

TECHNICAL INFORMATION FOR PRINTING KANECARON

INTRODUCTION

Printing on Kanecaron pile fabrics can be successfully processed as regular acrylics.

Cationic dyestuff are recommended for realistic color and pastel color.

Roller printing machine, Flat screen printing machine and Rotary screen printing machine are used on their characteristics respectively.

Kanecaron fibre is sensitive to heat, therefore special care should be taken care of to the temperature and time of steaming and drying in order to get a good process ability in polishing process.

FABRIC PREPARATION

Pile fabrics are generally supplied with softeners and anti-static agent in Mixing process. Pile fabrics are usually not pre-scoured before printing, Agent used in Mixing should have following properties:

1. Not water repellent.
2. Sufficiently effective in small quantity.
3. Nonionic or nonionic-cationic.

Note : Cationic agent should not be used.

In printing pile fabrics, it is recommended that back coating and half done polishing are applied before printing in order to get dimensional stability and good penetration of printing paste. And it is also recommended that finishing is made half done, because printing paste is prevented from permeating into the bottom of the fabric and kept the concentration of it at the tip of a fiber.

PRINTING

1. Dyestuffs

Cationic dyestuff are generally used in printing. Cationic dyestuff in stock dyeing can be applied for printing. It is recommended to use dyestuff which are well absorbed and well build-up in order to get a shorter time of steaming. Please refer the most recommendable dyestuffs as follows:

	<u>Producer</u>	<u>Brand</u>	<u>Dyestuff</u>	<u>Color index No.</u>
As for Realistic color	Ciba	Maxilon	Golden Yellow GL	Yellow 28
			Red GRL	Red 46
			Blue GRL	Blue 41

Dyster	Astrazon	Golden Yellow GL	Yellow 28
		Red FBL	Red 46
		Blue FGGL	Blue 41

As for Black color : Ciba Maxilon Black FBL

As for Brilliant and Pastel color	Dyster	Astrazon	Yellow 7GLL	Yellow 21
			Brilliant Red 4G	Red 14
			Pink FG	Red 13
			Red 6B	Violet 7
			Brilliant Blue H2R	Blue 105

2. Thickener

It must be selected considering its color yieldness, reduction property and affinity to dyestuff. The reduction properties give poor color. In practical printing, Lamecrystal Gum Derivatives and Locust bean Gum Derivatives are recommended.

3. Printing Conditions

Recommendable recipe of Printing paste is as follows:

Dyestuffs	X %
Tartaric Acid	0.5-1.0 %
Urea	0.5 %
Thickener (30% solution)	40-50 %
Hot water	Y %
(Reduction inhibitor)*	1-2 %
	<hr/>
	100 %

* If Thickener has reduction property, Reduction inhibitor must be used.

Printing Paste is instable, therefore, prepared printing paste should be left for 12 - 24 hours before printing.

4. Printing

The characteristics of typical printing machines are as follows:

- | | |
|------------------------------------|----------------------------------|
| a) Roller printing machine. | b) Screen printing machine. |
| * Penetration of printing paste. | * Penetration of printing paste. |
| * Pattern is small and continuous. | * Large pattern. |
| * Highly productive. | * Less productive. |

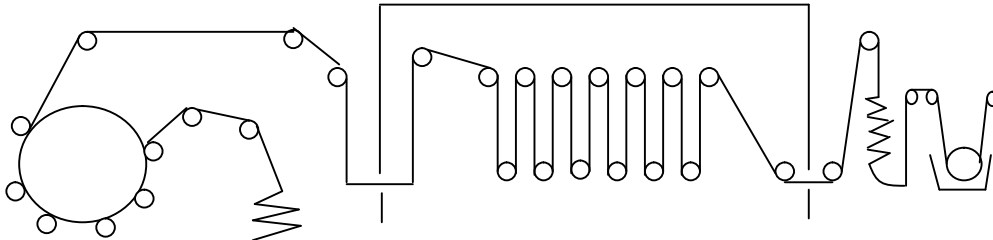
Kanecaron can be successfully printed by using both Roller and screen printing machine only considering above characteristics.

No special care should be taken for printing process and Kanecaron can be printed same as regular acrylics.

5. Steaming

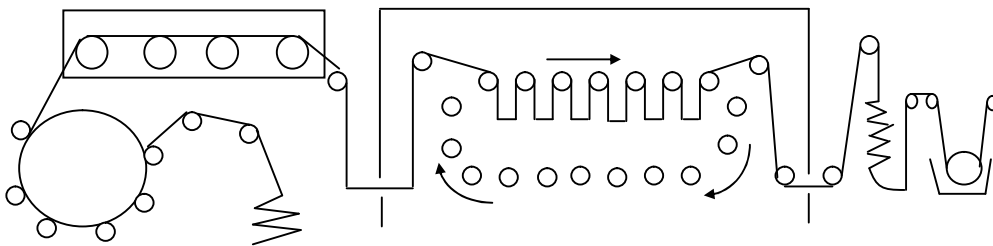
Since conditions of temperature and time in steaming affect the polishing performance of pile fabrics, following notes should be thoroughly considered. Typical steaming systems are shown below and each system can be used for printing Kanecaron.

a) Stork Type Steamer



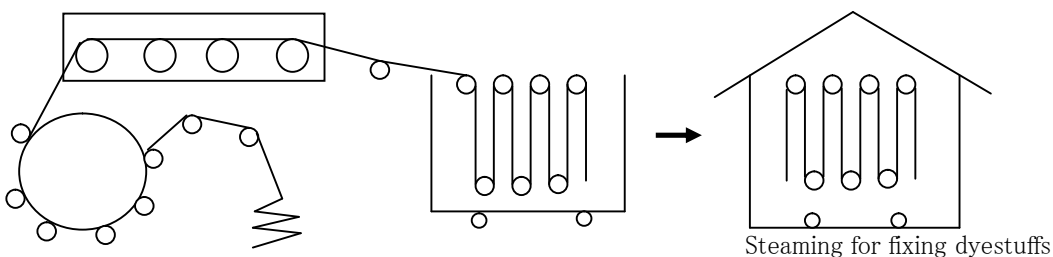
- * No drying
- * convey fabric by rotation of bars.
- * Convey fabric by rotation of bars.

b) Feston Type Steamer (Pre-dryer and steamer)



- * Pre-drying : dry up 30-40% of water.
- * Convey fabric by moving bars.

c) Cottage Type steamer (Batch Type)



Note:

- 1) In case of using saturated steam, give steam at 100°C for 20-30 minutes without pressure.
- 2) Over printed dyestuff are inclined to bleed. Therefore, pre-drying process is recommended in this case. Drying condition should be set to dry up about 30% of water.
- 3) In case of using a steamer of which hanging bars do not rotate themselves, it is better to use pre-drying system.

4) In case of using **super heated steamer**, following conditions are recommended:

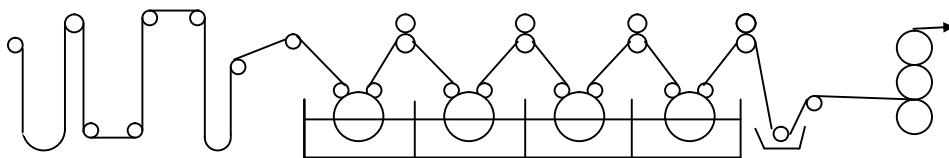
Less than 110°C for more than 20 minutes.

5) In case that fabrics with long piles are hung on the bars, piles contact one another at the bottom of the loop. Therefore, fabrics, especially over printed fabrics should be hung in the steamer in short loop length.

6. Washing

In order to avoid troubles such as pile crash etc.. Following example of conditions should be considered.

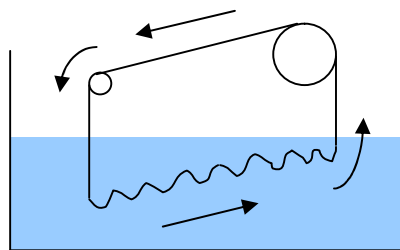
a) Continuous vibro washer



1st Bath	Nonionic scouring agent	2 g/l
	Cationic retarder	0.5 g/l
	Temperature	40 °C

2nd- 3rd Bath	Temperature	40-50 °C
4th- 5th Bath	Temperature	15-20 °C

b) Open width washer or winch beck M/C



1) Score with 2 g/l of nonionic scouring agent and 0.5 g/l of cationic retarder at 40 °C for 30 minutes.

2) Score with water at 30 °C for 20 minutes.

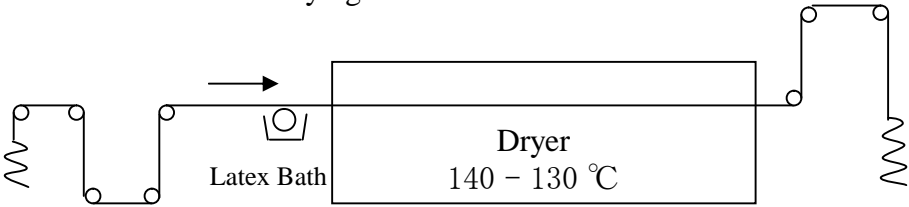
Note : The distance between the wheel and the water surface should be about 50 cm.

7. Dehydration

Squeezer or jet mangle is used for continuous dehydration. Oil or softener is supplied in this process by dipping or spraying.

8. Drying

The temperature in drying should be controlled between 130 °C and 140 °C. When dried over 140 °C and get difficult to be polished out in finishing. Following latex coating dryer is recommended for drying.



9. Finishing

Finishing conditions are almost same as that of fibre dyed fabrics.

a) Before Printing



Leave the crimp of the fibre (Half done finishing). Printing paste is prevented from permeating into the bottom of the fabric and kept the concentration of it at the tip of a fibre.

for example	Polishing x 2 - 3 times - Shearing - Brushing - Polishing x 2 - 3 times.
	150 - 145 °C 130 - 120 °C

b) After Printing

We recommend to make finishing from medium temperature zone.

for example	Polishing x 2 times - Shearing - Polishing x 2 times.
	130 - 120 °C 100 - 90 °C