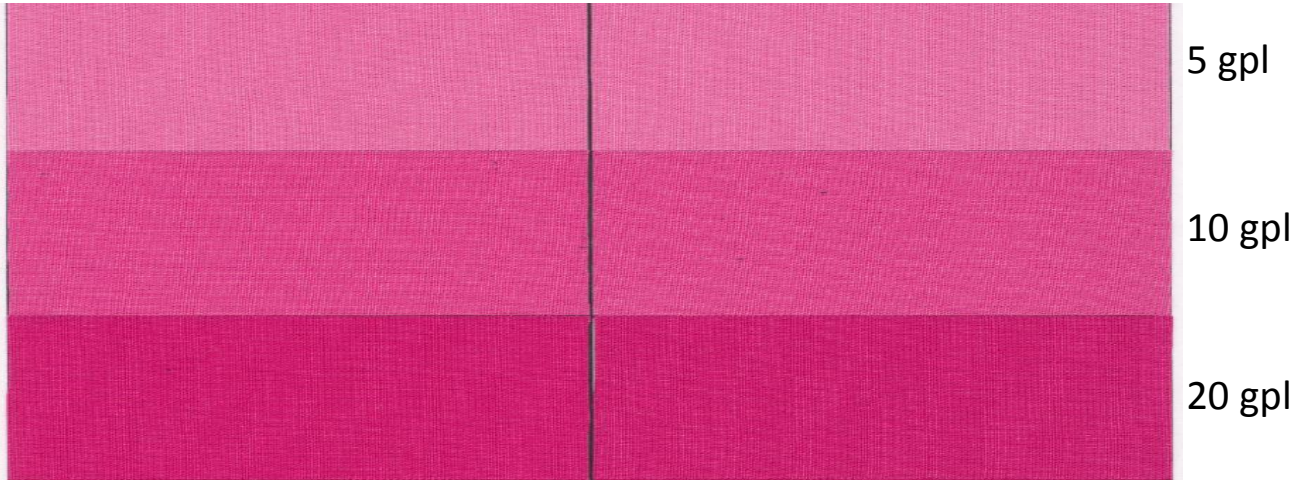
** Comparative padding report on mercerised twill fabric **

(Cold-Pad - Batch method)

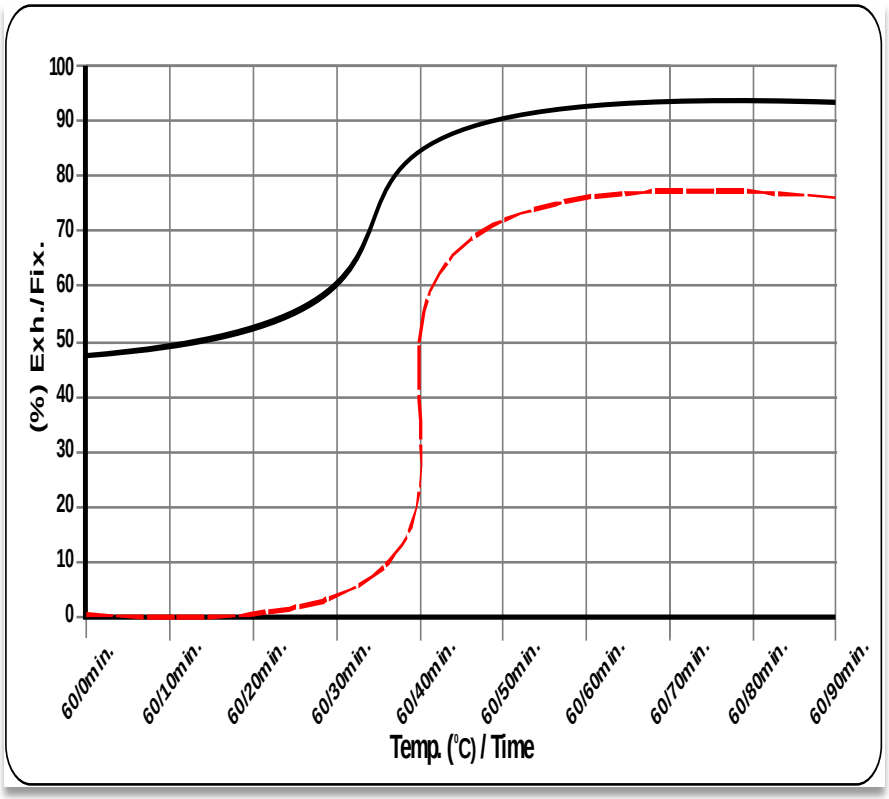
Reactive Red FN2BL **Coralite Red FL-2B**

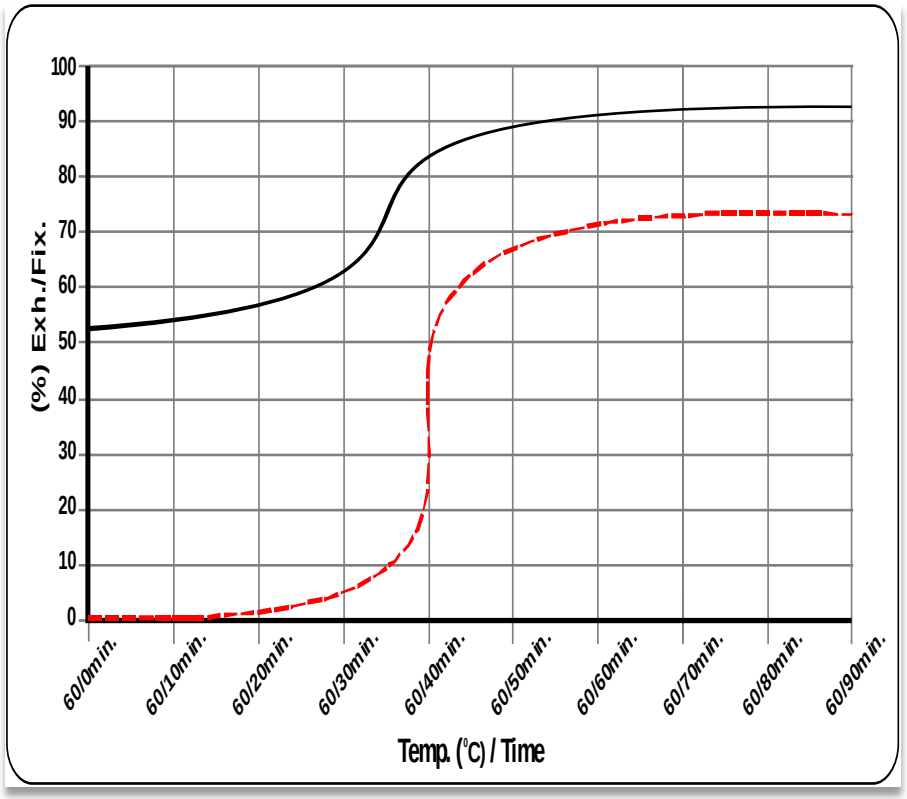


Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Red FN2BL	5 gpl	100%	Control				
Coralite Red FL-2B	5 gpl	97%	0.21	-0.10	0.18	-0.14	0.15
Reactive Red FN2BL	10 gpl	100%	Control				
Coralite Red FL-2B	10 gpl	99%	0.32	-0.21	0.21	-0.26	0.19
Reactive Red FN2BL	20 gpl	100%	Control				
Coralite Red FL-2B	20 gpl	100%	0.28	-0.26	0.09	-0.27	0.05

Coralite FL – Dyes

SEF profile - Reactive Red FN-2BL Vs. Coralite Red FL-2B





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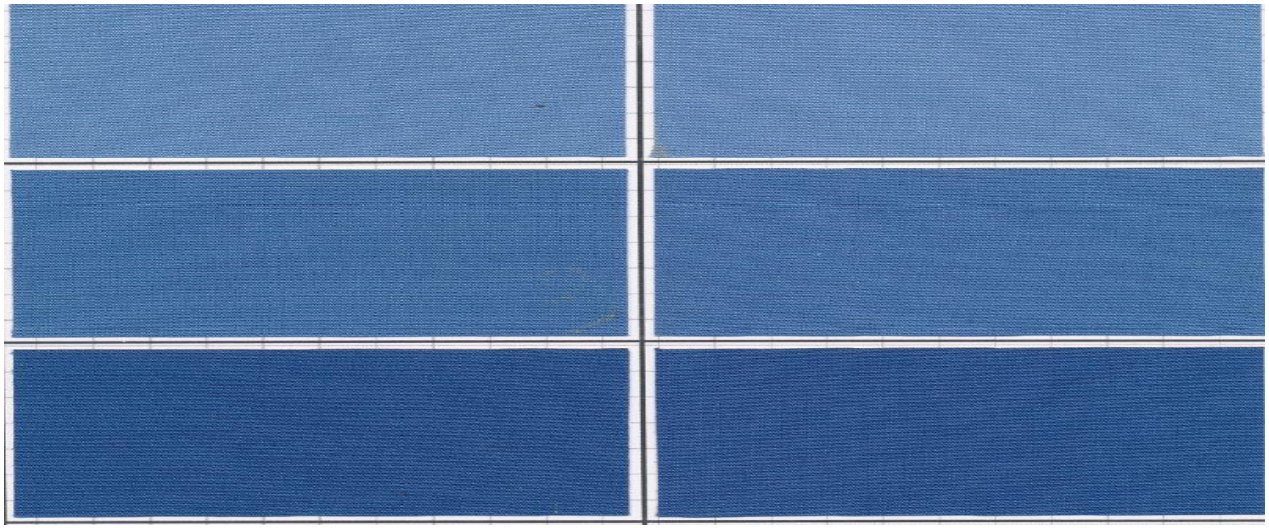
** Comparative dyeing report on mercerised woven fabric **

(Exhaust dyeing method)

M. L. R. – 1 : 10

Temp./Time: – 60^{0}C/60 min.

Reactive Blue FN-R **Coralite Blue FL-R**



Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Blue FN-R	0.50%	100%	Control				
Coralite Blue FL-R	0.50%	99.10%	0.28	0.13	-0.25	0.22	0.17
Reactive Blue FN-R	1.00%	100%	Control				
Coralite Blue FL-R	1.00%	97.31%	0.07	0.06	0.03	-0.04	0.05
Reactive Blue FN-R	2.00%	100%	Control				
Coralite Blue FL-R	2.00%	97%	0.10	0.01	0.10	-0.10	0.01

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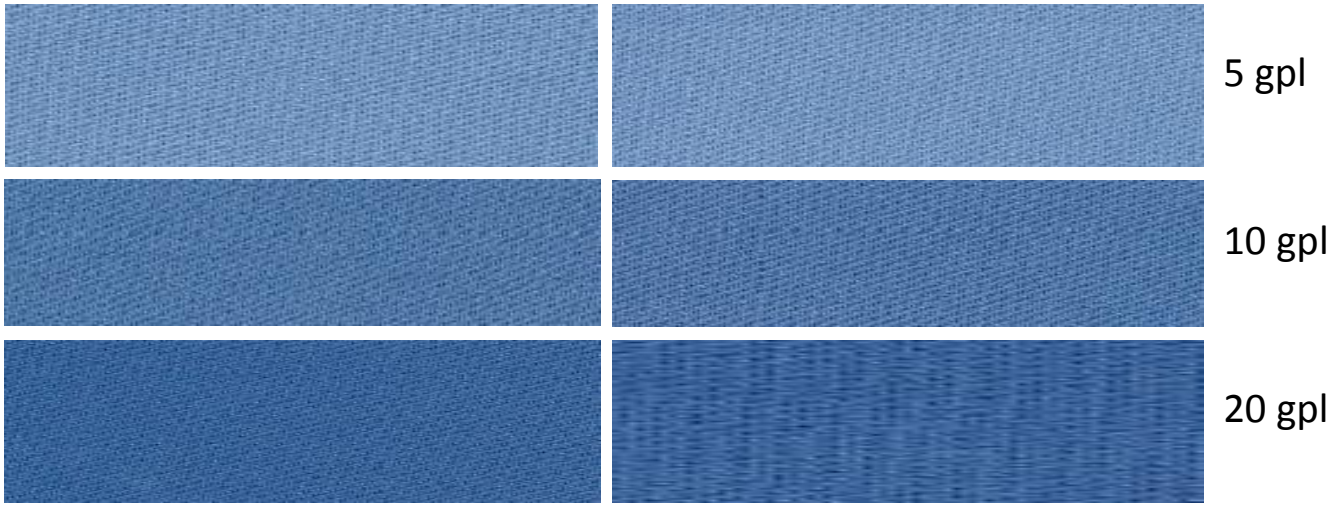
** Comparative padding report on mercerised twill fabric **

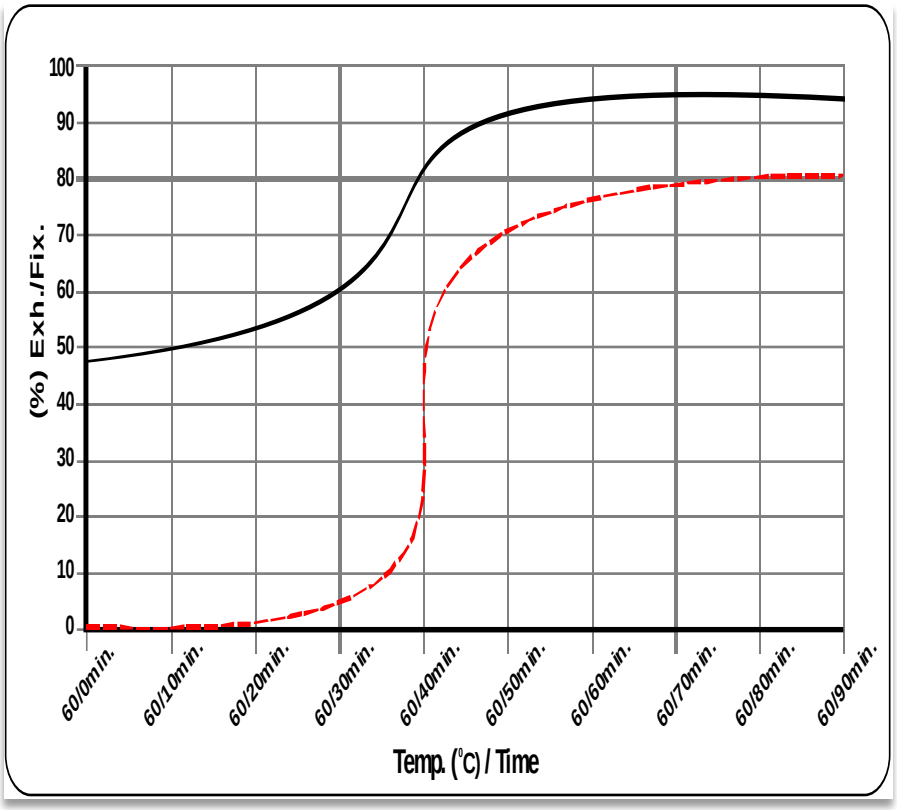
(Cold Pad batch method)

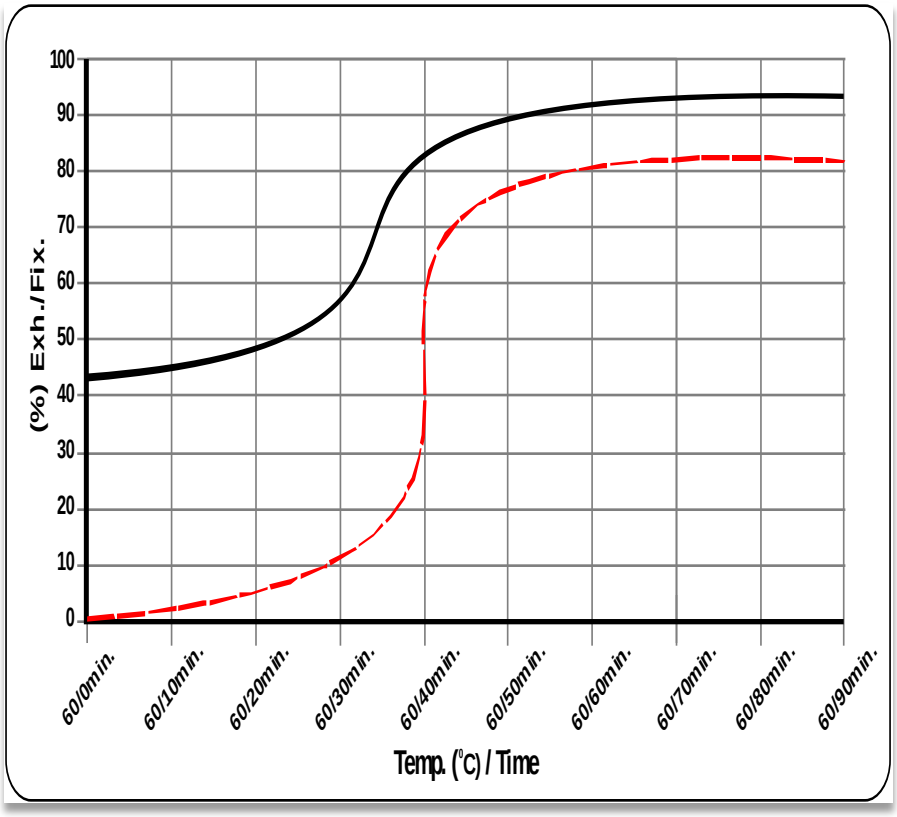


Product Name	Shade	Strength	DE*	Da*	Db*	DC*	DH*
Reactive Blue CR	5 gpl	100%	Control				
Coralite Blue FL-R	5 gpl	96.39%	0.41	0.23	-0.34	0.29	0.28
Reactive Blue CR	10 gpl	100%	Control				
Coralite Blue FL-R	10 gpl	97.12%	0.53	0.36	-0.38	0.33	0.40
Reactive Blue CR	20 gpl	100%	Control				
Coralite Blue FL-R	20 gpl	95%	0.13	0.12	-0.05	0.04	0.12

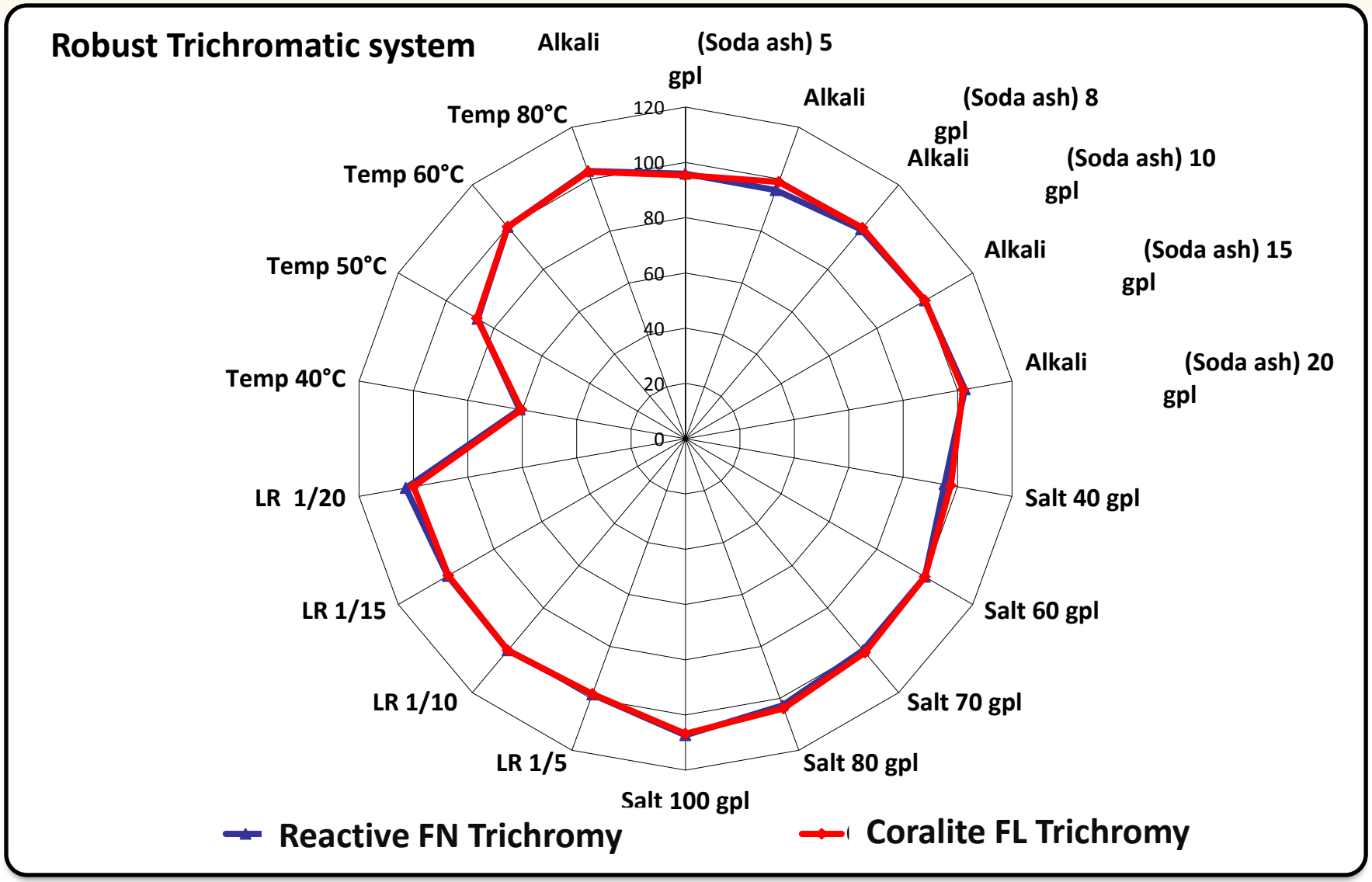
Coralite FL – Dyes

SEF profile Reactive Blue FNR Vs. Coralite Blue FLR





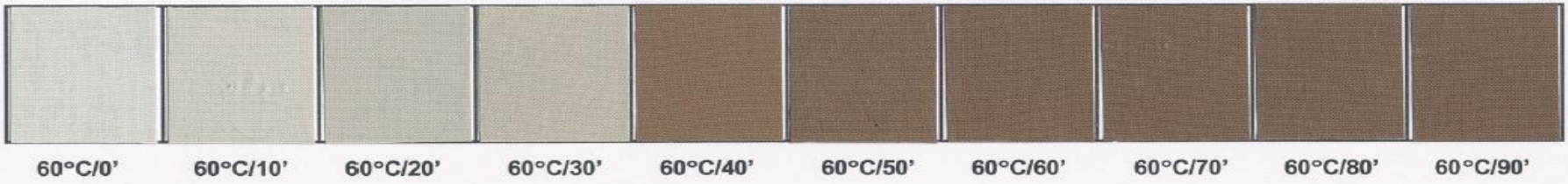
Coralite FL – Dyes



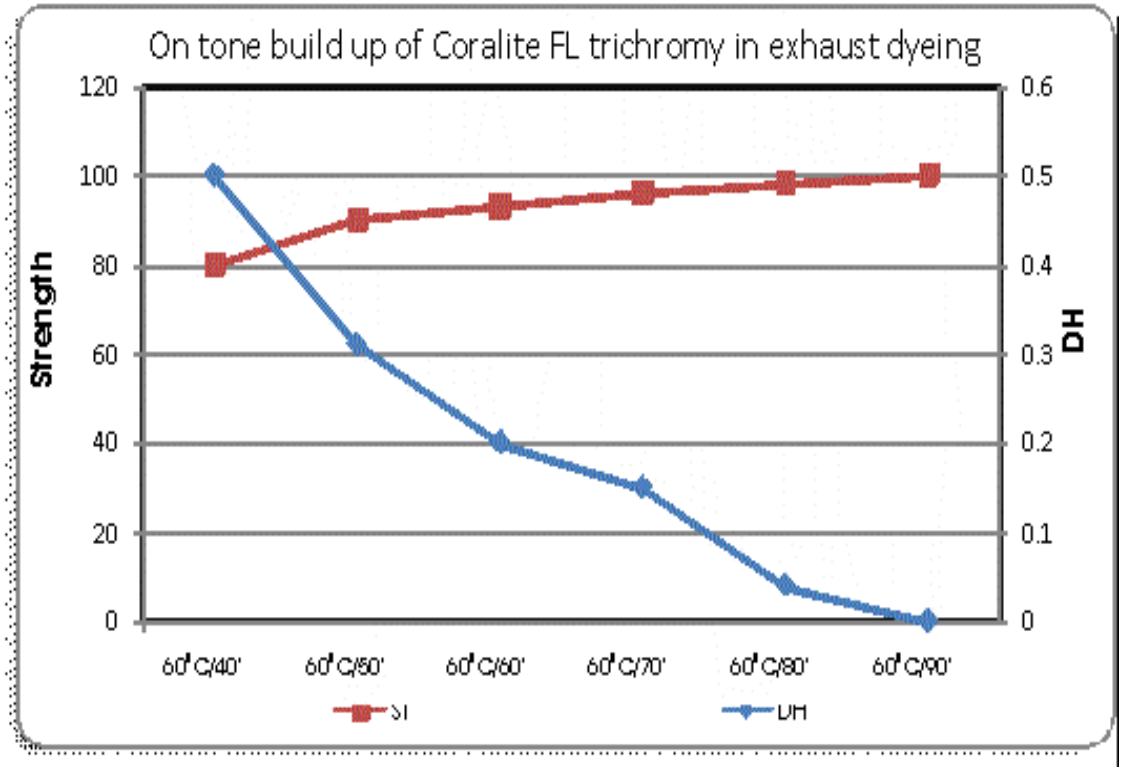
Coralite FL – Dyes

On tone build up

(Exhaust dyeing method)
M. L. R → 1 : 10
Substrate → Mercerised woven fabric



Recipe:	Shade
Coralite Yellow FL-2R Grains	0.50%
Coralite Red FL-2B Grains	0.50%
Coralite Blue FL-R Grains	0.50%



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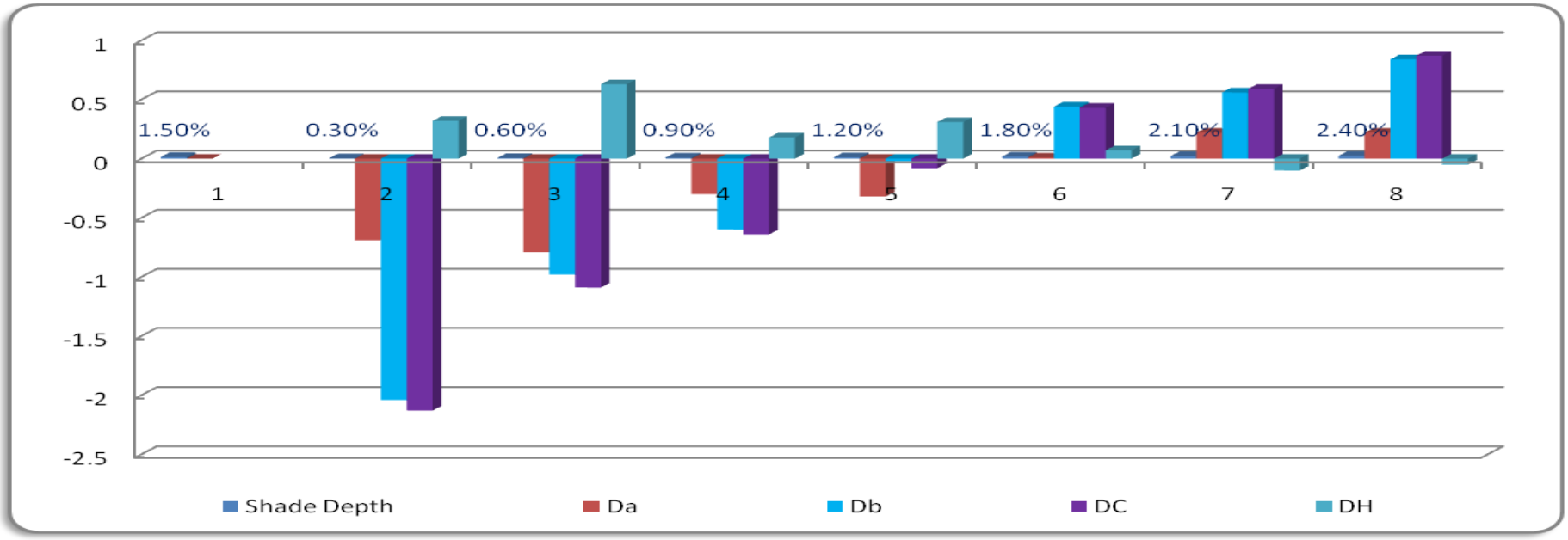
Product Name	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coralite Yellow FL-2R Grains	0.10%	0.20%	0.30%	0.40%	0.50%	0.60%	0.70%	0.80%
Coralite Red FL-2B Grains	0.10%	0.20%	0.30%	0.40%	0.50%	0.60%	0.70%	0.80%
Coralite Blue FL-R Grains	0.10%	0.20%	0.30%	0.40%	0.50%	0.60%	0.70%	0.80%



On-tone build up in Cold pad batch dyeing

- Batching time of 12 hours and 16 Hours show similar Hue, value & Fastness ; results in increase in Production efficiency
- On-tone build up in batching
- Similar wicking effect in padding bath
- Pad bath stability at 20-25^{o}C is very good till 60 minutes. This will result in better continuity and no tailing effect

Coralite Yellow 2R –5 gpl
Coralite Red FL-2B – 5gpl
Coralite Blue FL-R – 5gpl

Standard – 16 hrs.

1hr.	2hr.	4hr.	6hr.	8hr.	10hr	DH 0.1 98.6% 12hr	14hr	16hr	18hr	20hr	DH 0.02 101.2% 24hr

Comparative Combination shades and Metamerism study in Exhaust application :

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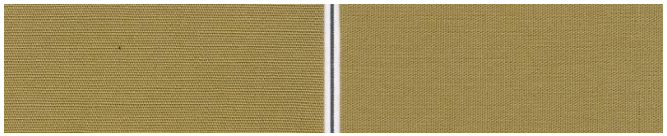
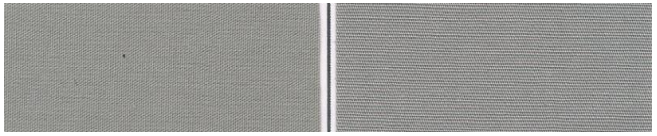
Reactive Yellow FN2R 0.50% **Coralite Yellow FL-2R 0.50%**
Reactive Red FN2BL 0.50% **Coralite Red FL-2B 0.50%**
Reactive Blue FN-R 0.50% **Coralite Blue FL-R 0.50%**

	Standard		Batch		CCM Report (CIE LAB)								
Shade Name	Reactive	Shade depth	Coralite	Shade depth	Illuminant	RFL	dE	DL	DC	DH	DA	DB	Metameric Index
Fir Green	Yellow FN2R	0.5%	Yellow FL-2R	0.5%	D65 10 Deg	98.46%	0.84	0.05	-0.51	0.67	-0.58	-0.53	Primary
	Red FN2BL	0.5%	Red FL-2B	0.5%	F 11 10 Deg		0.94	0.01	-0.57	0.75	-0.66	-0.65	0.16
	Blue FN-R	0.5%	Blue FL-R	0.5%	F 02 10 Deg		0.78	0.01	-0.53	0.56	-0.49	-0.65	0.17
					A 10 Deg		0.72	0	-0.62	0.36	-0.58	-0.67	0.16

	Standard		Batch		CCM Report (CIE LAB)								
Shade Name	Reactive	Shade depth	Coralite	Shade depth	Illuminant	RFL	dE	DL	DC	DH	DA	DB	Metameric Index
Iguana	Yellow FN2R	0.35%	Yellow FL-2R	0.35%	D65 10 Deg	98.98%	0.88	-0.13	-0.87	-0.06	-0.07	-1.34	Primary
	Red FN2BL	0.25%	Red FL-2B	0.25%	F 11 10 Deg		0.95	-0.18	-0.93	-0.05	-0.06	-1.52	0.2
	Blue FN-R	0.25%	Blue FL-R	0.25%	F 02 10 Deg		0.96	-0.17	-0.94	0.01	-0.05	-1.51	0.2
					A 10 Deg		0.94	-0.16	-0.85	-0.36	-0.14	-1.4	0.09



Reactive Yellow FN2R 0.35% **Coralite Yellow FL-2R 0.35%**
Reactive Red FN2BL 0.25% **Coralite Red FL-2B 0.25%**
Reactive Blue FN-R 0.25% **Coralite Blue FL-R 0.25%**



Reactive Yellow FN2R 0.10% **Coralite Yellow FL-2R 0.10%**
Reactive Red FN2BL 0.10% **Coralite Red FL-2B 0.10%**
Reactive Blue FN-R 0.20%l **Coralite Blue FL-R 0.20%**

	Standard		Batch		CCM Report (CIE LAB)								
Shade Name	Reactive	Shade depth	Coralite	Shade depth	Illuminant	RFL	dE	DL	DC	DH	DA	DB	Metameric Index
Asparagus	Yellow FN2R	0.10%	Yellow FL-2R	0.10%	D65 10 Deg	99.62%	0.92	-0.04	-0.51	0.77	0.01	-0.77	Primary
	Red FN2BL	0.10%	Red FL-2B	0.10%	F 11 10 Deg		1.04	-0.06	-0.51	0.91	-0.04	-0.87	0.12
	Blue FN-R	0.20%	Blue FL-R	0.20%	F 02 10 Deg		1.1	-0.06	-0.59	0.93	-0.01	-0.9	0.14
					A 10 Deg		1.05	-0.06	-0.68	0.8	-0.11	-0.8	0.13

Comparative Combination shades and Metamerism study in CPB application :

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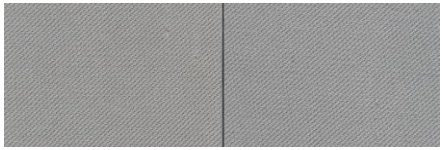
Reactive Yellow C2R	2 gpl	Coralite Yellow FL-2R	2 gpl
Reactive Red C2BL	1 gpl	Coralite Red FL-2B	1 gpl
Reactive Blue CR	1 gpl	Coralite Blue FL-R	1 gpl

Product Name	gpl	Illuminates	Strength	DE*	DL*	DC*	DH*	Da*	Db*	Metameric Index
Reactive Yellow C2R Reactive Red C2BL Reactive Blue CR	2 gpl 1 gpl 1 gpl	Control	100%	Control						DIN 6172
Coralite Yellow FL-2R Grains Coralite Red FL-2B Grains Coralite Blue FL-R	2 gpl 1 gpl 1 gpl	D65 10 Deg	102%	1.28	-0.19	-0.88	0.91	-0.90	-1.34	D65 10 Deg
		F11 10 Deg		1.37	-0.24	-0.96	0.95	-0.98	-1.58	0.27
		FO2 10 Deg		1.22	-0.24	-0.96	0.72	-0.71	-1.59	0.33
		A10 Deg		1.25	-0.26	-1.07	0.59	-0.94	-1.59	0.28

Product Name	gpl	Illuminates	Strength	DE*	DL*	DC*	DH*	Da*	Db*	Metameric Index
Reactive Yellow C2R Reactive Red C2BL Reactive Blue CRff	2 gpl 2 gpl 2 gpl	Control	100%	Control						DIN 6172
Coralite Yellow FL-2R Grains Coralite Red FL-2B Grains Coralite Blue FL-R	2 gpl 2 gpl 2 gpl	D65 10 Deg	99.83%	1.46	-0.03	-1.42	0.37	-0.55	-1.62	D65 10 Deg
		F11 10 Deg		1.63	-0.08	-1.55	0.52	-0.67	-1.86	0.30
		FO2 10 Deg		1.60	-0.08	-1.55	0.40	-0.46	-1.88	0.31
		A10 Deg		1.54	-0.09	-1.50	-0.30	-0.70	-1.81	0.27

Reactive Yellow C2R	2 gpl	Coralite Yellow FL-2R	2 gpl
Reactive Red C2BL	2 gpl	Coralite Red FL-2B	2 gpl
Reactive Blue CR	2 gpl	Coralite Blue FL-R	2 gpl



Reactive Yellow C2R	1 gpl	Coralite Yellow FL-2R	1 gpl
Reactive Red C2BL	1 gpl	Coralite Red FL-2B	1 gpl
Reactive Blue CR	2 gpl	Coralite Blue FL-R	2 gpl

Product Name	gpl	Illuminates	Strength	DE*	DL*	DC*	DH*	Da*	Db*	Metameric Index
Reactive Yellow C2R Reactive Red C2BL Reactive Blue CR	1 gpl 1 gpl 2 gpl	Control	100%	Control						DIN 6172
Coralite Yellow FL-2R Grains Coralite Red FL-2B Grains Coralite Blue FL-R	1 gpl 1 gpl 2 gpl	D65 10 Deg	99.52%	2.12	0.03	-0.38	2.09	-0.55	1.59	D65 10 Deg
		F11 10 Deg		2.49	-0.03	-0.33	2.47	-0.68	-1.86	0.34
		FO2 10 Deg		2.48	-0.03	-0.48	2.43	-0.46	-1.88	0.34
		A10 Deg		2.67	-0.04	-0.87	2.53	-0.77	-1.82	0.36

Thanks……