

Fluid Beds

. Hot Stretching

. 가 Nylon Polyester
가 가 가

stretch .

(extension at break)가 .

seam puckering

(ironing) . Durable(permanent)

press 가 baking

.

.

hot-stretching 가 가 .

(1)

(2)

(3) 가

.

가 Hot stretching .

(residual shrinkage)

Hot-stretching

•

•

가

.

.

•

.

가 .

•

가 가

.

(35cm)

•

가

가 .

capstan

가 . 가
가 600yd/min . , V

가 , stretching
가 .

(3) Multi-end

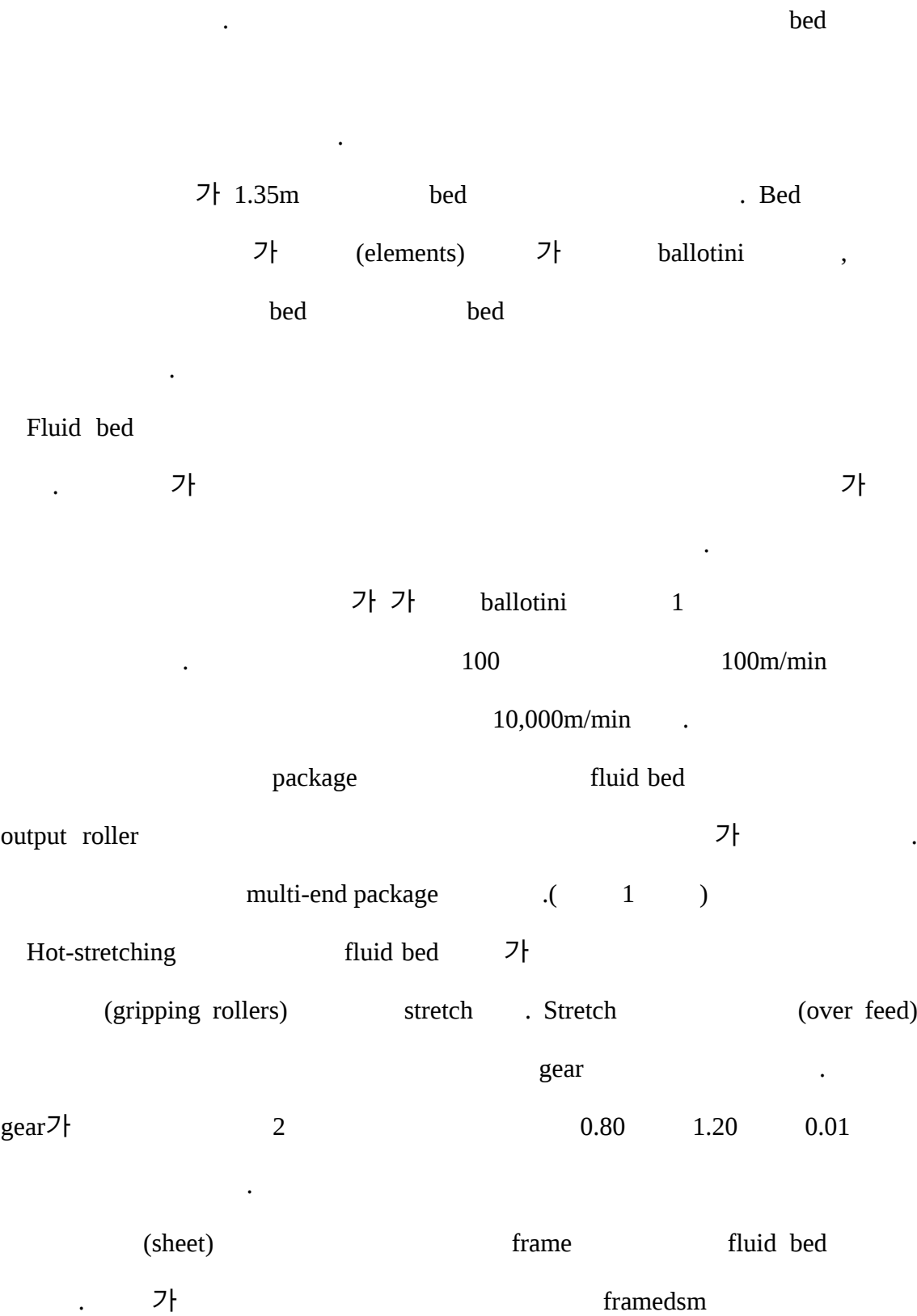
(creel)
(sheet) . stretch 가
가
가 가
가 Shirley

가 가 Fluid beds Hot-stretching

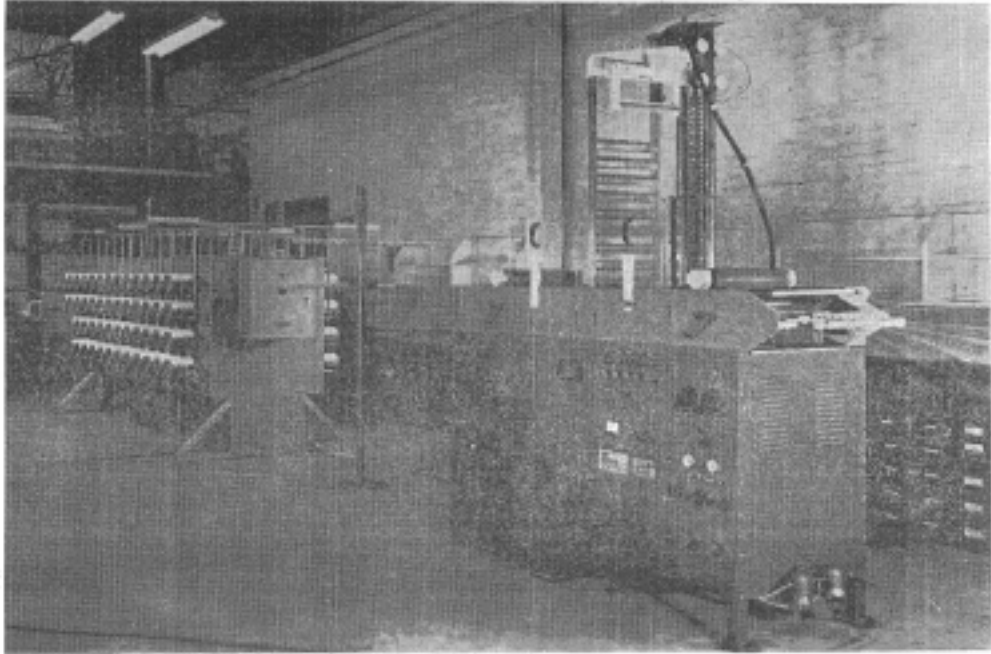
. Shirley Fluid Bed

Hot-stretching 가 fluid bed
가 .
가 fluid bed
가 fluid bed
가 .
Fluid bed ballotini (glass sphere)가
container .
0.25mm . Bed (fluidize) bed
container bed . Bed

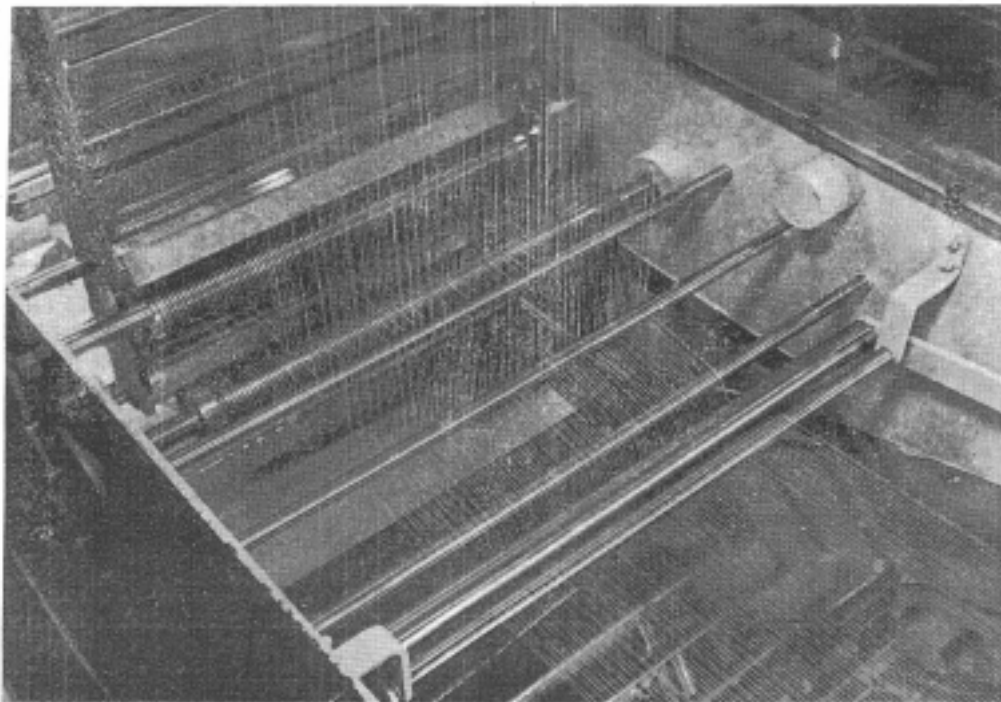
가



가 .



< 1> The Shirley fluid Bed Hot-Stretching Machine and take-up winder.
The machine is undergoing trials at Shirley



< 2> Close-up of the immersion frame and thread control system

Fluid bed loop

2 . 3 guide roller

. Guide roller 1 frame

fluid bed .

bearing, seal

가 . guide roller stretch

가 .

comb guide .

(threading) input 100 5

guide . guide

. (end-break detector)가

.

drop wire drop wire contact bar

.

dial

가 .

가 ± 2 .

bed blower가

. switch bed가 main

drive 가 switch .

, , blower

가 fluid bed .

soft package 가

package

Output roller dancing roller

roller (spindle)

coupling . traverse

package .

7 , polyester nylon Hot-stretching가

Shirley Fluid Bed가

Hot-stretching가 가

stretching . 2~3%

17.5~22.5% .

fluid bed .

가 가 .

, .

. (pre-setting)

durable(permanent) press

가 가 . 2

polyester staple 가 . fluid bed hot

stretching .

,

Hot stretching

 $\cdot < 1 >$

,

1

81m/min

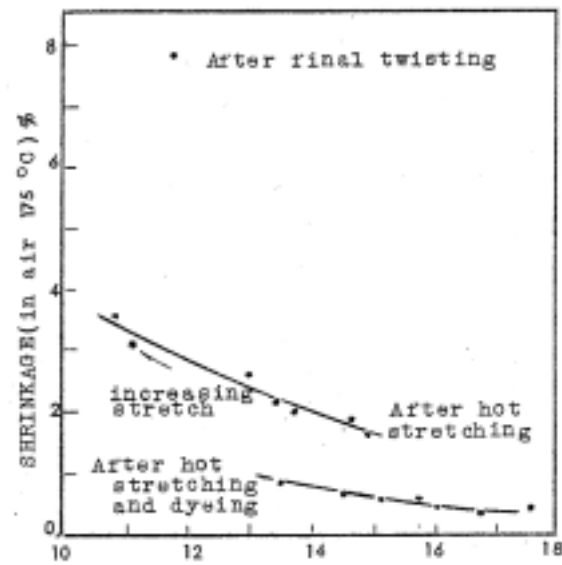
[illegible]

3

hot stretching

stretch

< 1>



< 3> The relationship between shrinkage and breaking extension for a typical spun polyester sewing thread and the effect of hot-stretching and dyeing.

Hot stretching

가 stretch

. 0~5%

stretch

가

stretch

. Hot stretching

50Denier Polyester 3 가
가 27%, 5.28% . 가
가 37%, package 0.05%
(elastic modlulus)
가
가
Hot stretching 가 .
15~20% 3% 가
2% 가 . Hot stretching 가
가
fluid bed polymer ,
.

. Hot stretching

(1) 50 Denier 3 Polyester
가 27%, 5.28% .
37%, 0.05% . 220 fluid bed Hot-stretching
7.5% 23%
2.45% 가 .

(2) 250 Denier 2 Polyester/

24% 0.13% . Hot stretching(fluid bed
 200 , stretch 7.5%) 16% 2.1%
 .
 (3) 210 Denier 3 Nylon
 27% 0.36% . Hot stretching(fluid bed
 200 , stretch 5%) 22% 2.32%
 가 .

.
 polyester staple
 50% .
 filament 가 120
 package . Durable press
 Heat-setting
 .
 .
 . Hot stretching
 .
 . Heat-setting Hot stretching
 가 . polyester
 fluid bed 가
 가 Shirley fluid Bed
 .