

•

, 가

가 .

.

•

(base layer)

•

1.5m

•

, 1.5m 가 100%

•

가 .

•

•

•

가 .

,

가 ,

•

2.

3 (

$$\alpha, \beta, \gamma). 3, \quad < 1 >$$

120 (Hitachi Ltd.)

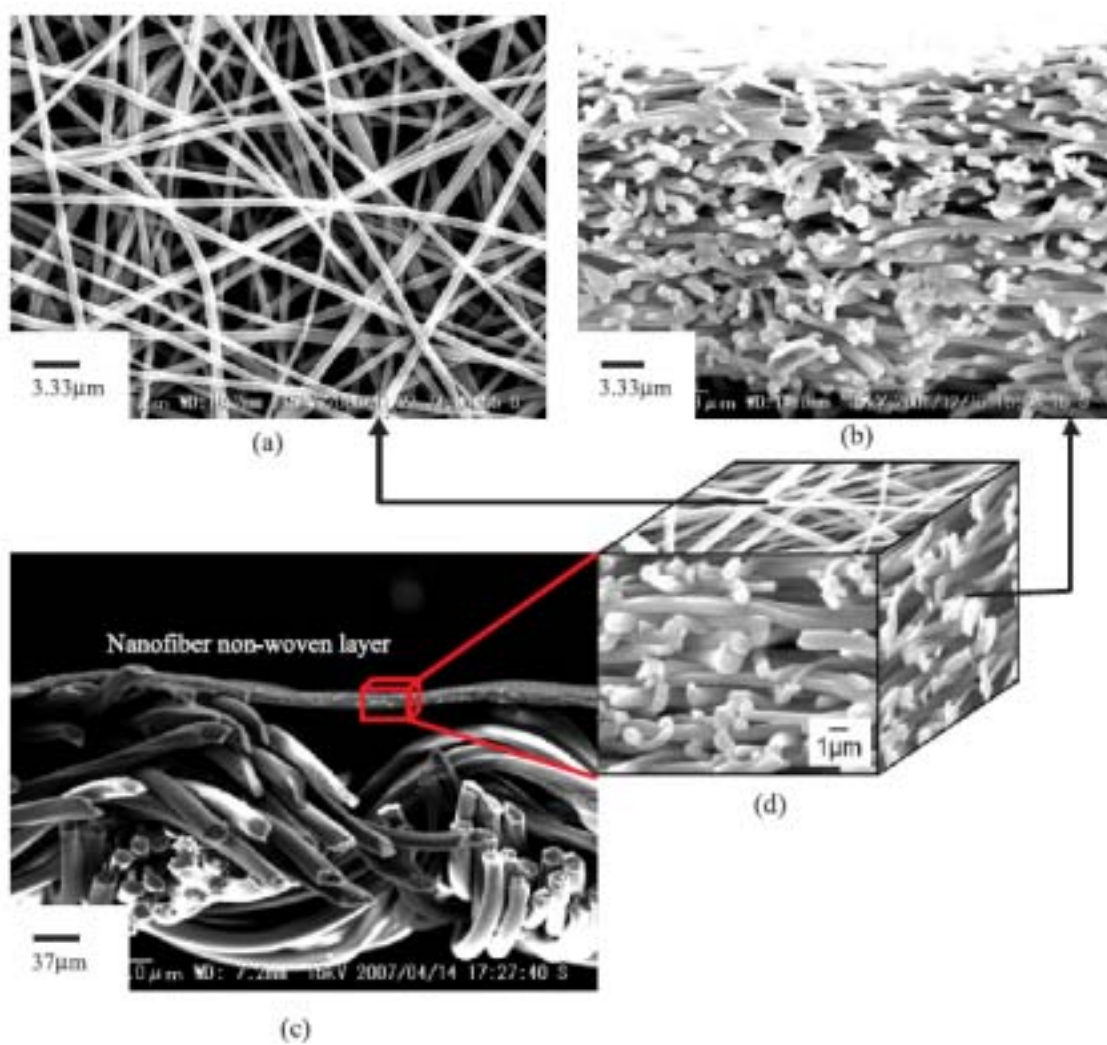
(SEM, VE-8800, KEYENCE, Japan) (

1(a), (b)). , 3-

D SEM (1(d)).

< 1>

	α	β	γ
(μm)	15	30	42
(nm)	660 ± 10	700 ± 10	670 ± 10
(μm)	0.60 ± 0.01	0.55 ± 0.01	0.57 ± 0.01



(a) ; (b) ; (c) ;

(d) 3 .

< 1>

가

가

(A,

B)

가

(Hiramatsu

Sangyo Co., Japan)

. Hiramatsu Sangyo

가

A

(hotmelt laminating)

, B

(solvent

laminating)

. Hiramatsu Sangyo

100%

70d/68f,

123

90/inch(

)

1(c)

가

가

3.

(1)

JIS-L1908(UTM, AG-5000G, Shimadzu, Japan)

. JIS-L1908

50mm

200mm ,

10mm 100mm

25 , 60% RH

50mm/min

15

(2)

가
가
KES-FB system(Kato Tech Co., Ltd., Japan)
200mm 200mm

(3)

JIS-L1089(UTM, AG-5000G, Shimadzu, Japan)
20mm 150mm , SAN CHEMICALS, LED.
MELCO FU-700

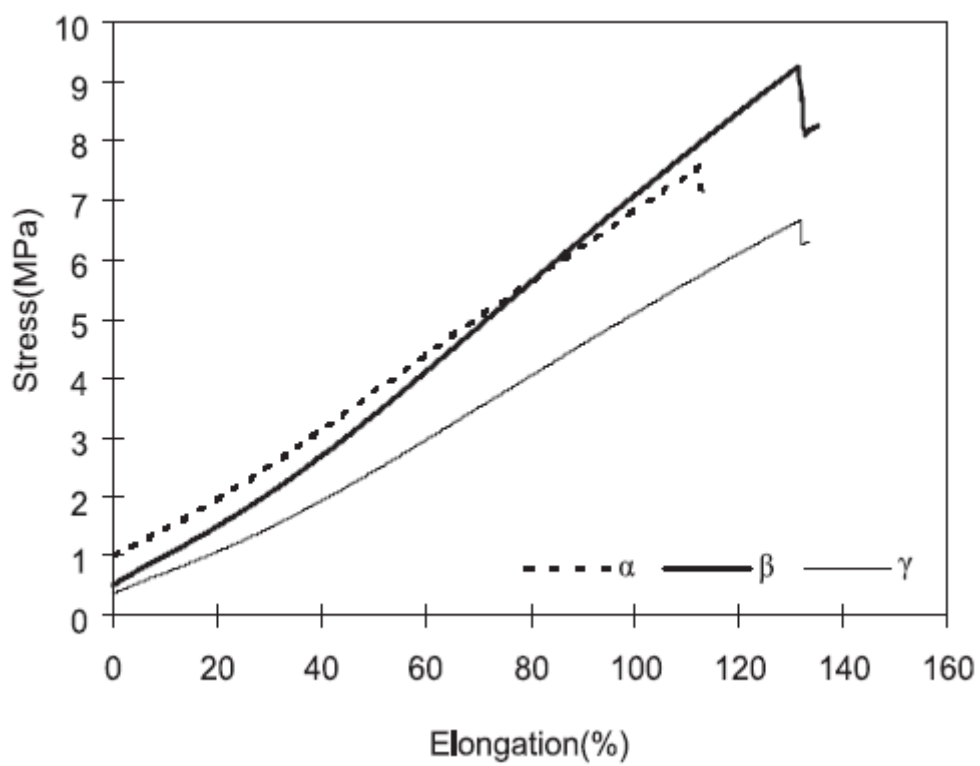
(4)

JIS-L1089 가
가
가 (ATACKU, Kao , Japan) . 1, 5, 10

4.

(1)

3 가 15, 30,
42 μm , 6MPa 9MPa
(2). 가 가



< 2>

SEM

가

10

(1(b)),

β

3,000 10^{-10}

10^{-10}m^2

2.78N

9.26MPa

(2).

		가
		가 9MPa ,
35MPa	가	가
가		
< 2>		β
		β
(m ²)	3,000 10 ⁻¹⁰	
(MPa)	9.26	
(m ²)	792 10 ⁻¹⁰	
(MPa)	35.098	
(%)	26	

(2)

KES-FB

가

< 3> . KES-FB

(bending rigidity)

2HB

A ,

가

B

(LC),

(WC),

(RC)

(T)

가

LC

. WC

가

. WC

. RC 1

가

,

가

가

(bulkiness)

(flexibility)

1 가 1

가 가

가

(MIU) (SMD)

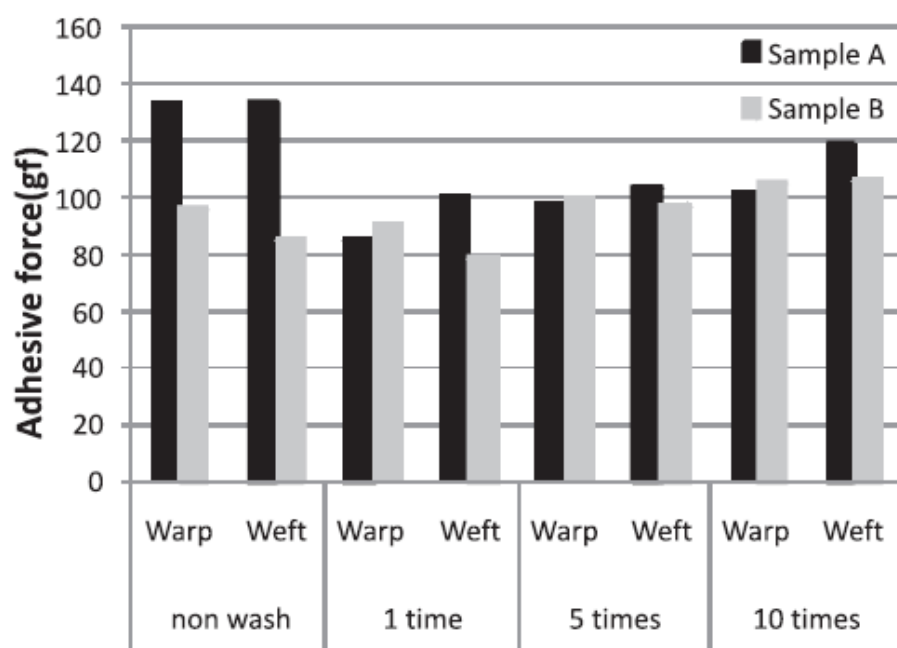
A MIU 가 , 10

B MIU 10

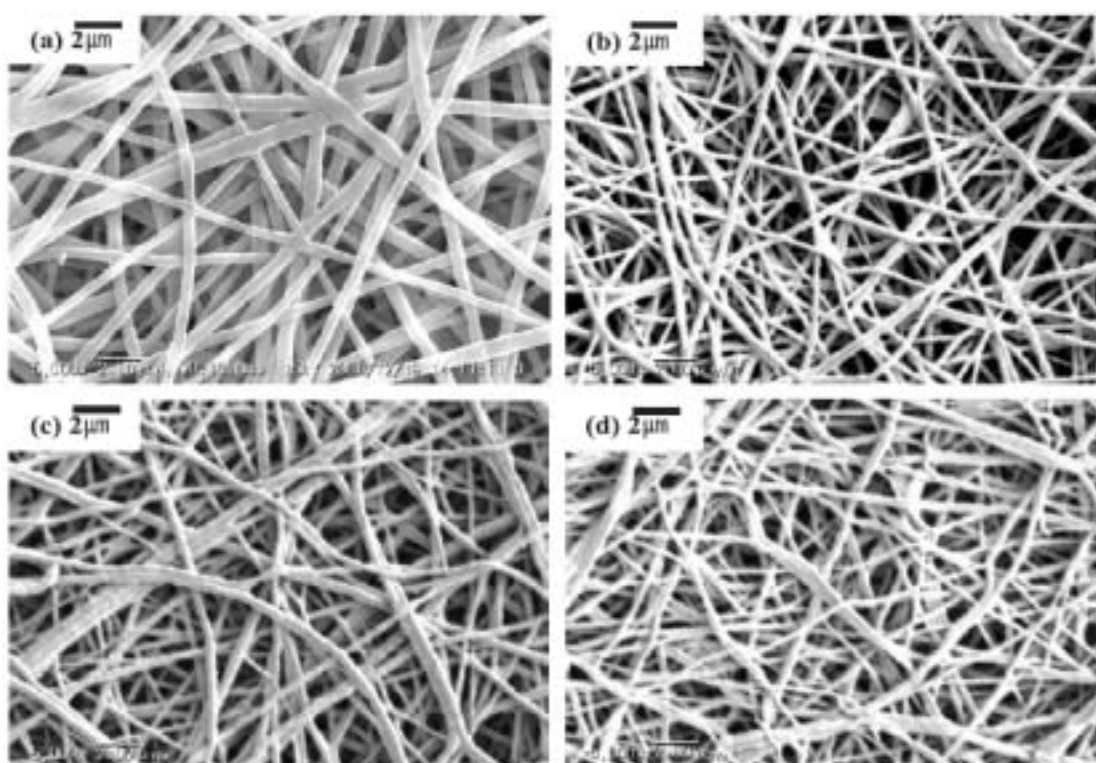
SMD

< 3>

	1		5		10		
	A	B	A	B	A	B	
(gf·cm ² /cm)	0.174	0.199	0.162	0.206	0.160	0.184	0.177
2HB(gf·cm/cm)	0.144	0.121	0.124	0.117	0.112	0.119	0.116
LC	0.331	0.380	0.327	0.340	0.303	0.318	0.332
WC(gf·cm/cm ²)	0.023	0.030	0.050	0.051	0.049	0.058	0.056
RC(%)	90.510	74.110	60.493	83.567	66.243	72.260	78.437
T(mm)	0.164	0.164	0.213	0.209	0.204	0.227	0.214
MIU	1.269	0.952	1.266	1.175	1.249	1.363	1.113
SMD(μ m)	0.453	0.572	0.577	0.443	0.535	1.000	0.785



< 3>



(a) ; (b) 1 ; (c) 5 ; (d) 10

< 4>

< 3> . A
가 , 가 . ,
B A 가 ,
. A , B (solvent
laminating) 가

5.

,
,
.
1 , 5 , 10
10 (4).
가
가
가 ,
.
가 .