

AVCOchem

DYEING PROCESS FOR POLYESTER

FULL AUXILIARIES FOR DISPERSE DYES
ON POLYESTER FIBER



DYEING PROCESS FOR POLYESTER

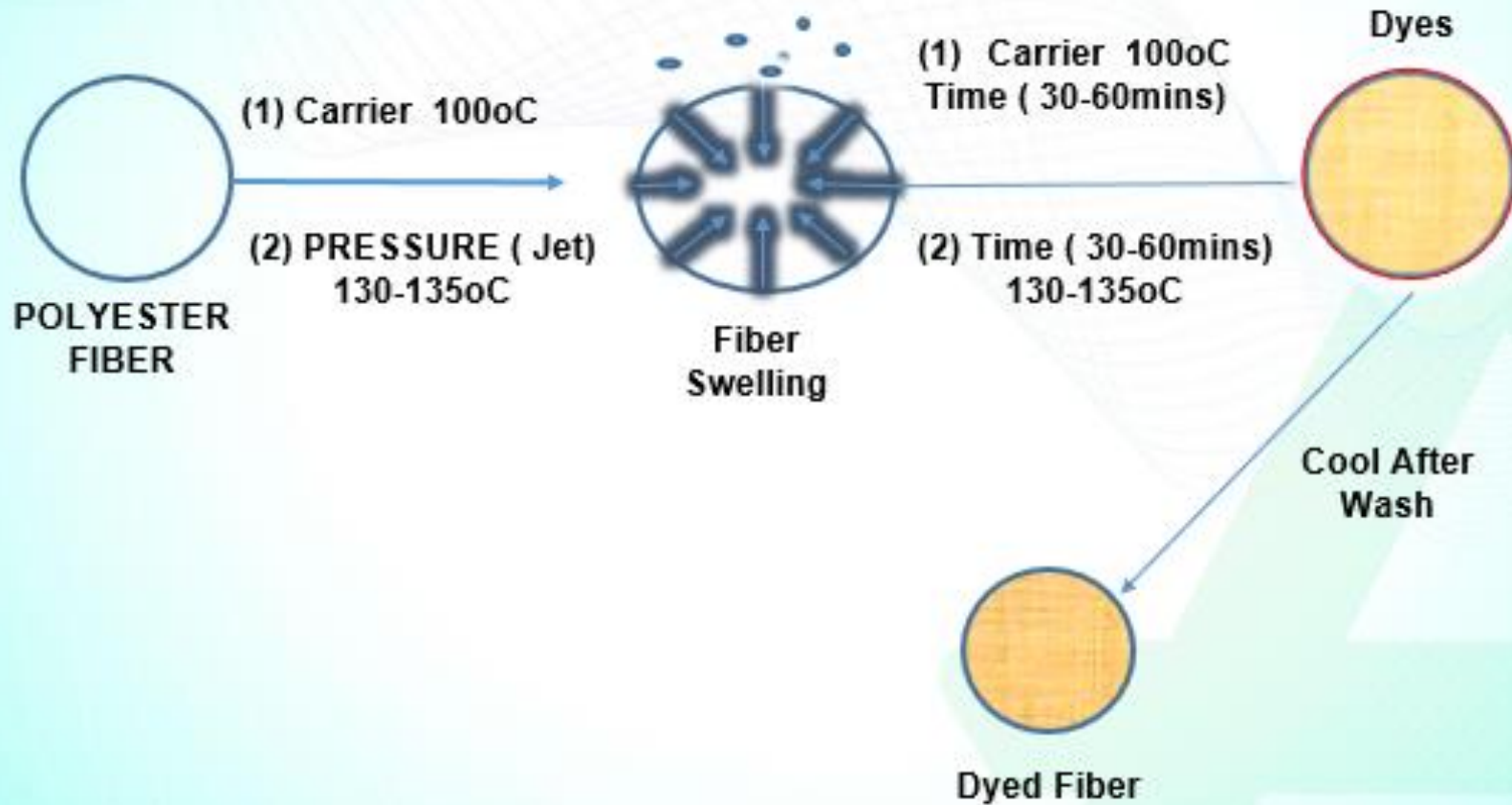
FULL AUXILIARIES
FOR DISPERSE DYES ON POLYESTER FIBER



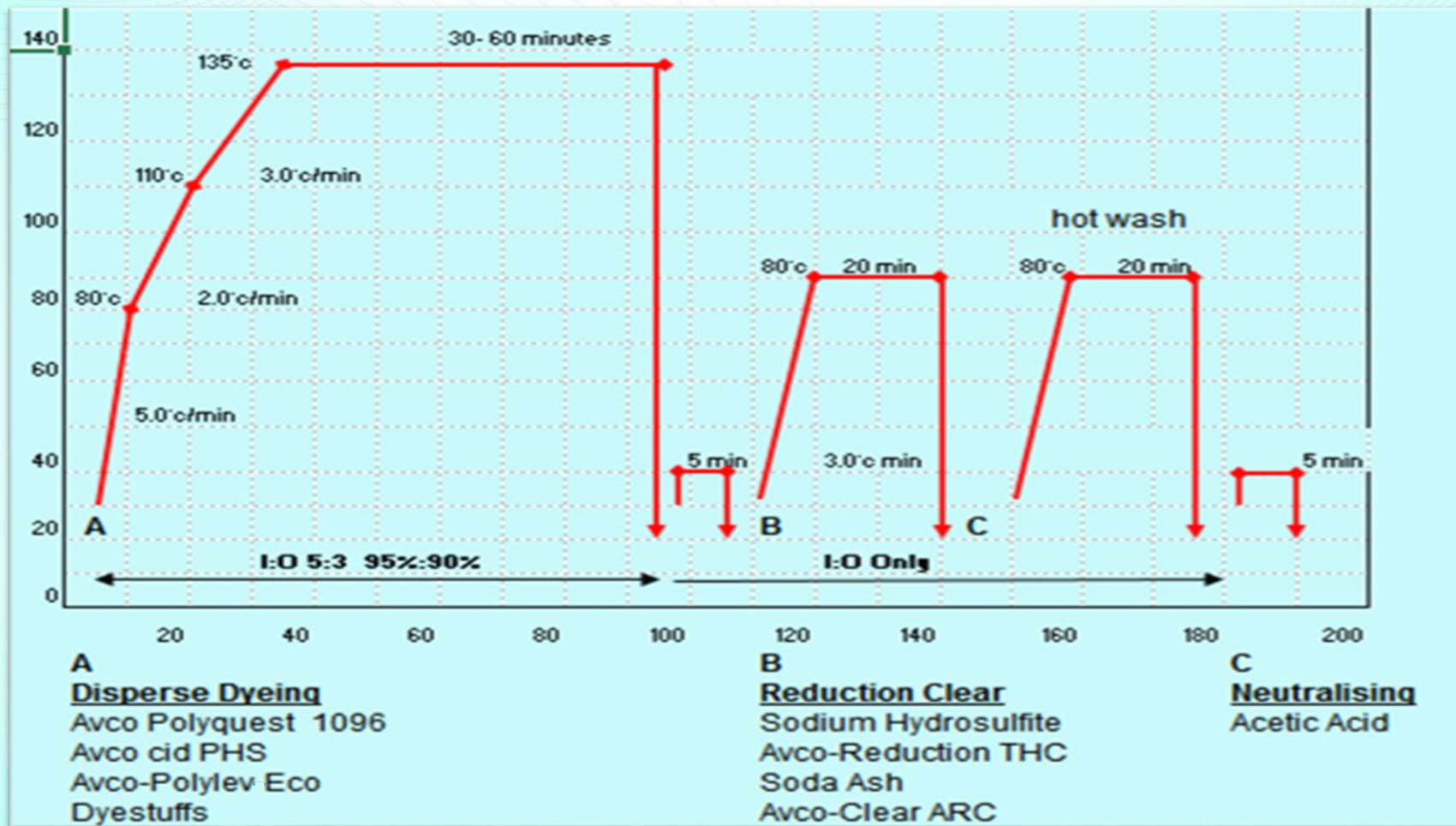
AVCOchem[®]

www.avcochem.com.vn

DYEING POLYESTER WITH DISPERSE DYES



DYEING PROCESS



DYEING AUXILIARIES FOR POLYESTER

PRODUCT SẢN PHẨM	USE CÔNG DỤNG	IONICITY ĐỘ ION HÓA	DOSAGE LIỀU LƯỢNG
AVCO-POLYLEV ECO	Levelling Agent	Slightly anionic	1.0 g/l – 3.0 g/l
AVCO-CID PHS NEW	Acid Buffer	Nonionic	0.5 g/l – 1.0 g/l
AVCO-POLYQUEST 1096	Sequestering Agent	Anionic	0.7 g/l - 1.0 G/L
AVCO-GEN DOA	Oligomer Dispersant	Nonionic/weakly anionic	0.5 g/l – 1.0 g/l
AVCO-ACCELERATOR PED NEW	Stripping and Levelling Agent	Anionic / nonionic	1.0 g/l – 3.0 g/l
AVCO-CLEAN OGM ECO	Machine Cleaner	Cationic/Nonionic	1.0 g/l – 3.0 g/l
AVCO-CLEAR ARC	Acid Reduction Clearing Agent	Nonionic	1.0 g/l – 3.0 g/l
AVCO-REDUCTION THC	Alkali Reduction Clearing Agent	White powder	1.0 g/l – 3.0 g/l
AVCO-L PET	Soaping Agent	Anionic//Nonionic	0.5 g/l – 1.5 g/l
AVCO-BIOSOL 1040	Oil Remover	Nonionic	1.0 g/l – 2.0 g/l

FINISHING

AVCO PRODUCTS SẢN PHẨM AVCO	APPLICATION ỨNG DỤNG	DOSAGE LIỀU LƯỢNG
AVCO-SILICONE 1000	Lubricant / Winding thread at room temperature	
AVCO-SEW HM	Lubricant / Winding thread , Melting boil at 80-90oC	
AVCO-LUB ROSIL MTL	Lubricant / Winding thread , Melting boil at 60-70oC	
AVCO-ELASTOGUM MEC	Macro Silicone	10 g/l - 20 g/l
AVCO-ELASTOSIL 9016	Block Silicone	10 g/l - 20 g/l
AVCO-NAV SR	Hydrophilic Silicone	10 g/l - 20 g/l
AVCO- PHOB 6410	Warter Repellent	30 g/l - 60g/l

LOW FOAMING LEVELING AGENT

AVCO-POLYLEV ECO

Advantages

- ✓ Low foam, very strong penetrating power.
- ✓ Excellent dispersing power at high temperature, particularly suitable for some sensitive dyes when dye specks and spots often occur.
- ✓ Excellent migration property to gain level dyeing.
- ✓ Little impact on color change, brilliant color can be produced.
- ✓ Very effective levelling power.

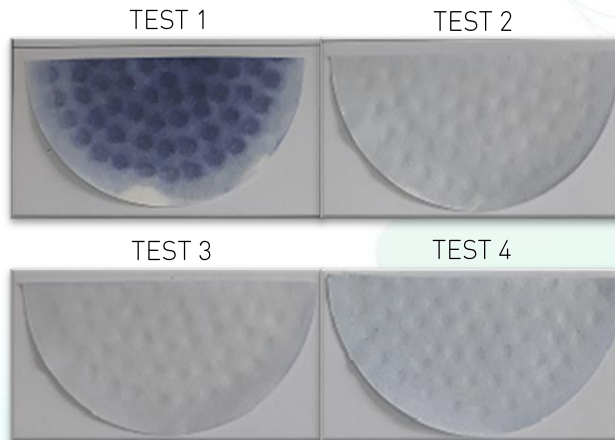
MIGRATION AND LEVELLING

Products	Concentration (g/l)			
	Test 1	Test 2	Test 3	Test 4
Polylev-ECO	Blank	2.0	3.0	
Competior's product				2.0
Cid- PHS New	0.5	0.5	0.5	0.5
pH	4.8			
Process :dyeing at 130 oC x 30 mins → Hot water → Cool drain				



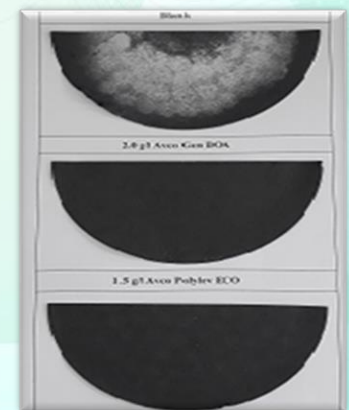
DISPERSING DYESTUFF

Products	Concentration (g/l)			
	Test 1	Test 2	Test 3	Test 4
Polylev-ECO	Blank	1.0	1.5	
Competior's product				1.0
Syntopers Navy HGL 200%	0.5 %	0.5%	0.5%	0.5%
Cid- PHS New	0.5	0.5	0.5	0.5
pH	4.8			
Process :dyeing at 130 oC x 5 mins → Cool -> Filter				



OLIGOMER DIPERSANT

Products	Concentration (g/l)		
	Test 1	Test 2	Test 3
	BLANK		
AVCO-GEN DOA		2,0	
AVCO-POLYLEV-ECO			1.5
OLIGOMER STANDARD SOLUTION	10ml	10ml	10ml
PURE WATER	200ml	200ml	200ml
Process :Dyeing at 130 oC x 60 mins → Cool → Filter with Black paper			



PERFORMANCE

ACID BUFFER

AVCO-CID PHS NEW

Advantages

- ✓ High buffering capacity at pH range of 4-6
- ✓ Non -foaming at all .
- ✓ Liquid product, can be dosed with automatic dosing machines.
- ✓ Non-flammable and non-toxic, with very low irritating effect due to the mild acidity.
- ✓ Non-corrosive to fibers sensitive to mineral acids.
- ✓ Used for neutralization of bleaching and finishing baths.
- ✓ Used in dyeing process, when dyeing polyester, polyamide, wool, to maintain acidic pH at the range of 4.0 -6.0

PERFORMANCE

AVCO-CID PHS NEW							
CONCENTRATION (G/L)	0.0	0.1	0.2	0.3	0.4	0.5	1.0
pH	6.8	5.9	5.4	4.9	4.5	4.2	3.8

SEQUESTERING AGENT

AVCO-POLYQUEST 1096

Advantages

- ✓ Good metal ion chelating power and water softening function.
- ✓ To protect the dyes in hard water.
- ✓ To prevent the dyes spots and specks defect caused by condensation of dyes.
- ✓ Good solubility and dispersing power in insoluble calcium, can break down and remove the calcium sediment.
- ✓ Resistant to electrolyte and oxidant.

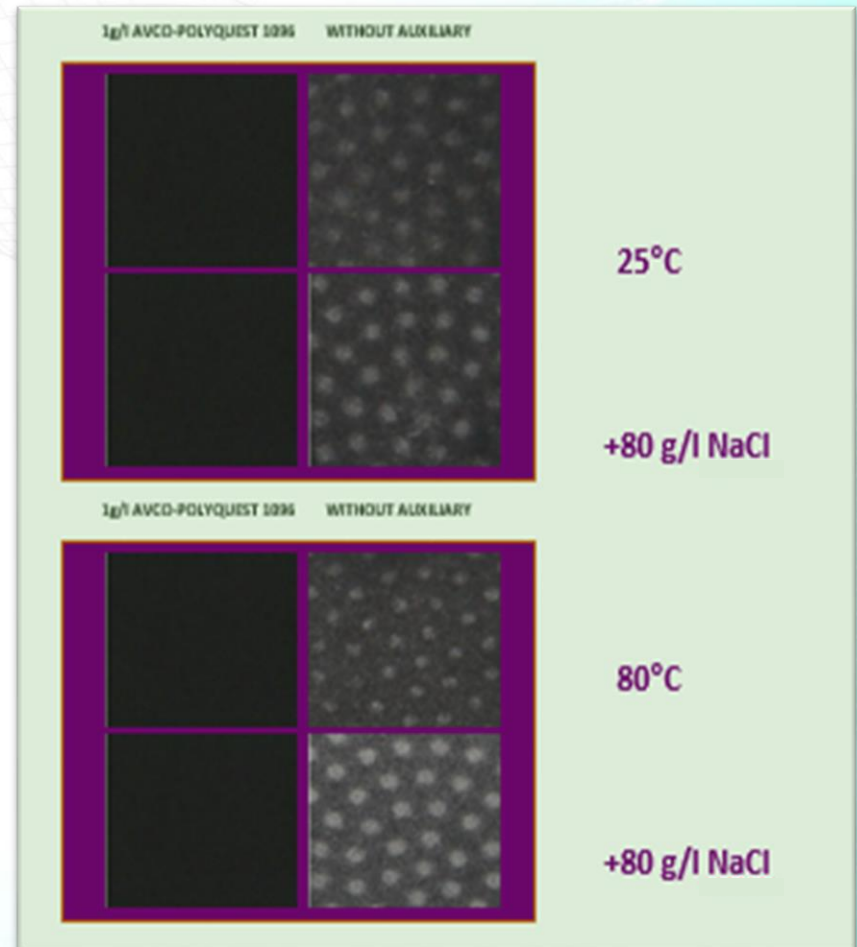
Characteristic

- ✓ Blend of phosphonate and polycarboxylated polymers.
- ✓ Eco-friendly .

FILTRATION TEST

The solution contains
0.5g/l CaCO_3 -pH 11

The filtration is carried out at 25°C
or 80°C, with salt (80g/l) or without

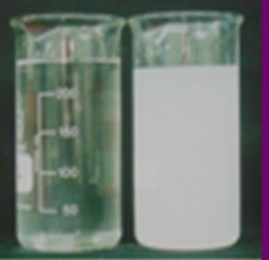




SEQUESTERING AGENT

AVCO-POLYQUEST 1096

PERFORMANCE

AVCO-POLYQUEST 1096 **WITHOUT AVCO-POLYQUEST 1096**

a)   

Demonstration of the efficiency of AVCO-POLYQUEST 1096 as a scale dispersing agent and as anti-precipitating agent (178 mg/l CaCO_3)

a) Beginning of the trial
b) After 2 minutes
c) After one hour

Recommended Recipe for dyeing	
Products	Dosage (g/l)
AVCO-Polylev Eco	1.0-2.0
AVCO-Polyquest 1096 (or without)	0.7-1.0
AVCO-Gen DOA	0.5-1.0
AVCO-Cid PHS New	0.5-1.0
Adjust pH	4.5-5.0



OLIGOMER DISPERSANT

AVCO-GEN DOA

Advantages

- ✓ Prevention of re-deposition on fabric and also the machinery
- ✓ Dispersing action/ clearing action
- ✓ Non-foaming No influence on dyed shades
- ✓ Stability to alkali

Recommended Recipe for dyeing

Products	Dosage (g/l)
AVCO-Polylev Eco	1.0-2.0
AVCO-Polvauest 1096 (or without)	0.7-1.0
AVCO-Gen DOA	0.5-1.0
AVCO-Cid PHS New	0.5-1.0
Adjust pH	4.5-5.0



PERFORMANCE

PRODUCT	BLANK	TEST1	TEST2	TEST3
Competitive product 1	-	2g/l		
Competitive product 2	-		2g/l	
AVCO-GEN DOA	-			2g/l

OLIGOMER DISPERSING TEST



STRIPPING AND LEVELING AGENT

AVCO-ACCELERATOR PED NEW

Advantages

- ✓ Excellent migrating power can repair the color spot effectively after dyeing on the polyester fabric. The shade of the fabric is almost the same as before .
- ✓ Suitable for leveling out and brightening off shade polyester dyeing, it is recommended for stripping off disperse dyes from polyester fibers.
- ✓ Little smelling, easy to washing off.
- ✓ An efficient accelerator for polyester dyeing, leveling and stripping.
- ✓ The special active component can decrease the dyes up-take speed and keeps the dyestuff from secondary aggregation during the heating-up stage. It also can accelerate the dyes up-take speed under high temperature. Therefore, AVCO-ACCELERATOR PED NEW can not only improve the levelness, but also raise the color yield.

PERFORMANCE

Products	Test 1	Test 2	Test 3
Competitor's product		7.0g/l	
AVCO-ACCELERATOR PED NEW			7.0g/l
Adjust pH	4.8	4.8	4.8
Treat at 130oC x 60mins on bunch of colour full PE yarns.			



SPECIAL MACHINE CLEANER

AVCO-CLEAN OGM ECO

Advantages

- ✓ Powerful cleaner of dyeing machine and textiles from Oligomers, greases, oils and waxes.
- ✓ Excellent dispersing the waxes and oligomer deposits which enables the alkali/reducing agent formulation to destroy and dissolve the precipitated dyestuffs and residues stuck to the machine walls.

PERFORMANCE

Recommended Recipe for Cleaning Machine	
Products	Dosage (g/l)
AVCO-Clean OGM Eco	2.0 – 5.0
Caustic Soda (100%)	2.0 - 6.0
Sodium Hydrosulfite	2.0 – 4.0
Treat at 100oC -130oC x 45mins -60mins	



ACID REDUCTION CLEARING

AVCO-CLEAR ARC

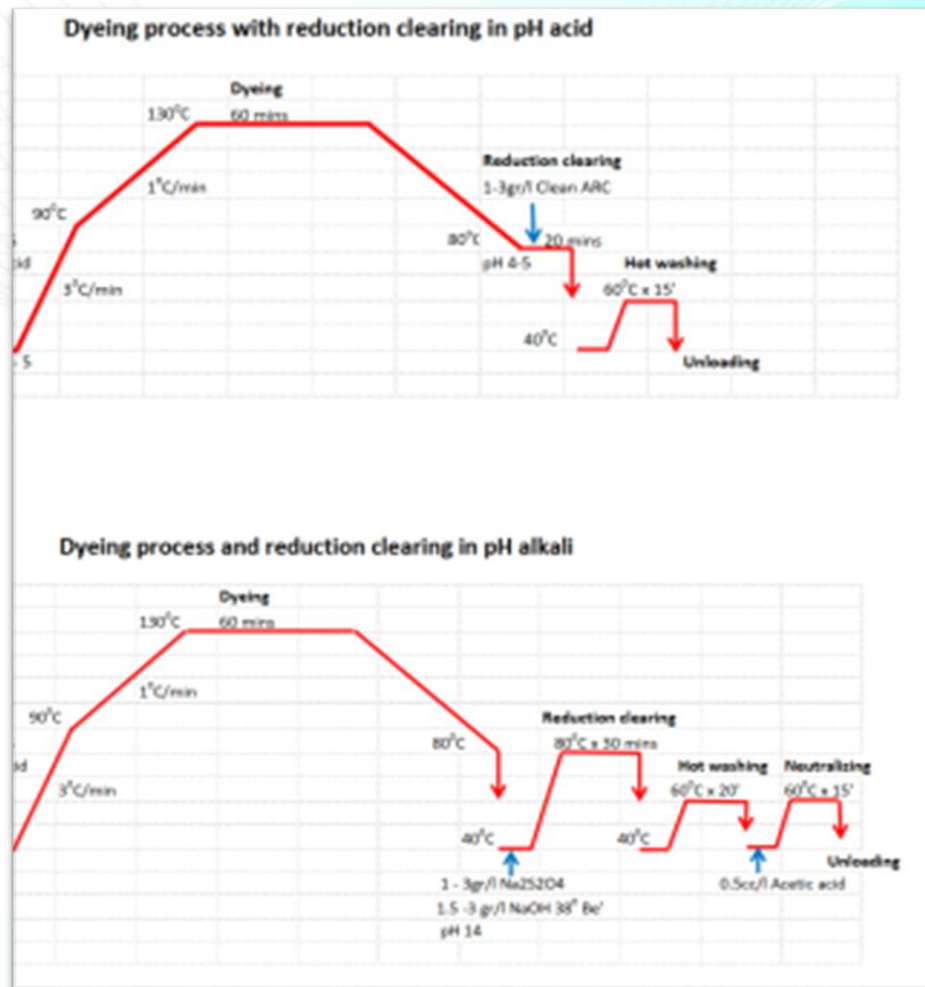
Advantages

- ✓ After dyeing, the product can be directly added into the dyebath without draining, the processing time can be reduced, and chemical can be saved.
- ✓ The unfixed dyestuff on fiber surface can be completely removed, and the washing effect is comparable to that with Caustic and hydrosulfite.
- ✓ Fastness properties and colour brilliancy of the dye fabric can be enhanced, and the shade is not effected.
- ✓ The dye liquor is lightly acidic after reduction clearing, raising without neutralization can be carried out immediately after finishing process

Benefits of AVCO-Clear ARC

- ✓ Shorten the dyeing process
- ✓ Cost efficiency
- ✓ Safety handling

Comparison of AVCO-Clear ARC



ACID REDUCTION CLEARING

AVCO-CLEAR ARC

PERFORMANCE

1. Recipe for Dyeing :

Product	Dosage (g/l)
AVCO-POLYLEV ECO	1.0g/l
DISPERSE RUBINE SE	2.0 %
AVCO-CID PHS NEW	0.5g/l
Adjust pH : 5.0	

Process: Dyeing at 130oC x 45 mins (LR: 1:10) → Cooling to 85oC add Reduction Clearing agent to maintain 30mins

→ Drop → Hot Washing 80oC x 10 mins → drain → Unloading

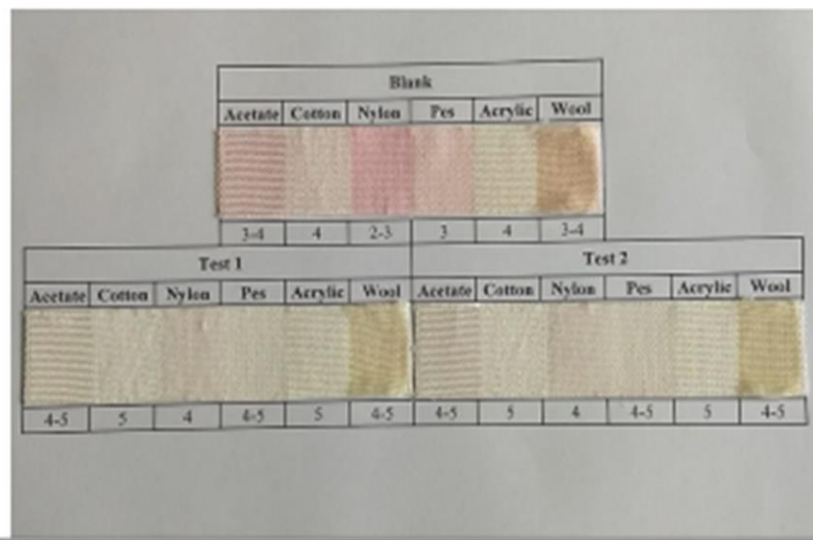
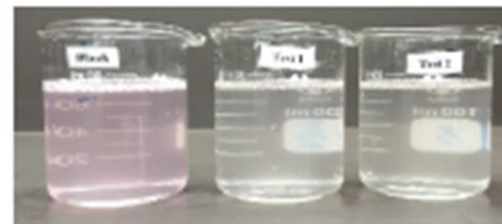
2. Recipe for Acid Reduction Clearing :

Product	Blank	Test 1	Test 2
Competitive Product		3.0 g/l	
AVCO-CLEAR ARC			3.0 g/l

3. Washing Fastness Test – ISO 105 C03

Chemicals	Concentration
Neutral Soap ECE	5.0g/l
Na2CO3 (Soda Ash)	2.0g/l
Proceduce	LR 1:50 , Treat at 60oC x 30 mins

Solution after test washing fastness



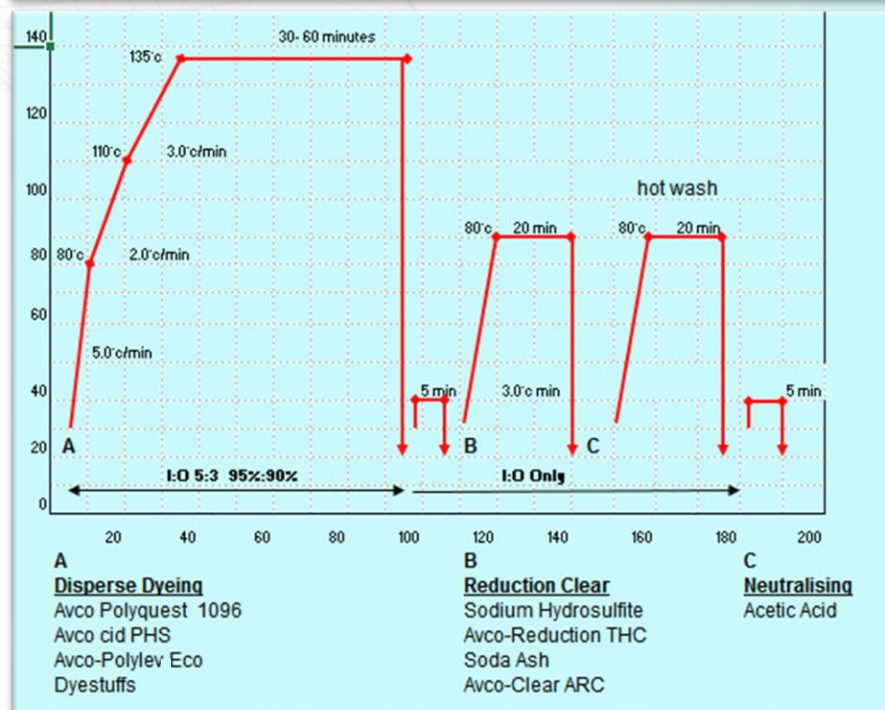
REDUCTION POWER

AVCO-REDUCTION THC

Advantages

- ✓ Stronger reduction power than Hydrosulfite.
- ✓ No Smell as Hydrosulfite, more stable and storage safety than Hydrosulfite.
- ✓ Color stripping agent for all kind of fibers dyed with reactive and direct dyes.
- ✓ Reduction clearing for polyester.
- ✓ Can be use as cleaning agent for dyeing machine.
- ✓ The product removes the unfixed dyes from the fibers surface, and improve the washing and rubbing fastness properties of the dyed textile.
- ✓ For environmental aspect, the waste water of the product is released from sulphur by approx. 75% compared to the use of hydrosulfite and has an extremely low COD-value compared to organic, sulphur-free reduction agents.

Recommended Recipe for Alkali Reduction Clearing	
Product	Dosage (g/l)
AVCO-REDUCTION THC	1.0-3.0 g/l
NaOH 38oBe	2.0-4.0 cc/l
AVCO-L PET improve fastness to Wetting	0.7 – 1.0 g/l
Process : Treat at 80oC- 85oC x 30 mins	



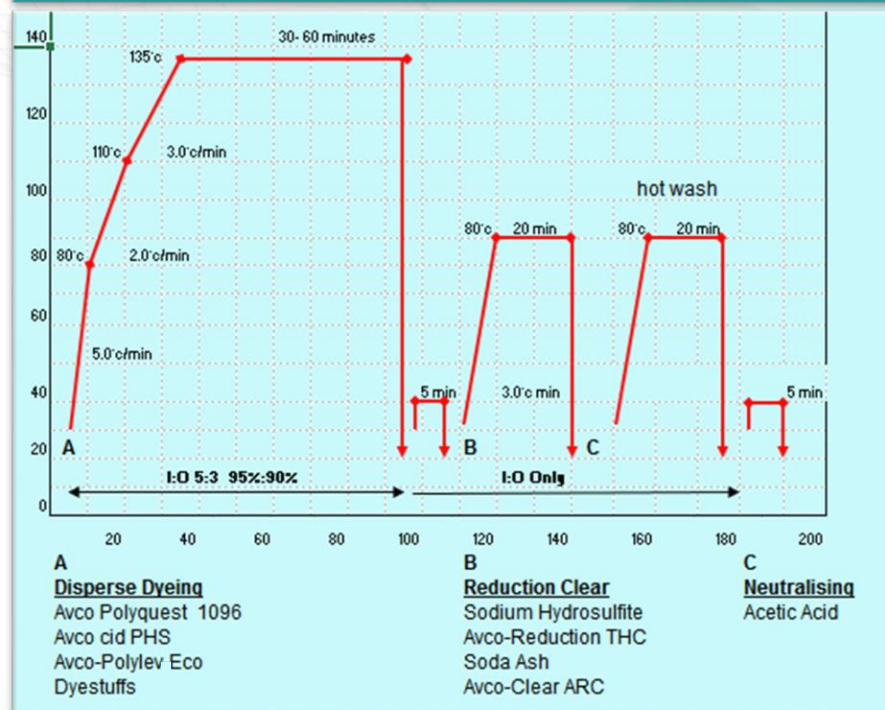
WASHING AGENT

AVCO-L PET

Advantages

- ✓ Enables rapid elimination of synthetic and natural thickeners from the printed fabrics.
- ✓ Removes and suspends unfixed dyes.
- ✓ Keeps unfixed dyes in water dispersion, and prevents staining of white and colored grounds of the printed fabrics.
- ✓ Keeps white areas clean and bright.
- ✓ Assures clear and bright shades, with better crock and wash fastness.
- ✓ While printing polyester blends with cellulosic fibres, the product keeps disperse dyes from staining the cellulosic part.
- ✓ Low foaming detergent.
- ✓ Liquid product which can be dosed easily.

Recommended Recipe for Alkali Reduction Clearing	
Product	Dosage (g/l)
AVCO-REDUCTION THC	1.0-3.0 g/l
NaOH 38oBe	2.0-4.0 cc/l
AVCO-L PET improve fastness to Wetting	0.7 – 1.0 g/l
Process : Treat at 80oC- 85oC x 30 mins	



LOW FOAMING OIL REMOVAL

AVCO-BIOSOL 1040

Advantages

- ✓ Excellent dispersion and emulsion properties.
- ✓ Oil removing effect, can be used in a wide range of pH.
- ✓ Nonionic, low foaming surfactant, suitable for high speed machine.
- ✓ Used in neutral medium, mild alkali or mild acid solutions.
- ✓ Environment friendly, regarded as a "GREEN" product.



Properties

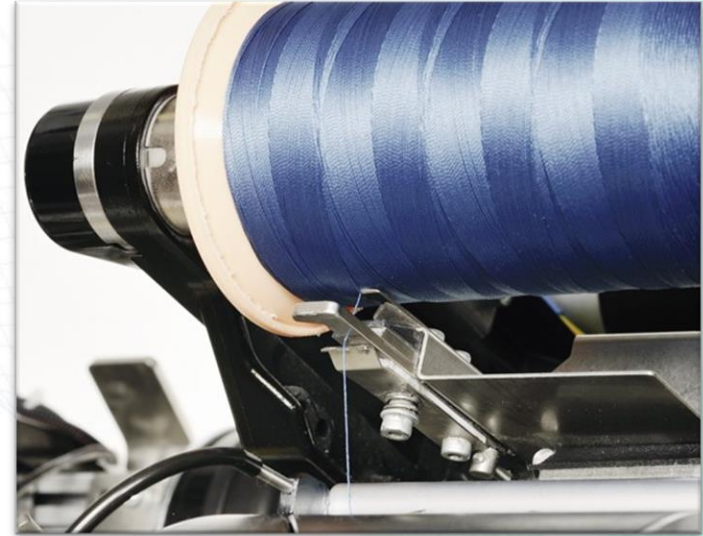
- ✓ Blends of surfactants
- ✓ Clear, yellow liquid
- ✓ Non-ionic
- ✓ Miscible with water at any ratio
- ✓ Compatible with hard water, mild acidic, mild alkali

SEWING THREAD LUBRICANT FOR LICK ROLL

AVCO-SEW HM /AVCO-LUBROSIL MTL

Advantages

- ✓ Good head protection and needle cooling during sewing.
- ✓ Reduces fiber/metal and fiber/fiber coefficient of friction.
- ✓ The gliding properties of treated sewing yarns are distinctly improved.
- ✓ Sewing speed can be fastened with no problems of too much heating up of the sewing needles during the sewing process.
- ✓ Does not effect dyeing fastness.
- ✓ Non yellowing finish.
- ✓ Applied in the hot lick roll and dosing pump systems.



The background features a large, stylized 'A' shape composed of overlapping green and blue geometric forms. Thin, wavy blue lines flow across the top and right sides, while concentric white arcs are visible in the bottom left. A dotted pattern appears in the bottom right corner.

AVCOchem[®]

avcochem@avcochem.com.vn

www.avcochem.com.vn