

가 (4)

2-2 Carboxyethyl cellulose(CMC)

가 , CMC
 , ,
 . CMC Cellulose sodium
 hydroxide monpchloroacetate .
 CMC Cellopan .
 CMC 가 ,
 , , (5
 , 800,000ppm BOD 11,000-17,000 ppm BOD)
 가 . CMC
 . CMC

1. Style : (65% polyester, 35% cotton) 2000-2400ends

Charge : 60-70kg CMC

10-14kg acrylic resin binder

3-4 kg emulsifiable wax

Mix finished to 1100-1300kg with water

Solids = 5-7%

Size add-on = 6-8%

2. Style : Warp composition ; 65% polyester, 35% cotton

Charge : 22-28kg CMC.

2-4kg PVA or acrylic binder

1-2kg emulsifiable wax

Mix finished to 280-320 kg with water

Solids = 7-9%

Size add-on = 8.5-10%

2-3 Acrylic

acryl

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Acryl carboxyl (acrylic acid)

. Acrylonitrile acrylamide comonomer

, . Ester

. Ethylene, styrene

nonacrylic comonomer , 가

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Polyacrylic acid polyester, nylon, acryl filament

가 . Acrylic acid acrylate salt

“ 가 ” . polyacrylic

acid , Na, K, NH₄ polyacrylic acid

carboxyl 가 .

carboxyl

, pH .

Acryl

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Acrylate ethyl-acrylic acid copolymer alkali salt

가 가 .

Acryl 가 .

polyacrylic acid(4-6%)

polyamide nylon filament . ,

Style : 100% nylon

Charge : 100-120kg high MW polyacrylic acid(25% active)

No additives ; finish to 360-390kg with water

Sides = 5.2~6.5% Size pick up = 3.4~4.5%

Qiana twist filament roto set filament nylon 가 acrylic
acid methacrylic acid copolymer가 .

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Style : 100% unrelaxed nylon

Charge : 60~70kg acrylic acid/methacrylic acid copolymer (25% active)

No additives ; finish to 340-380kg with water

Solids = 3.5~4.5% Size add-on = 8~10%

Polyester filament staple

, 2 가 acryl 가 .

3. Style : 2800~3200 ends polyester

Charge : 140~160kg acrylic copolymer (30% active)

2~4kg lubricant wax + antifoam

Mix finished to 360~400kg with water

Solids = 11~13%

Size pick-up = 15~17%

4. Style : 100% textured polyester

Charge : 70~90kg acrylic copolymer binder(30% active)

3~5kg lubricant

2~4kg wetting aid + antifoam

Mix finished to 360~400kg with water

Solids = 6~8%

Size add-on = 8~10%

Acrylate polyester filament 가 .
comonomer acrylate
. copolymer acrylic acid acrylonitrile .

2-4 PVA

가 PVA 2 .
가 가
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Properties	Fully hydrolyzed	Partially hydrolyzed
Film strength	High	Moderate

Moisture sensitivity	High	Moderate
Adhesion to synthetics	Fair	Good
Foaming tendency	High	Moderate
Tack	Low	Moderate
Ease of desizing	Fair	Good

< 2>

PVA

. PVA

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 . , CMC 가 ,
 가 . PVA가
 , , BOD,
 .

PVA

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< 2> Properties of Polyvinyl Alcohol Polymers Used in Warp Sizing

PVA	Viscosity ^a CPS	Hydrolysis (%)	Tensile Strength(kg/cm ²)	Elasticity (%)
Low MW (copolymer)	5-7	96-98	290-340	110-125
Medium MW	24-26	86-88	450-530	155-165
Medium MW	28-32	94-96	550-675	140-150
Medium MW (copolymer)	28-34	96-98	600-700	135-145
High MW	60-110	99-100	1000-1500	85-105

^aViscosity of a 4% aqueous solution, at 20

, 50% PVA가 , 18-20%
 .
 가 . PVA
 . Amylose amytilol(Raney nickel
 amylose) PVA
 .
 가 PVA .

1. Style : 100% cotton (poplin)

Charge : 22-28kg starch ether

3-5kg visc. 99% hydrolyzed PVA

1.0-2.0 kg bloc wax

Solids = 7-9%

Size add-on = 8-10%

2. Style : 65/35 polyester/cotton

Charge : 55-65 kg starch ether(medium fluidity)

10-14kg med. Visc. 88% hydrolyzed PVA

Mixture finished to 350-400 kg with water

Solids = 18-20%

Size add-on= 20~22%

3. Style : 100% acrylic

Charge : 25-35kg med. Visc. 99% hydrolyzed PVA

1-3kg bloc wax

Mixture finished to 350-400 kg with water

Solids = 7.5-9.5%

Size pick-up = 5.5-7.5%

4. Style : Rayon(muslin)

Charge : 160-20kg starch gum

2~4kg med. Visc. 99% hydrolyzed PVA

1~2kg emulsifiable wax

2~4kg emulsifiable wax

Mixture finished to 350~400kg with water

Solids = 5.2~6.2%

Size add-on = 5~7%

5. Style : 50/50 polypropylene/rayon

Charge : 25-35kg high visc. 99% hydrolyzed PVA

2-3kg emulsifiable wax

Finished to 360-390kg with water

Solids = 7.5~9.0%

Size add-on = 6.8%

6. Style : 80 ends worsted wool

Charge : 18~24kg med. Visc. 88% hydrolyzed PVA

1-3kg sulfonated processing oil

Finished to 350-400kg with water

Solids = 4.5~6%

Size pick-up = 5~6.5%

7. Style : 55/45 polyester/wool

Charge : 9-12kg high visc. 99% hydrolyzed PVA

12-15kg med. Visc. 88% hydrolyzed PVA

2-4kg sulfonated processing oil

Finished to 350-400kg with water

Solids = 6.2~7.5%

Size add-on = 6~8%

2-5 Polyester

Polyester filament

. Polyester

filament

polyester

가 polyester

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polyester

copolymer

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< 3> polyester Dispersions

Molar ratio NPG/TMA	Acid No.	Tack at 55% RH/75%RH	Adhesion to Polyester filament
1.0/1.2	261	None/very low	Excellent
1.0/1.0	221	High/high	Excellent
1.0/1.1	292	High/high	Good
1.0/1.3	256	High/high	Good

< 3>

dihydric alcohol, neopentyl glycol(NPG)

Polycarboxylic acid, trimellitic anhydride가 360

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polyester가

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dicarboxylic acid

polyol

dicarboxylic acid

polyester가

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Polyester가

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1. Style : 100% polyester

Charge : 100-120kg polyester size(30% active)

3-5kg emulsifiable wax

Finish mix to 352-400kg with water

Solid = 7.5-9%

Size add-on = 3-4%

2. Style : 100% polyester

Charge : 60-70kg polyester size(30% active)

No additive ; only overwax

Finish mix to 350-400kg with water

Solids = 5.6-6%

Size pick-up = 1.3-2.2%