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# Kuraray's polyester fiber for wet laid nonwovens

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## Basic properties of Polyester

- ❑ Water resistance
- ❑ Acid resistance
- ❑ Oil resistance
- ❑ Electrical isolation

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# Content


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- 1. Subject fibers**
2. Bi-component binder fibers
3. Un-drawn binder fibers
4. Applications of Kuraray's polyester fibers

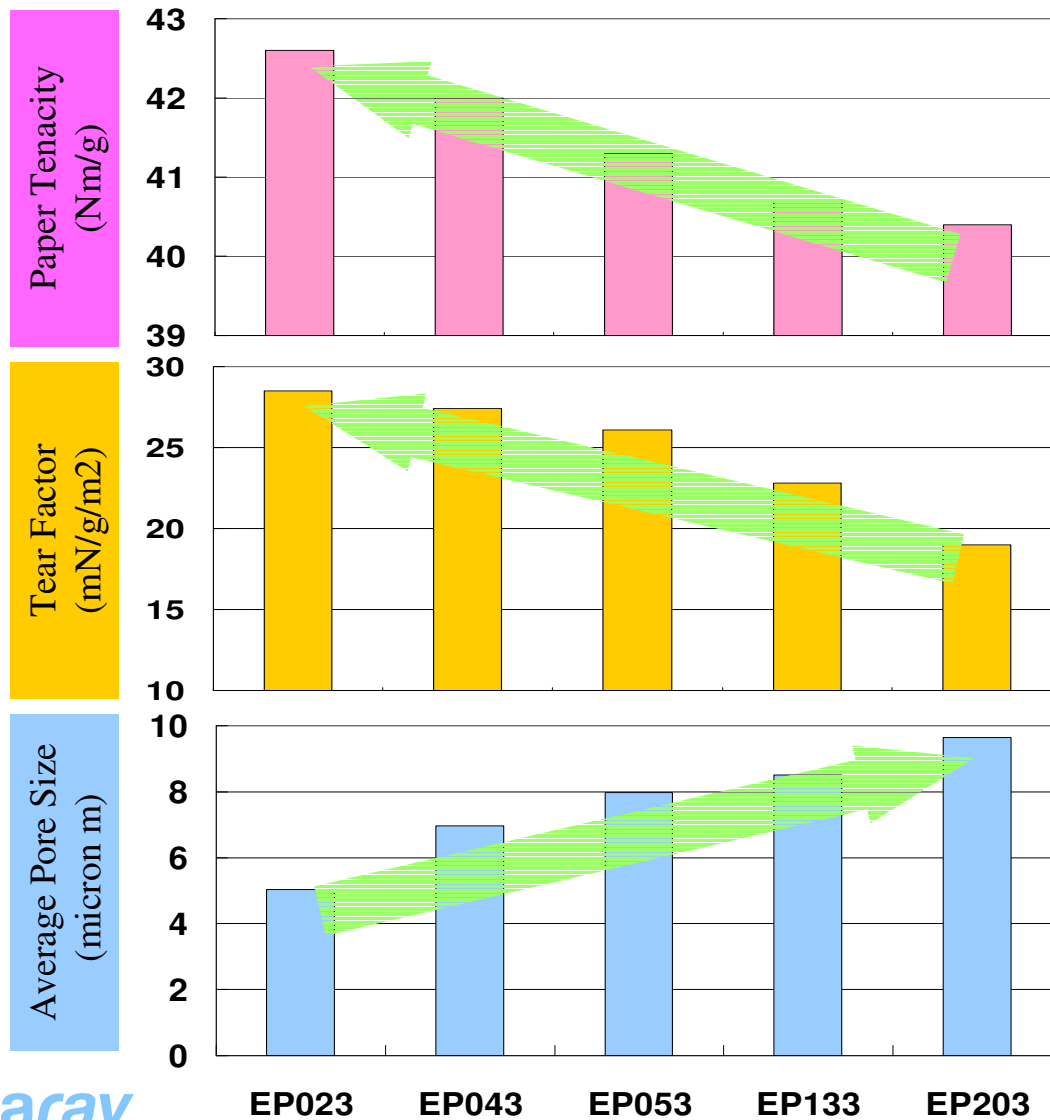
# 1. Subject fibers

## Variation of subject fiber

Item	Thickness (dtex)	Cut length (mm)	Cross section	Remarks
<b>EP023</b>	0.35	5	○ Round	Ultra fine
<b>EP043</b>	0.53	3, 5, 10	○ Round	Fine
<b>EP053</b>	0.84	3, 5	○ Round	Fine
<b>EP133</b>	1.45	5, 6	○ Round	Regular
<b>EP203</b>	2.1	5, 10	○ Round	Regular
<b>EP303</b>	3.1	5, 10	○ Round	Coarse
<b>EPTC203</b>	2.4	5	 T shape	T-shape, Crimped

# 1. Subject fibers

## Relationship between Paper Properties & Thickness of Fiber



Paper content:

Pulp(CSF300) : 80% + Subject Fiber (5mm) : 20%

By using finer subject fiber;

- **Higher paper tenacity**
- **Higher tear factor**
- **Smaller average pore size**

are obtained.

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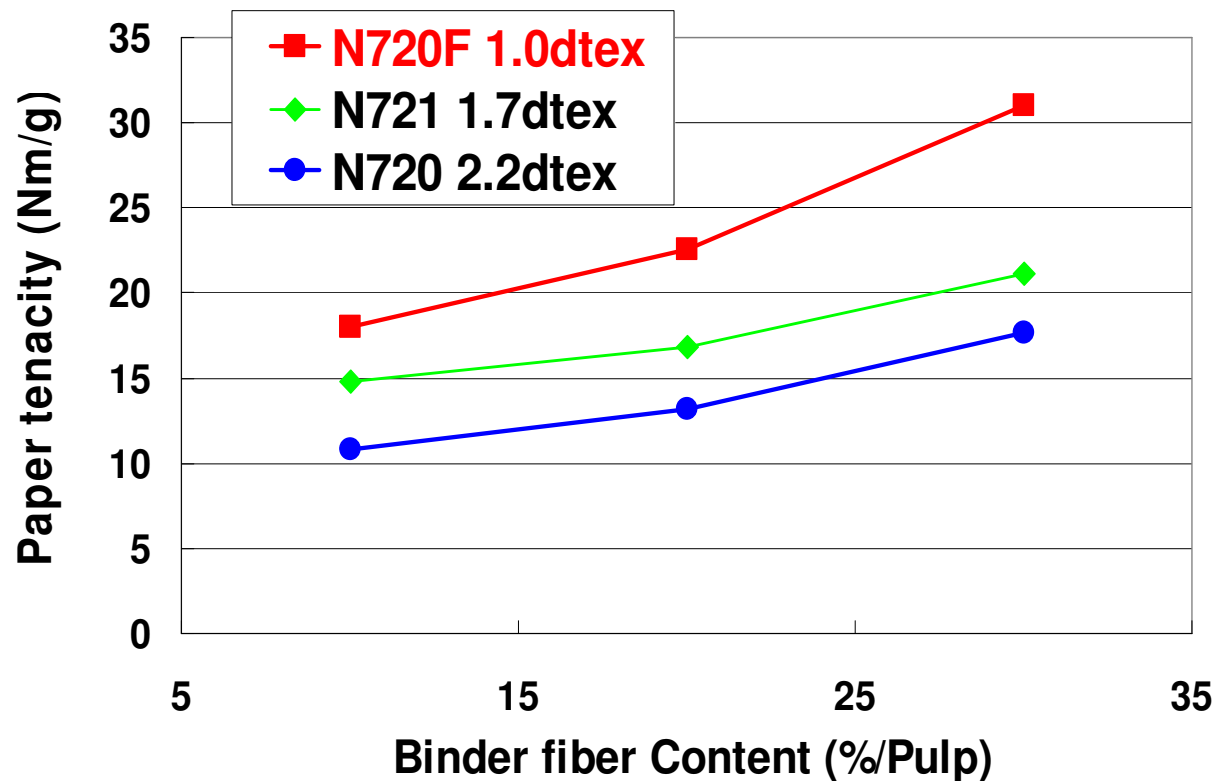
## 2. Bi-component fibers

### Variation of bi-component binder fiber

Item	Thickness (dtex)	Cut length (mm)	Cross section	Remarks
<b>N720F</b>	1.0	5, 10	 S/C=50/50	Binding temp. 230 degree F Fine
<b>N720</b>	2.2	5, 10	 S/C=50/50	Binding temp. 230 degree F Regular
<b>N720H</b>	2.2	5, 10	 S/C=50/50	Binding temp. 266 degree F Higher binding temp.
<b>N721</b>	1.72	5	 S/C=60/40	Binding temp. 230 degree F Larger sheath

## 2. Bi-component fibers

### Paper tenacity depending on binder type & binder content



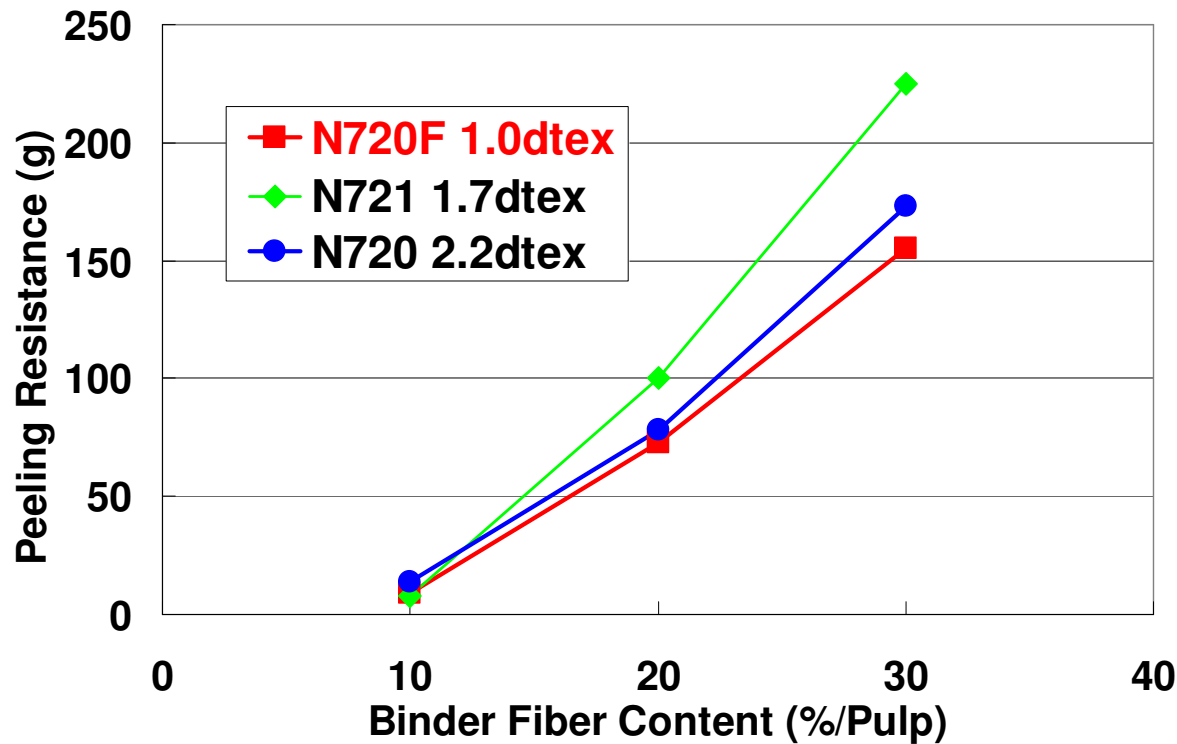
#### Higher Paper Tenacity

The finer the binder fiber is, and/or the larger the binder fiber's sheath content is, the higher the paper tenacity is.

N720F (1.0 dtex) 10% blended paper's tenacity is as same as N720 (2.2 dtex) 30% blended paper's. You can reduce binder fiber content with finer one.

## 2. Bi-component fibers

### Paper tenacity depending on binder type & binder content



#### Less Sticking on dryer can

Peeling strength from dryer can of N720F paper is lower than or at least same with other Co-PET/PET binder fibers.

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### 3. Un-drawn binder fibers

## Variation of un-drawn binder fiber

Item	Thickness (dtex)	Cut length (mm)	Cross section	Remarks
<b>EP071</b>	0.9	3	○ Round	Fine *Under development
<b>EP101</b>	1.45	5	○ Round	Regular
<b>EP201</b>	2.4	5	○ Round	Regular

With un-drawn polyester binder fiber, you can create a polyester 100% paper (blended with polyester subject fiber) with heat calendering treatment.

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## 4. Applications of Kuraray's polyester fibers

Application	Composition	Advantage
Reverse osmosis filter	<b>Polyester</b> , <b>Un-drawn polyester</b>	Chemical resistance
Air filter	Pulp, <b>Polyester</b> , Glass, Kuralon binder	Fineness, Heat resistance
Oil filter	<b>Polyester</b> , <b>Un-drawn polyester</b>	Fineness, Oil resistance
Milk filter	<b>Polyester</b> , Pulp, Viscose binder	Coarseness
Tea bag	Hemp, <b>Polyester</b> , <b>Bi-component binder</b>	Fineness, Heat sealability, Wet strength
Stencil paper	<b>Polyester</b> , Hemp, Viscose binder	Fineness, Round cross section
Acid battery separator	Glass, <b>Polyester</b> , <b>Bi-component binder</b>	Good binding ability, Acid resistance
Electric insulator	<b>Polyester</b> , <b>Un-drawn polyester</b>	Electrical insulation, Heat resistance
Wall paper	<b>Polyester</b> , Pulp, Binder	High tenacity
Medical gown	<b>Polyester</b> , Pulp, Binder	High tenacity
Wipes	<b>Polyester</b>	High tenacity, Good processability at water entangling section
Roofing base sheet	Pulp, <b>Polyester</b> , <b>Bi-component binder</b>	High tenacity
Kitchen filter	Pulp, <b>Polyester</b> , <b>Bi-component binder</b>	High wet tenacity
Vacuum cleaner bag	Pulp, <b>Polyester</b> , Kuralon binder	Fineness, Round cross section
Refreshing towel	Pulp, <b>Bi-component binder</b>	High wet tenacity, Soft touch