CHAPTER V

CONSLUSIONS - The cost reductive suggestions should have have accompanied by the actual cost savings in terms of Rupees and cents. However, since no prices were available for some of the new chemical samples used in laboratory scale experiemtns and also since the trials were done only on laboratory scale, the actual cost savings could not be worked out.

Where ever possible the cost savings at each of those suggested alternative methods have been worked out and indicated.

Nevertheless it is apparent in all the cost reductive suggestions made, that some sort of cost saving either in energy, labour, water or chemicals are encountered, individually or collectively.

5.1 Use of Soluable Starch (Section 4) -

Fibropur P 186 is a water soluable starch which does not want enzymes or chemicals at the desizing stage. Hence the chemical cost in the present method can be saves.

Chemical Cost at the desizing stage = 5 cts/meter.

5.2 Alkali Desizing Method -(Section 4.1.2)

Waste caustic soda is used in this method.
Hence again chemical cost can be saved.

5.3 Desizing and Scouring in One Bath (Section 4.2.1)

The price of the Leonil EB is still not known. Hence it is unable to calculate the cost differences.
But it is obvious that the following savings are possible as two processes are combined into a one bath operation.

Electrical energy can be saved
Thermal energy can be saved
Water can be saved
Labour can be saved
Production can be increased.

5.4 Desizing and Bleaching in One Bath (Section 4.2.2)

Here too the costing can not be worked out as the price of Leonil EB is not available. But the following savings are obvious as two processes are combined in to a one bath process.

Electrical energy can be saved
Thermal energy can be saved
Water can be saved
Labour can be saved
Production can be increased
Fibre demage can be reduced.

5.5. Scouring and Bleaching in One Bath (Section 4.2.3)

Here too all savings mentioned in 5.4 are applicable.

5.6 Dyeing- Cibacron F Dyes -(Section 4.3.1)

It has already been proved that the dyeing time can be reduced if cibacron F dyes are used. Hence the following savings are obvious :-

Jigger turns can be reduced. Hence electrical and thermal energy can be saved. Production can be increased.

5.7 Dyeing - Levafix E Dyes (Section 4.3.2)

According to the proposed method, dyeing time can be reduced. Hence jigger turns can be reduced. Electrical and thermal energy can be saved and production can be increased.

5.8 Pigment Printing - (Section 4.4.1)

It is obvious that the price of pigments are very low compared with reactive dyes. Hence the printing cost can be reduced. The correct statistics of cost saving is unable to footward until a bulk trial is done.

5.9 Printing as a function of Urea -(Section 4.4.2)

It has been shown that the amount of urea in the printing paste can be cut down from 15% to 5%. Hence the urea cost can be reduced as follows:

15 kgs urea 100 kgs paste - practiced method

5 " urea 100 kgs paste - proposed method

price of 1 kg of urea = 2.90

Hence cost saving for 100 kgs of paste=Rs.29.00

5.10. Printing as a function of Ludigol-(Section 4.4.3)

Price of 1kg of Ludigol = Rs.60.00

1 Kg ludigol 100 kgs paste- practiced method

0.2 kg ludigol 100 kgs paste- proposed method.

Hence cost saving for 100 kgs of paste = 48 Rs.

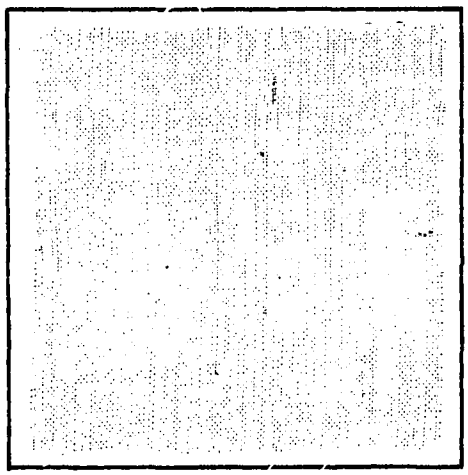
5.11.Drimarine PB Dyes - (Section 4.4.4)

The prices of these range of dyes and chemicals are still not known properly. Hence costings could not be worked out statistically. But thermal and electrical energy required for steam ager is completly cut down because steam fixation is not necessary in this range of dyes.

APPENDIX

APPENDIX I

GREY CLOTH



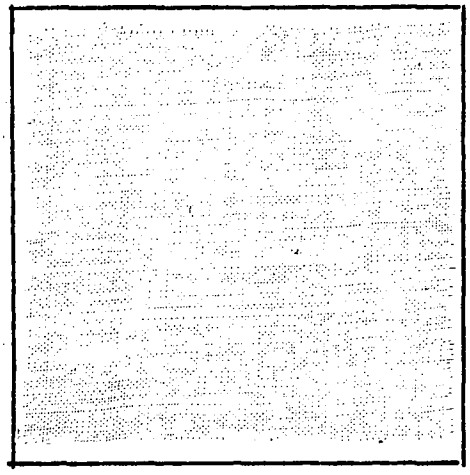
SIZE MIXTURE

Yarn sizing Powder - 10 %
Gum Nexosize - 0.6 %
Nexo Tal - 0.4 %

BREAKING STRENGTH

Warp = 45 Kgs
Weft = 23 Kgs

GREY CLOTH



SIZE MIXTURE

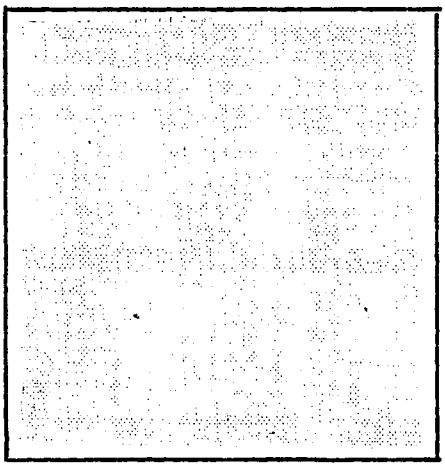
Fibropur P 186 - 10 %
Olinor NW 81 - 0.3 %

BREAKING STRENGTH

Warp = 46 Kgs
Weft = 23 Kgs

APPENDIX 2

SAMPLE A

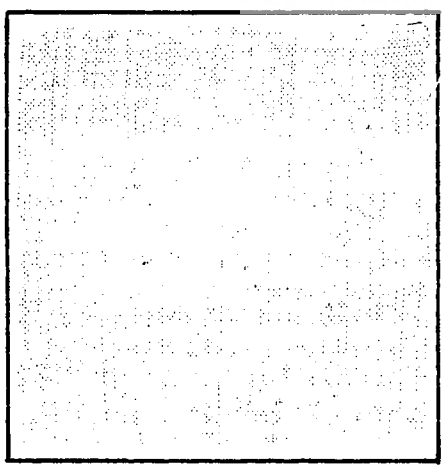


DESIZING METHOD

Polyzyme	-	4 g/l
Common Salt	-	10 g/l
Wetting Agent	-	1 g/l
Temperature	-	60°C

Desizing Efficiency = 70 %

SAMPLE B



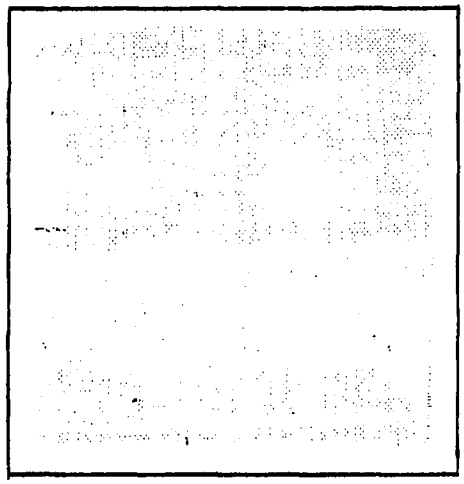
DESIZING METHOD

Wash with hot water at 65°C

Desizing Efficiency = 70.6 %

APPENDIX 3

SAMPLE A

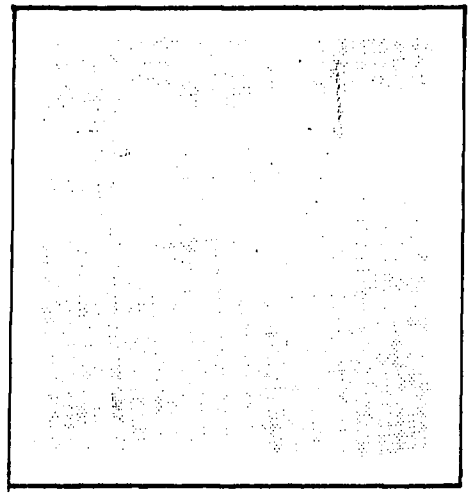


DESIZING METHOD

Polyzyme	- 4	g/l
Common Salt	- 10	g/l
Wetting agent	- 1	g/l
Temperature	- 60°C	

Desizing efficiency = 70%

SAMPLE B



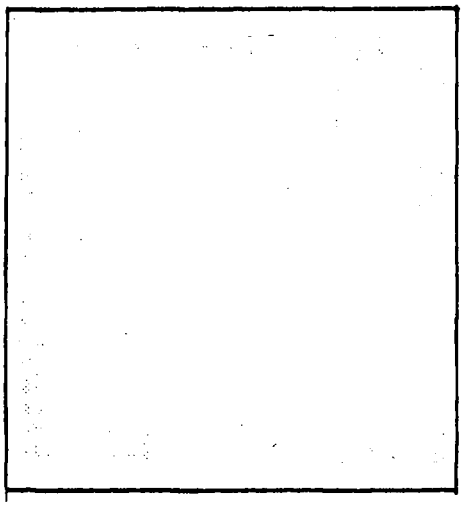
DESIZING METHOD

Waste Caustic Soda	= 10	g/l
Wetting agent	= 1	g/l

Desizing efficiency = 69.3 %

APPENDIX 4

SAMPLE A



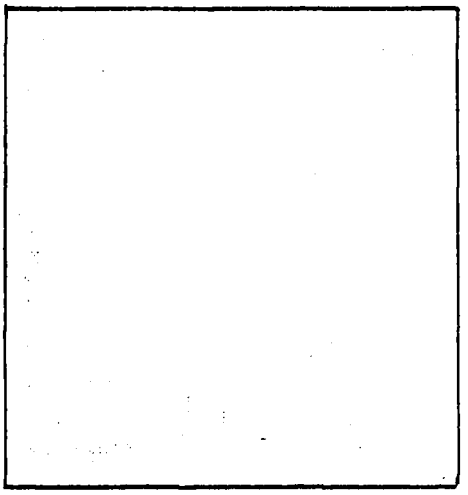
DESIZING AND SCOURING IN SEPARATE BATH

(Existing Method)

Disizing Efficiency = 70%

Capillary rise test = 12 Sec.

SAMPLE B



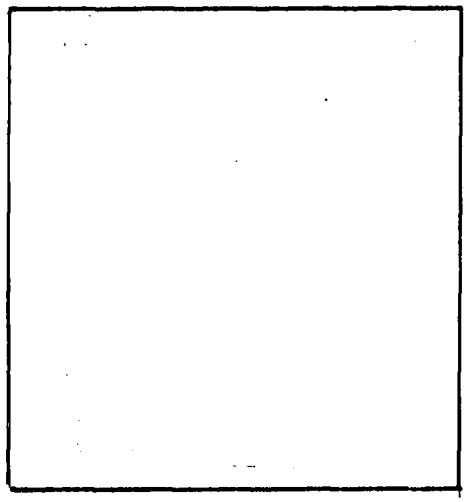
DESIZING AND SCOURING IN ONE BATH

Desizing efficiency = 71 %

Capillary rise test = 10 Sec.

APPENDIX 5

SAMPLE A



NORMAL BLEACHED CLOTH IN SEPARATE BATH PROCESS

i. Desizing

ii. Scouring

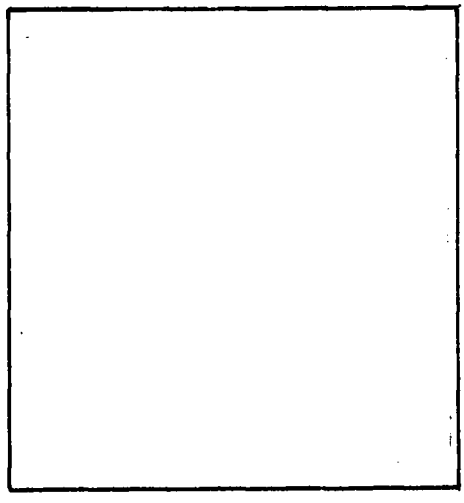
iii. Bleaching

BREAKING STRENGTH

Warp = 40.5 Kgs

Weft = 21.2 Kgs

SAMPLE B



DESIZING AND BLEACHING IN ONE BATH

BREAKING STRENGTH

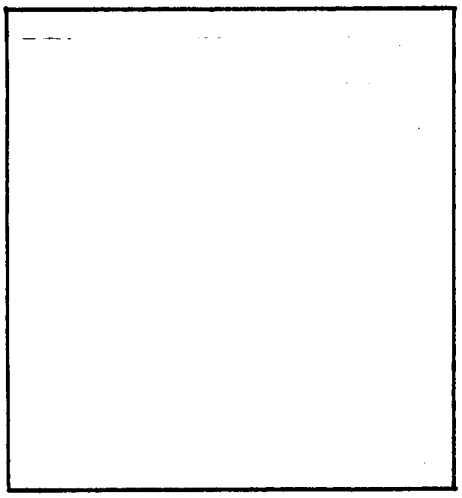
Warp = 42.1 Kgs

Weft = 22.1 Kgs

APPENDIX 6

SAMPLE A

SCOURING AND BLEACHING IN ONE BATH



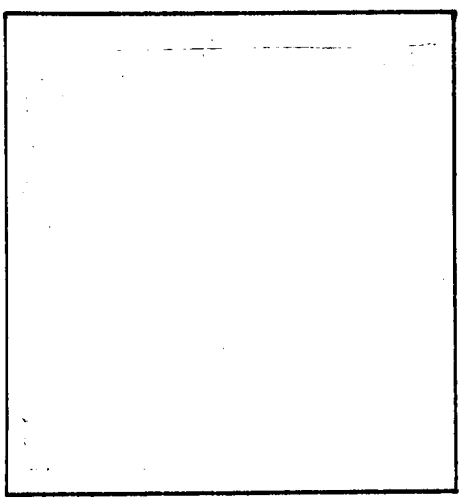
BREAKING STRENGTH

Warp - 41.8 Kgs

Weft - 21.5 Kgs

SAMPLE B

PADDED WITH UVITEX 2B - 2 g/l



APPENDIX 7

Cibacron Red F-B		Fastness Properties				
		ISO-4 Wash			RUB	
Method	Shade	E	S(c)	S(v)	DRY	Wet
1						
	A	5	5	5	5	4-5
11						
	A	5	5	5	5	4-5
111						
	A	5	5	5	5	4-5
1v						
	A	5	5	5	5	4-5

Shade A - Cibacron Red F - B - 2%

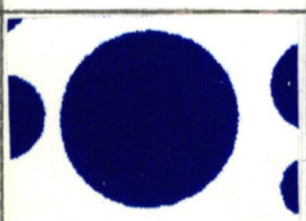
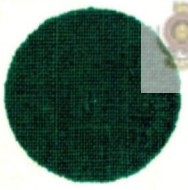
APPENDIX 8

Levafix E-Dyestuff		Fastness Properties				
		ISO-4 Wash			RUB	
Method	Shade	E	S(c)	S(v)	DRY	WET
1						
	B	5	5	5	5	4-5
11						
	B	5	5	5	5	4-5
1						
	C	5	5	5	5	4-5
11						
	C	5	5	5	5	4-5

Shade B - Levafix Brilliant Red E4B - 2%

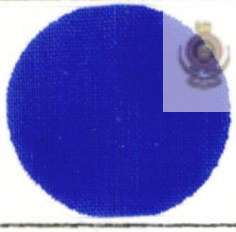
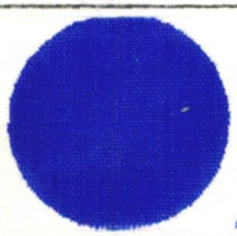
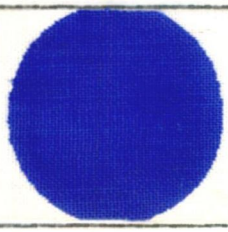
Shade C - Levafix Golden Yellow EG = 2 %
Levafix Brilliant Red E4B = 0.38 %
Levafix Brilliant Yellow E3G = 0.3 %

APPENDIX 9

PIGMENT PRINTING		Fastness Properties				
		ISO - 4 Wash			Rub	
No.	Print	E	S(c)	S(v)	DRY	WET
1		5	5	5	4-5	4
2		5	5	5	4-5	4
3		5	5	5	4-5	4
4		5	5	5	4-5	4

Print
1. Yellow F2G - 5%
2. Blue HC2R - 5%
3. Green FB - 5%
4. Red FGR - 5%

APPENDIX 10

Urea	Reactive Printing	Fastness Properties				
		ISO-4	Wash		RUB	
%	Levafix Blue PNRL 5%	E	S(c)	S(v)	DRY	WET
5		5	5	5	5	4 - 5
7.5		5	5	5	5	4 - 5
10		5	5	5	5	4 - 5
12.5		5	5	5	5	4 - 5
15		5	5	5	5	4 - 5

APPENDIX 11

Levafix Golden Yellow PNG -5%				
Ludigol %	After 1 hrs	After 12 hrs	After 24 hrs	After 48 hrs
0.2				
0.4				
0.6				
0.8				
1				

APPENDIX 11

ISO - 4 FASTNESS PROPERTIES						
Ludigol	Print - After 1 hour			Print - After 48 Hours		
%	E	S(c)	S(v)	E	S(c)	S(v)
0.2						
	5	5	5	5	5	5
0.4						
	5	5	5	5	5	5
0.6						
	5	5	5	5	5	5
0.8						
	5	5	5	5	5	5
1						
	5	5	5	5	5	5

APPENDIX 12

Drimarene PB		FASTNESS PROPERTIES				
		ISO-4 Wash			Rub	
No.	Print	E	S(c)	S(v)	DRY	WET
1		5	5	5	5	4-5
2		5	5	5	5	4-5
3		5	5	5	5	4-5

Print - 1. Golden Yellow PB-2G2R - 5 %
2. Red PB-2BL - 5 %
3. Brilliant Blue PB-BGL - 5 %

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