yoracryl dyes

Recommendations for the Dyeing of Cationic Dyeable Polyamide(C.D.PA.)

Yoracryl dyes are not recommended for the dyeing of C.D.PA.
Selected Sevron dyes are highly recommended for dyeing C.D.PA. and also in the differential dyeing of Polyamide carpets.
The following dyes are recommended for these outlets:
Sevron Yellow 3RL
Sevron Red YCN
Sevron Blue ACN
available from Yorkshire

Important

The information contained in this document is based upon the present state of our knowledge and upon the results of detailed evaluation work, presented objectively. It is made without liability as to any results obtained by the application of the products described therein. It is strongly recommended that, before proceeding to industrial scale work, trials should be carried out to assess product performance under the specific conditions that will be encountered.

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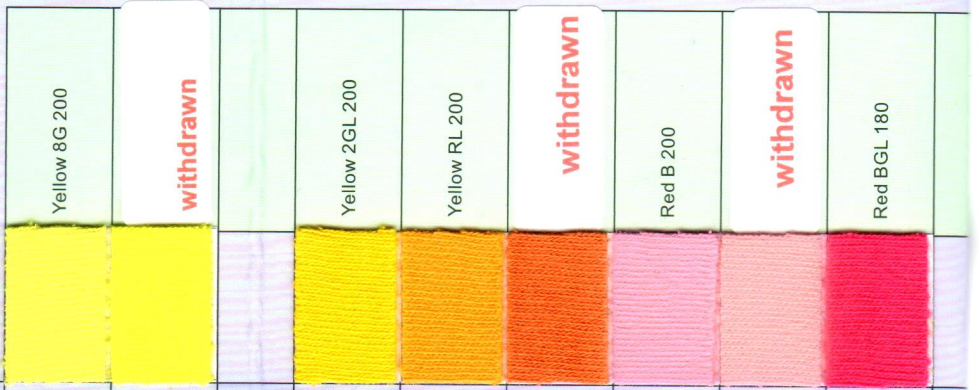


% Dyestuff		054	1.20		0.60	0.45	1.0	0.36	0.30	0.33
Other Powder formulation (Grn = Grains)		-	-		300	200	-	-	-	-
Liquid Formulation		-	-		-	200	40	200	200	100
Compatibility Value (cv)		3.5	3.0		2.5	3.0	3.0	2.0	3.0	2.5
Saturation factor (f)*		0.83	0.25		0.34	0.52	0.64	0.30	0.81	0.72
Light fastness B02 Xenotest		5-6	6-7		6-7	6-7	7	3-4	3-4	6-7
Perspiration E04 test	Change of shade	5	5		5	5	5	5	5	5
pH8	Stain on PAC	5	5		5	5	5	5	5	5
Steaming P02	Change of shade	5	5		5	5	5	5	5	5
10′ 10psi	Stain on PAC	5	5		5	5	5	5	5	5
Reservation	PAC/WO	5	5		4-5	4-5	4	5	5	4-5
	PAC/CO	5	5		5	5	4	4-5	4-5	4-5
	PAC/PA	5	5		5	5	3	4-5	4-5	4
	PAC/PES	5	5		5	5	4	5	5	5
	PAC/CA	3-4	3-4		3-4	3-4	3	2-3	3	3-4
Dischargeability ($SnCl_2$)		I	I		I	I	D	I	I	X
Suitability for Printing		○	●		●	●	●	●	●	●

* Saturation factor only applies to the titled and illustrated dye.

Abbreviations

Wo	Wool
Co	Cotton
PA	Nylon
PES	Polyester
CA	Acetate

Printing Suitability Key

●	Highly Recommended
○	Suitable in some instances (medium to deep shades)
NS	Not suitable

Red 2G 200 Grains	withdrawn	Blue 5G 200	Blue RGL 300	Blue 2RGL 200	Black FBL 300		Black VSN liquid		
									
0.36	0.23	042	0.30	0.44	2.70		5.80	% Dyestuff	
-	-	-	-	-	-		-	Other Powder formulation (Grn = Grains)	
100	100	-	200	-	-		-	Liquid Formulation	
3.0	1.5	3.5	3.5	3.0	3.0		3.0	Compatibility Value (cv)	
0.74	0.50	0.62	0.90	0.33	0.64		0.34	Saturation factor (f)*	
6-7	4	4-5	6-7	6-7	6-7		6-7	Light fastness B02 Xenotest	
5	5	5	5	5	5		5	Change of shade	Perspiration E04 test
5	5	5	5	5	4-5		4-5	Stain on PAC	pH8
5	5	5	4-5	4-5	4-5		4-5	Change of shade	Steaming P02
5	5	5	5	5	4-5		4-5	Stain on PAC	10′ 10psl
4	5	4-5	4	4-5	2		3	PAC/WO	Reservation
4	4-5	4-5	4	4-5	2-3		3	PAC/CO	
3	4	3-4	3	4-5	1-2		2	PAC/PA	
3-4	5	4-5	4	5	2-3		2-3	PAC/PES	
2-3	2-3	3	3	2-3	2		2	PAC/CA	
D	I	I	D	X	X		X	Dischargeability ($SnCl_2$)	
●	●	●	○	●	●		●	Suitability for Printing	

Dyeing Acrylic Fibres - General Information

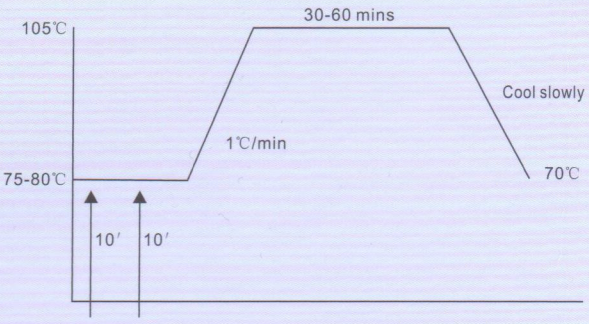
The majority of commercial acrylic fibres are made up of mostly Polyacrylonitrile with other components which are usually co-polymerised vinyl compounds containing sulphuric or carboxylic acids,which among other things help to increase fibre dyeability with cationic dyes.
During dyeing, little or no migration occurs as the link between the cationic dye and fibre is very strong. However increasing dyeing temperatures above the boil(>100℃) can increase migration, but may also cause detrimental physical properties to the fibre.
To provide level dyeings,a combination of controlling temperature, pH and additions of electrolyte or retarding agents are recommended.
In order to further maximise levelling it is important that dyes of a similar K/CV(Compatibility Value) are selected.
It is not recommended to use dyes in combination with highly differing CV's.

Fabric Preparation
In many instances acrylic fibres can be dyed without any prior preparation or scouring techniques.However should this be necessary the following procedure is recommended:
3% Dyamul AP
30 minutes at 60℃
Drop - Rinse - Ready to dye.
It is not recommended to use any alkali in preparation procedures.

Dissolving Yoracryl Dyes
The dyes should be pasted with an equal amount of acetic acid, and boiling water added to complete dissolution.
Yoracryl liquid dyes can be mixed with warm water, dissolved and then added to the dyebath.

Retarding Agents
In order to prevent rapid strike and unlevel dyeings,(particularly in pale shades) the use of a retarding agent is essential. Anionic retarding agents can cause precipitation problems and are not recommended.
We strongly recommend the use of Yoragal AN conc which is a cationic retarding agent which behaves like a colourless dye and competes with the dye for the available dye sites and hence prevents unlevel dyeings.
The amount to use is dependent on the depth of shade to be dyed and the type of acrylic fibre being used. The table overleaf shows approximate application levels to use.

General Dyeing Method



A - 1% Acetic Acid - pH 4.0-4.5
1% Sodium Acetate
1% Dyamul AP
B - X% Yoragal AN
X% Yoracryl dyes

If high temperature equipment is not available, dyeings can be performed satisfactorily at 95-98℃

Quantity of Yoragal AN conc to use
The following table of suggested application rates is based on a fibre with a saturation factor of 2.1(Dralon).

% of Total Yoracryl Dye	% of Yoragal AN to use
Below 0.1%	2.2% - 1.9%
0.1% - 0.5%	1.9% - 1.3%
0.5% - 1.0%	1.3% - 0.9%
1.0% - 2.0%	0.9% - 0.6%
2.0% - 4.0%	0.6% - 0%

For other fibres multiply the Yoragal AN % by the following factors: Acrilan,Leacril,Vonnet 0.7, Dolan, Cashmillon 1.3, Courtelle, Exlan 1.5.

Shading Additions
Should they be necessary, they can be safely made by cooling the dyebath to below 80℃ and re-heating at 1℃/min to maximum temperature. A further addition of retarding agent is not necessary.

Other Information
The addition of 10-20% Glauber's salt can help to promote migration, particularly at high temperatures. For high bulk yarns temperatures of 105℃ should not be exceeded. In general terms a maximum temperature or 115℃ should not be passed. 105℃ is recommended as the most suitable top temperature, if high temperature equipment is not available, maximum temperature under atmospheric conditions is recommended >95℃.

Recommendations for Dyeing Wool/Acrylic Blends

The dyeing of Wool/Acrylic blends is becoming an increasingly important market segment for knitwear goods.
Dye selection for the wool fibre portion of the blend is dependent on depth of shade.
The following dye ranges are highly suitable:
Pale - Medium shades - Intracid TX dyes
Medium - Heavy shades - Neutrilan S dyes
Heavy shades and Blacks - Intrafast CFE dyes
Dye selection for the acrylic portion is equally important, to provide minimum cross staining and optimum fastness performance. The following Yoracryl dyes are highly recommended:

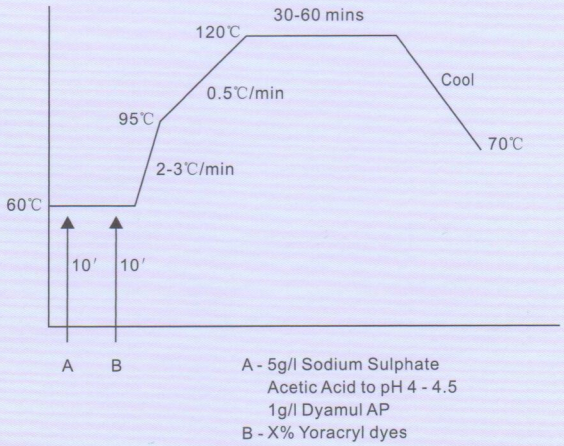
Yoracryl Yellow RL 200
Yoracryl Red BGL 180 } Trichromat
Yoracryl Blue 2RGL 200
Yoracryl Yellow 8G 200
Yoracryl Yellow 2GL 200
Yoracryl Red B 200
Yoracryl Red 4G 200 liquid
Yoracryl Blue 5G
Yoracryl Black VSN liquid

Dyeing Methods
Dyeing methods for Wool/Acrylic blends are dependent on the type of wool dyes used and depth of shade. Methods can be 1 bath or 2 bath depending on shade depth and fastness requirements.
Full dyeing recommendations are available from Yorkshire personnel or Technical headquarters.

Yoracryl Dyes for Dyeing Cationic Dyeable Polyester(C.D.Pes)

The following dyes are suitable for dyeing C.D. Pes:
Yoracryl Yellow 8G 200
Yoracryl Yellow 2GL 200
Yoracryl Yellow RL 200
Yoracryl Red BGL 180
Yoracryl Red 4G 200 liquid
Yoracryl Blue 5G 200
Yoracryl Blue 2RGL 200

Dyeing Method
1. Dissolving the dyestuffs.
Paste with an equal amount of Acetic acid. Add boiling water to provide complete dissolution.



A - 5g/l Sodium Sulphate
Acetic Acid to pH 4 - 4.5
1g/l Dyamul AP
B - X% Yoracryl dyes

Washing Off
Depending on depth of shade, a cold water rinse, or mild back scour should be suitable. For very heavy shades a mild reduction clear may be advisable.

Drying
This is normally carried out for 30 seconds at 160℃.