

1.

1973

15

가

가

가

(mechatronics)

가가

가

가

가

2/3

2.

1970

- (high-tech fibers)
- (super fibers)
- (new-frontier fiber)

3.

9,000m g , dtex

10,000m g , 3den

3.3den가 . 가 1den , 1.5den,

4~6den, 30~50den .

가 . 20 μ

3den .

가 .

0.3den (5 μ

) (ultrafine fiber)

(microfiber) . 0.5~1den (very fine

super fine) . 가 0.1~0.3den ,

0.01~0.001den() .

0.1 μ 4g ,

가 .

가 .

Montefiber

0.4dtex , Mitsubish 0.1dtex

가 .

(bicomponent fiber)

, Kanebo Savina PS 0.1~0.2den /

Toray Alcantara
 , 36 70
 가 ().

0.1~0.05den , (suede)

0.01~0.001den ,
 가 (Youest, Toray)

(wiping cloth) ,
 가 . Teijin Kanebo

, Toray 3 Traysee 0.05den
 , Mitsubishi

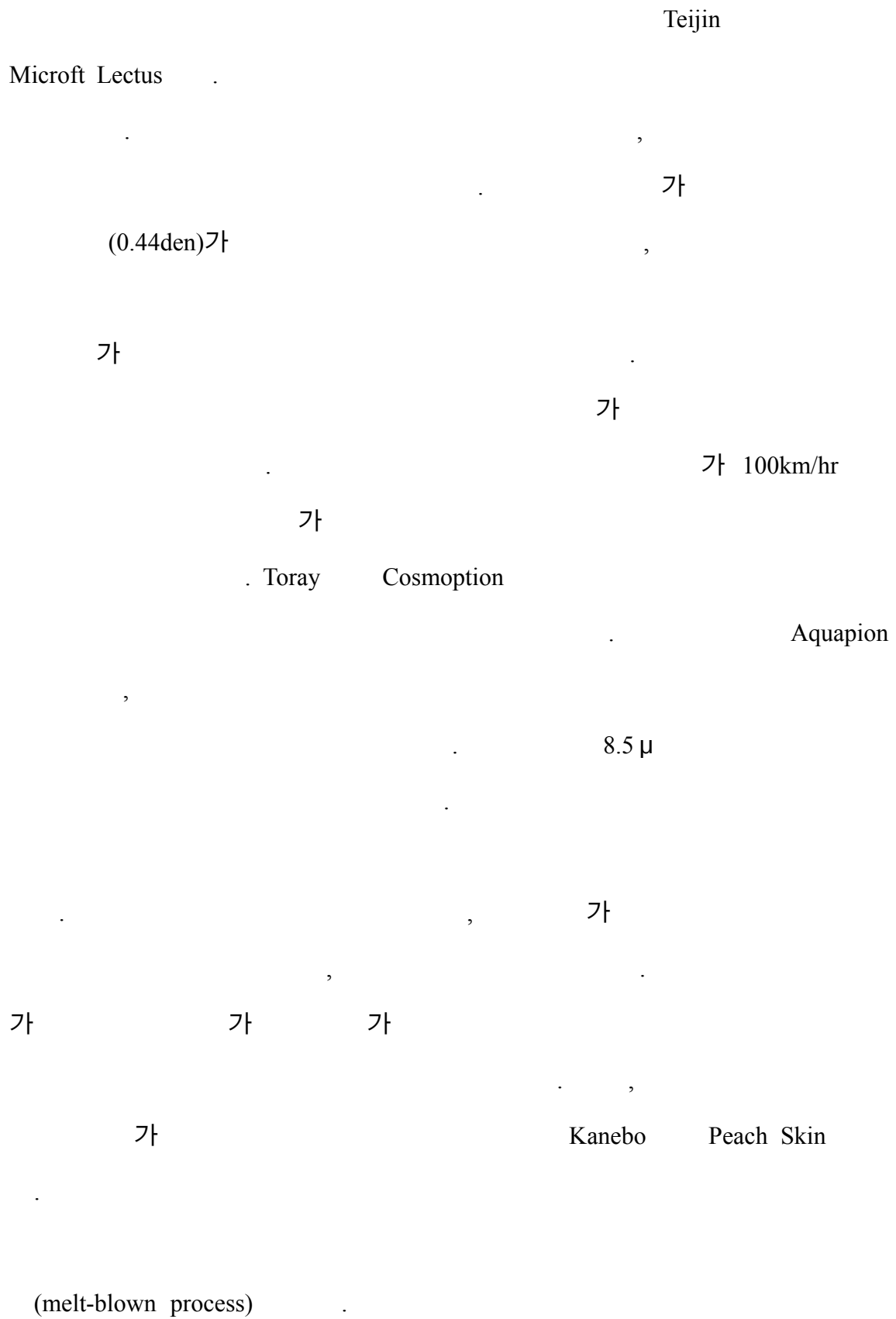
/

(wipe) .
 () 가

0.2~10 μ 100~200

μ ,

Kandbo Savina DP가 .



가
가

1

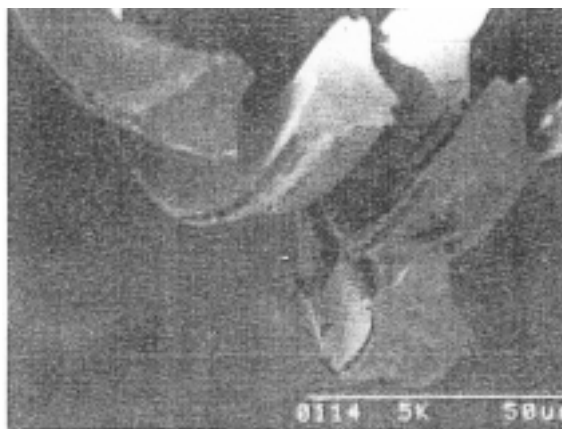
가 Unitika Descento
Solar-Alpha (zirconium carbide)

2 μ

, 2 μ

95% 0.3~2 μ

10 μ Solar-Alpha가
가
가



< 1> Sillook Royal S(Toray)

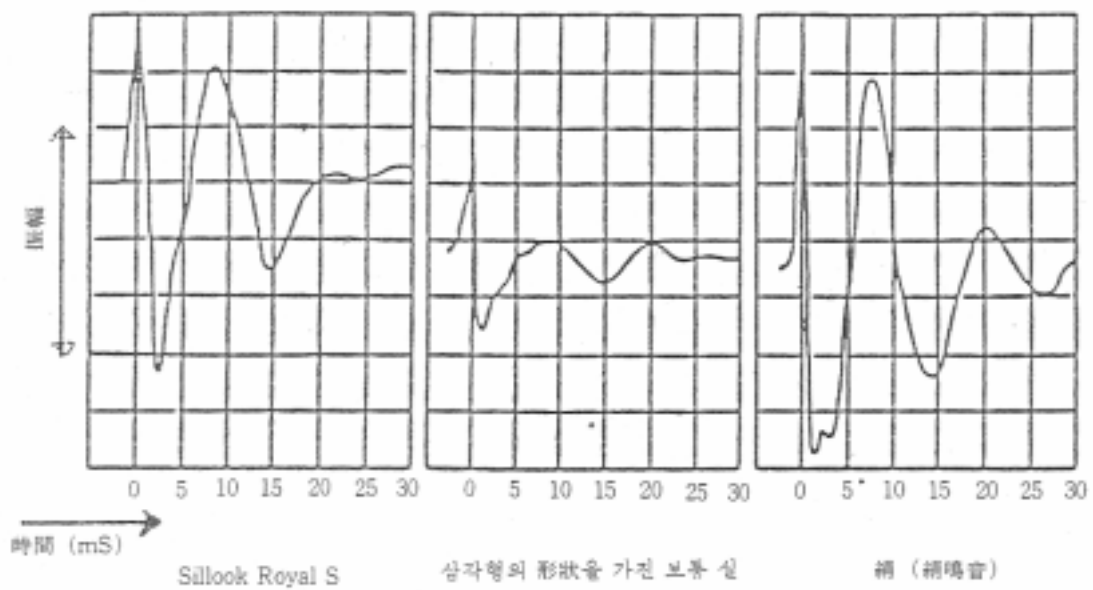
가 Toray Sway
dhse , 가

가

Kurauay (Amazonian butterfly)
(scale)

Toray Silook Royal S (絹
鳴)

가 0.1 μ



·
· ,
(far-infrared ray)
,
,
·

4.

1930 가
·
() (,)
10 ,
가 (HSHM : High Strength High Modulus)
(가)
(chain polyme)가 , 가
가
가 가

가. 線狀 剛直鎖 ,

가
(linear flexible-chain polymer)
剛直鎖 (linear rigid-chain polymer) 溶媒液
,
液晶(liquid crystal)
(lyotropic)

HSHM

Kevlar, Twaron Technora 가 Technora Teijin

(thermotropic) 가

() HSHM

가 Kuraray Vectran(Hoechst Celanese

), Sumimoto Ekonol() ICI Victrex(

)가 (400~500)가

가

Nomex, Teijin Conex, Unitika Apyeil P-48,

Kermel PBI가

超延伸處理

DSM Toyobo Dyneema, Mitsui Technilon Allied Spectra

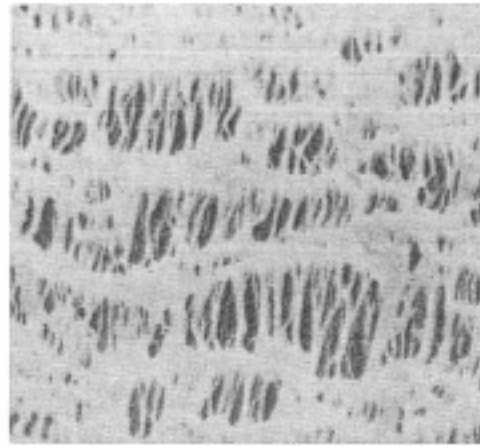
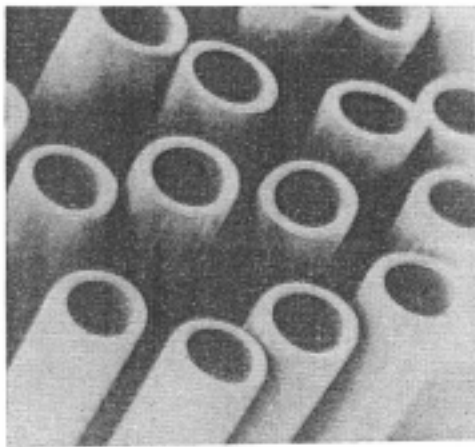
가 Asahi

Tenac , Kuraray HSHM PVA

5.

가. , 가
(membrane)
(hollow fiber)가

Mitsubishi Cleansui가
0.01~0.1 μ



< 3> (Mitsubishi Rayon)

(collagen)

(chitin)

6.