

8.3

8.3.1

가

가 가

가

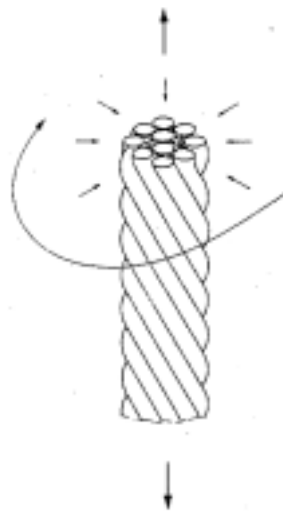
가

Twilo

가

()

가



(extension)

(tension)

가

가 가

가 가

25~70% (30~50%)

(true

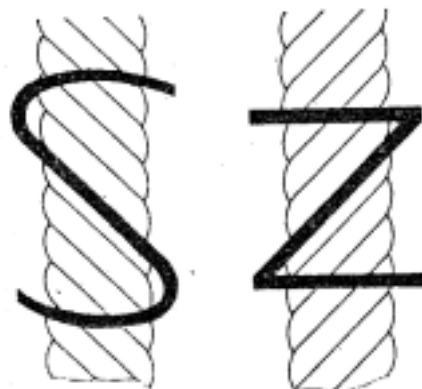
twist), 가 (false twist), Repco

(self twist)가 .

8.3.2 ()

8.3.2.1

가 가



가 Z S
Z S

Z

8.3.2.2

가 가 . <

57>

(sliding

friction)

(tensile loading)

(cohesive friction)

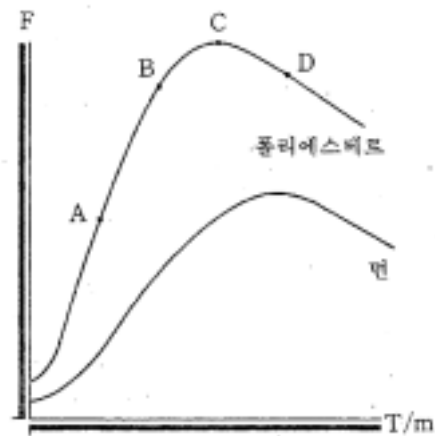
가

가

가

가

(C)



< 57>

F : , T/m : m

(A: , B:)

(voile) (crepe)

= (rpm)

가

8.3.2.3

가 가

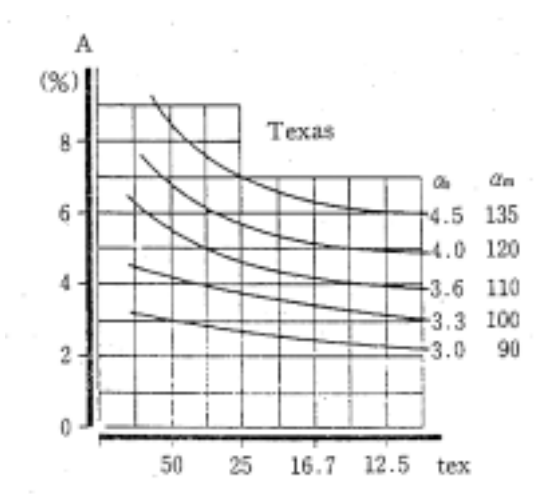
가

가

(core)

가

58>



< 58>

A : %

8.3.2.4.

가

가

가

가

< 59>

f f'

AC, A'C'

AG(A'G') CD(C'D')

360°

가

AEC A'ÉC'

가

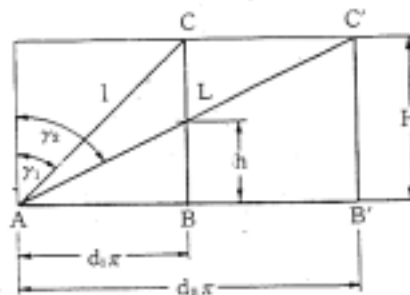
f'

f

$$f \quad H \quad I \qquad f' \quad H \quad L$$

I

< 59 >



가

$$(f \quad f')$$

(F)

$$F/F = \gamma_1/\gamma_2$$

가

가

 $\gamma_1 = \gamma_2$ 가

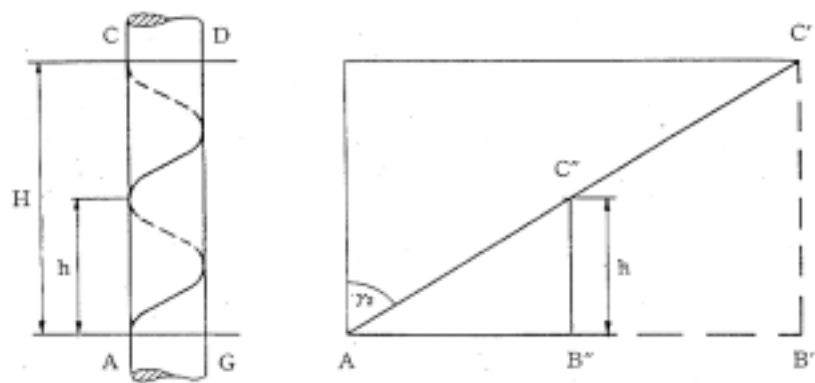
(

).

H h 가

가

가 < 60>.



< 60> 가

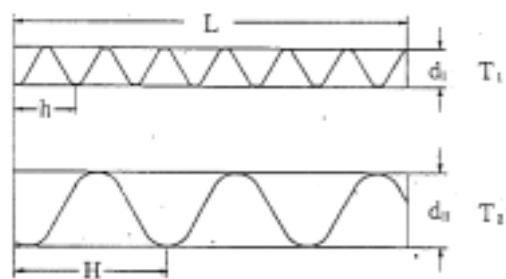
8.3.2.5

< 61>

$$h/H = d_2/d_1 \quad d_2/d_1 = T_2/T_1$$

(mass)

$$m = V(\quad) \times \sigma(\quad)$$



< 61> 가

$$m = \frac{d^2 \cdot \pi}{4} \cdot L \cdot \sigma$$

$$Ne = \frac{L}{m} = \frac{L}{\frac{d^2 \cdot \pi \cdot L \cdot \sigma}{4}} = \frac{4}{d^2 \cdot \pi \cdot \sigma}$$

$$V=A(\quad) \times L(\quad) \qquad A=d^2 \cdot \pi /4$$

$$m = d^2 \cdot \pi /4 \cdot L \cdot \sigma$$

$$m = \frac{d^2 \cdot \pi}{4} \cdot L \cdot \sigma$$

$$Ne = \frac{L}{m} = \frac{L}{\frac{d^2 \cdot \pi \cdot L \cdot \sigma}{4}} = \frac{4}{d^2} \cdot \pi \cdot \sigma$$

$$\frac{Ne}{Ne} = \frac{\frac{4}{d^2 \cdot \pi \cdot \sigma}}{\frac{4}{d^2 \cdot \pi \cdot \sigma}} = \frac{d^2 \cdot \pi \cdot \sigma}{d^2 \cdot \pi \cdot \sigma}$$

$$Ne / Ne = d^2 / d^2$$

$$d^2 / d^2 = Ne / Ne \qquad , \quad d / d = \sqrt{Ne} / \sqrt{Ne}$$

$$d / d = T_1 / T_2 \qquad T_1 / T_2 = \sqrt{Ne} / \sqrt{Ne}$$

$$\frac{T_1}{\sqrt{Ne}} = \frac{T_2}{\sqrt{Ne}} = \dots\dots\dots \frac{T_n}{\sqrt{Ne_N}} = \alpha$$

$$\alpha$$

$$T / \sqrt{Ne} = \alpha, \quad T = \alpha_e \sqrt{Ne} \text{ (in)}$$

纖維長 (fibre length)	短纖維 (short)	中 間 纖 維 (medium)	長纖維 (long)
編成 (knitting)	-	2.5-3.0	2.1-2.6
緯糸 (weft)	3.3-3.8	3.0-3.5	2.5-3.0
세미워프 (semiwarp)	3.7-4.0	3.5-3.8	3.0-3.4
經糸 (warp)	4.0-5.0	3.8-4.5	3.4-3.9

$$m$$

$$T / m = \alpha_m \sqrt{Nm}$$

$$T / m = \frac{\alpha_m}{\sqrt{\text{tex}}}$$

$$T / m = \frac{\alpha_m}{\sqrt{\frac{\text{tex}}{1000}}}$$

$$TPI = T / m \times 0.0254$$

$$\alpha_e = \alpha_m \times 0.333$$

$$\alpha_e = \alpha_{\text{tex}} / 958$$

8.3.3 가 (false twist)

8.3.3.1

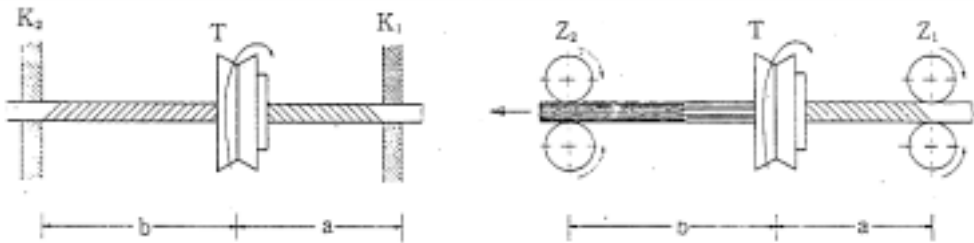
< 62>

K_1 K_2

가 가 (twisting

element;T)

가 .



< 62> 가

Z

S

(Z_1 Z_2) 가

가

b

a 가 가

Z 가

S a 가 Z

b 가 S

가

가

가 가 가

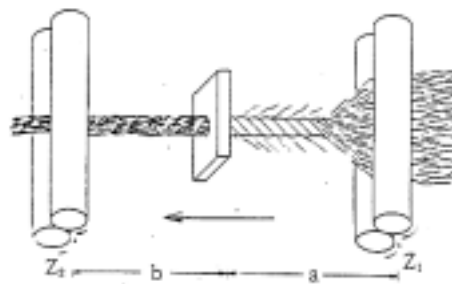
가 가 가 (false twist texturing)

8.3.3.2 가

가 가 가

Z_1

가 a



< 63> 가

가

가 가 가

(sheath fire) 가 가

가

가

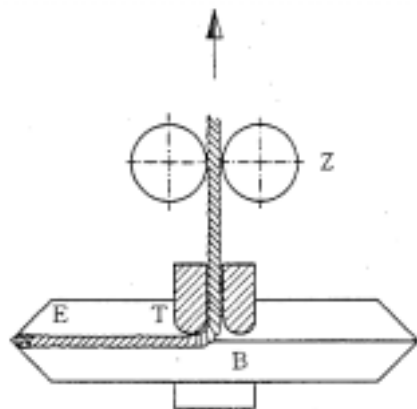
가
 , 가
 가 가
 (bundled yarn) (Du Pont

Rotofil), Murata

DREF-3 가 .

8.3.3.3 가

가
 가 ,
 (crown) (navel)



< 64> 가

(clamping point) 가 가

가 .

(E Z) 8.3.3.1

가 가 (T) 가 (T)

E

가 가

가

8.3.4 (self-twist)

(N)

S Z

(counter-torque)

가

가

가

가

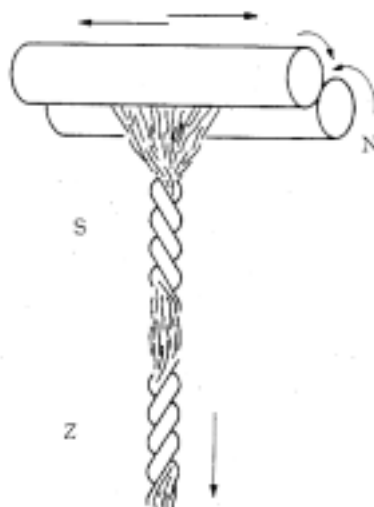
S

Z

Z

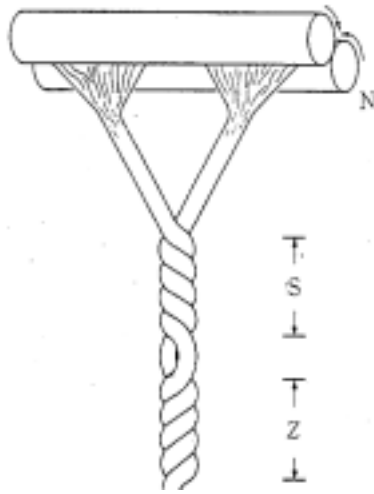
S

(plied yarn)가



< 65>

(self-twist)



< 66>

(Repco

)