

7.

7.2

(1) (諸計算) ()

7-1

1) (draft)

a)

$$= \frac{48 \times 120 \times 40 \times 216 \times 31 \times 20 \times 16 \times 2}{17 \times DC \times 40 \times 30 \times 15 \times 20 \times 16 \times 6} = \frac{1680.56}{DC}$$

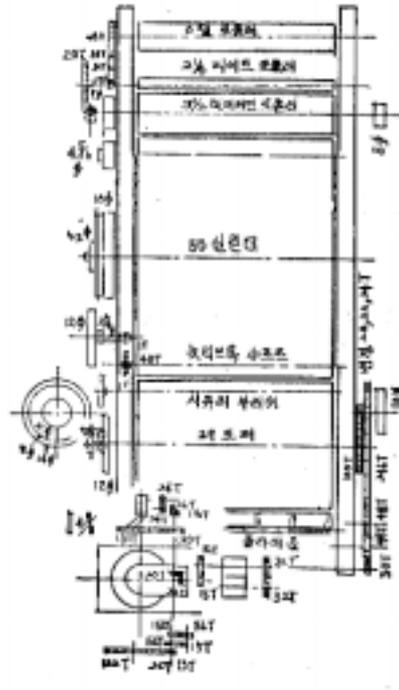
DC ; Draft Change Wheel

b)

$$\frac{120 \times 40 \times 216 \times 32 \times 31 \times 20 \times 116 \times 2}{DC \times 40 \times 30 \times 32 \times 15 \times 20 \times 16 \times 2 \frac{1}{4}} = \frac{1587.2}{DC}$$

< 7-2 >

	~	~
14T	120.04	113.37
15T	112.03	105.81
16T	105.04	99.20



< 7-1 >

1. (actual draft)

$$= \frac{\text{---}}{\text{---}}$$

: 14oz/yd

50grain/yd

?

1oz가 437.5grain

$$= \frac{14 \times 437.5}{50} = 122.5$$

2. (Mechanical Draft)

:

가 6%

?

가 6%

$$14 \times 437.5 \times 0.94 = 5757.5$$

$$\frac{5757.5}{50} = 115.15$$

114.6	6%	104.7
100	5%	94.99
120	7%	111.56

_____ =

2) (14)

a) ; 가 1

$$\frac{122 \times 56 \times 56 \times 39}{13 \times 15 \times 15 \times 151} = 33.78$$

b) 1 ; 가 1 (inch)

$$\frac{151 \times 16}{39 \times 16} \times 2 \times \pi = 24.34$$

c)

$$\frac{151 \times 16 \times 2 \times \pi}{39 \times 16 \times \pi} = 7.743 \text{ inch } \phi (196.7 \text{ mm})$$

3) (rpm 170)

$$\frac{170 \times 6.5 \times 1 \times 1 \times 15 \times 1.4374}{12 \times 24 \times 40} = 2.07 \text{ inch / min } (52.6 \text{ mm})$$

4)

; Na rpm,

; Ggr/6yd (G gr/yd)

1 ; Pkg/h .

$$P = \frac{Na \times 60 \times 216 \times 31 \times 20 \times 16 \times 2 \times \pi \times G \times 0.45359}{30 \times 15 \times 20 \times 16 \times 36 \times 6 \times 7,000} \quad 0.00168Na \cdot G \quad 0.010097Na \cdot G'$$

$$= 0.00168,$$

0.0015~0.0026,

5)

; N, ; PCW, ; DCW

() N=180rpm

a) (3/16)

$$N \times \frac{18 - 3/16}{7 - 3/16} = 2.530N(455.4rpm)$$

b)

$$N \times \frac{18 - 3/16 \times 5 - 3/16 \times PCW \times 40}{7 - 3/16 \times 10 - 3/16 \times 100 \times 216} = 0.001975 \times PCW = 0.3555 \times Na \times PCW$$

c)

$$N \times \frac{18 - 3/16 \times 5 - 3/16 \times PCW \times 40 \times 40 \times DCW}{7 - 3/16 \times 10 - 3/16 \times 100 \times 216 \times 40 \times 120} = 0.00001988 \times N \times PCW \times DCW$$

(=0.0035784 × PCW × DCW)

d)

$$N \times \frac{18 - 3/16 \times 5 - 3/16 \times PCW \times 40 \times 31 \times 21 \times 16}{7 - 3/16 \times 10 - 3/16 \times 100 \times 30 \times 15 \times 20 \times 16} = 0.03551 \times N \times PCW$$

(=6.3918 × PCW)

< 7-3 >

(PCW)	
22	140.6(rpm)
24	153.4
26	166.2

	<p>(cloudy) : 가</p> <p>가 .</p>	<p>a)</p> <p>b)</p> <p>c)</p> <p>d) (</p> <p>)</p> <p>e) 가</p> <p>f)</p> <p>g)</p> <p>h)</p> <p>i)</p> <p>j) 가</p> <p>k) ,</p> <p>l)</p> <p>m)</p> <p>n)</p>
		<p>a) 가</p> <p>b)</p> <p>c)</p>
		<p>a)</p> <p>b)</p> <p>c)</p> <p>d)</p>
	<p>가</p>	<p>a) 가</p> <p>b) 가</p> <p>c) 가</p> <p>d) 가</p> <p>e) 가</p>
		<p>a)</p> <p>b)</p> <p>c)</p> <p>d)</p>

		c) () d) / 가 e) f) () g) () h) i) j) k) l) 가 m) n) ()
		a) b) 가 c) d)
		a) b) c) 가 d) 가 e) 가 f)

(3)

가

,

가

.

가 가

가

가 .

1) ,

, , 가 (nep) 가
(,)

.
, (),
가 .

3가 .

a)

;

, , ,

b)

;

가

5×10

4×36

1in^2

20

가 5~6

,

100in^2

(1g)

c)

;

가 가 . 가 가 . 가 가

/gr 0.3

$$/100in^2 = 76.41 - 0.431 \times GI + 31.401 \times UHM - 0.471 \times UR$$

$$- 2.690 \times F - 0.276 \times M + 0.260 \times S$$

GI . . . , UHM . . . (in)

UR . . . (%), F . . . (μg/in)

M . . . (%), S . . . (1,000lbs/in²)

, ;

가

가

(接針), (倒針), MCC , 가

, ()

가 1.0

/50in² 가 .

d) ; 20in's 40's 1
 15 , 2 10~20 , 3 18

가

< 7-5> ()

A	50in ²	4~6	(36in ²	2.9~4.3)
C	50in ²	14~16	(36in ²	. . . 10~11.5)
B	A C			

$$y = 4.79 + 0.3686x (r=0.75)$$

x ; 100in²

y ; 20in² (40^s 1gr)

< 7-6> 100in² ()

가	(100in ²)	5
(low)	15	5
(average)	16~25	5~9
(high)	26~40	9~14
(very high)	40	14

1 3 , 2 2

100in² 25

e)

;

가

가

가

40%

10yd

2

가

(grain)

5

가

,

2)

가

,

가

(Shirley analyzer)

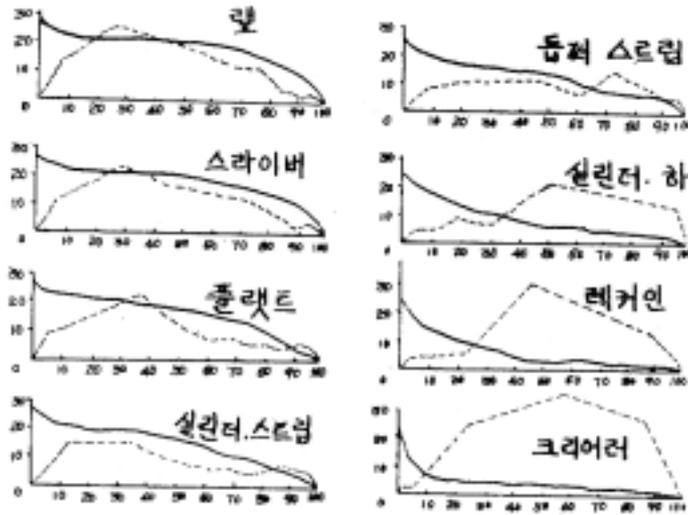
(lint)

(sorter staple diagram)

< 7-7>

() (%)

	20°	30°	40°	
	2.0~3.9	1.8~3.5	1.7~3.7	± 0.2~0.5
	1.7~2.7	1.7~2.5	1.6~2.4	
	4.0~6.4	4.0~6.0	4.0~6.0	



< 7-2>

< 7-8>

()

	(%)			(inch)	15/16 (%)
	(對)				
() ()	100			1 3/16	22.0
	94.0			1 3/16	25.0
	3.4	4	5	1 1/32	39.5
	0.7	2	16	1	45.4
	0.7	2	16	13/16	63.0
	0.5			17/32	86.1
	1.0		40	7/16	92.2
	0.4			1/4	99.2

1~3 1

7-7, 7-8

3)

1 2 (cramp) 2 1

1/2in 1~2

(齒)

(cmg) . (

1/2in ; lmg) 1/2in

(nmg)

$$(\%) = (1-1/n) \times 100$$

$$(\%) = \frac{C}{n+c+1} \times 100$$

$$= \frac{C}{n+1} \times 100$$

가

)

; 25%,

10% ; 42%, ; 8%, ; 15%

(+) (-) . (+)

91.8% (-) 88.5% 가 .

가 .

4) (grain)

.

1 ± 1.0%

yd

100

100yd

U%

; 2%

; 3.5%

; 5%

1yd

가 ± 2gr

yd

가

, , ,

,

,

$1/2\text{yd}$

$1\ 1/2\text{yd}$

.

.