

1.3 (綿紡織物)

1.3.3. (指標)

1.3.3.1 1 (臺量)

1 1 2

$$1 \quad 1 \quad (\text{yds}) = \frac{(\text{rpm}) \times 60 \times H \times E}{\times 36}$$

H: (h), E: (%)

(picks per minute · ppm) . 1

8 , 가

ppm ,

가 ,

ppm × , 1

1.3.3.2

가 , 가

, , 가 .

가 가 가

(1)

$$1 \quad (\text{正味} \cdot \text{net}) ,$$

$$(\text{lbs}) = \frac{\times 1 \quad \times (1 + \quad)}{840 \times}$$

$$(\text{lbs}) = \quad \times (1 + \quad)$$

,
= \times +
0.25in, 3.15in,
2.36in 가 .

, 38in 16 , 38in
20 가 , 가

1 1% 가 .

.

a cm ,

b cm ,

$$(\%) = \frac{b-a}{b} \times 100$$

(公式)

가

가 .

2

(常數)

$$: dt = \frac{1}{26.2\sqrt{Nt}}$$

$$: dw = \frac{1}{26.2\sqrt{Nw}}$$

, N : (Nt : , Nw :)

: DT(in) : DW(in)

$$: X = \frac{10}{2}(dt + dw)(DT + DW)$$

(Y : %)

. : Y = 0.129X²-0.806X+3.39

. : Y = 0.079X²-0.306X+1.69

. $\frac{2}{2}$: Y=0.079X²-0.834X+6.50

. $\frac{1}{3}$: Y=0.021X²-0.291X+12.16

. 5 : Y=0.0111X²+0.156X+3.64

· 5 : $Y=0.016X^2+0.4X+2.90$

· : $Y=0.55X-1.6$

· : $Y=0.0667X^2-0.584X+5.36$

1-21 (絲屑率 %)

(2) (所要量)

$$(\text{lbs}) = \frac{\times 1 \times (1 +)}{840 \times}$$

$$(\text{lbs}) = \times (1 +)$$

a cm ,

b .

$$: X(\%) = \frac{DW}{DT} \times 100$$

X :

DT : (in)

DW : (in)

1-20 (%)

1-21 (%) .

(3)

· (lbs) = +

· (lbs) = +

, , 가

가

가

가

, 가

가

()

$$\frac{14's \times 15's}{45 \times 44} \times 30in \times 40yd$$

:

$$= \times + = 45 \times 30.25 + 20 = 1,381.25 \quad 1,382$$

$$: 30 + 0.25 = 30.25in$$

$$: 40 \times (1 + 0.01) = 40.4yds$$

$$: dt = \frac{1}{26.2\sqrt{N}} = \frac{1}{26.2\sqrt{14}}$$

$$: dw = \frac{1}{26.2\sqrt{15}}$$

$$: X = \frac{10}{2}(dt + dw)(DT + DW)$$

$$\frac{10}{2}(dt + dw) \quad 1-18$$

14's, 15's

$$(dt+dw) \quad (dw+dt) \quad (14's, 15's)$$

(15's, 14's)

$$\frac{10}{2}(dt + dw) = 0.01 \quad DT=45/in \quad DW=44/in$$

$$, X = \frac{10}{2}(dt + dw)(DT + DW) = 0.101 \times (45 + 44) = 8.989$$

$$1-19 \quad X=8.989 \quad 9.0$$

Y=938%

$$\begin{aligned} (\text{lbs}) &= \frac{\times 1 \quad \times (1 + \quad)}{840 \times} \\ &= \frac{1,382 \times 40.4 \times (1 + 0.065)}{850 \times 14} = \frac{59,461.932}{11,760} \quad 5.06\text{lbs} \\ &= \quad \times (1 + \quad) \end{aligned}$$

1-21 1.0%

$$= 5.06 \times (1+0.01)=5.11 \text{ lbs}$$

< 1-19> (~)

$$Y=0.129X^2-0.806X+3.39$$

X	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
5	2.6	2.6	2.7	2.8	2.8	2.9	2.9	3.0	3.1	3.1
6	3.2	3.3	3.4	3.4	3.5	3.6	3.7	3.8	3.9	4.0
7	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	5.0	5.1
8	5.2	5.3	5.5	5.6	5.7	5.9	6.0	6.1	6.3	6.4
9	6.5	6.7	6.9	7.1	7.2	7.4	7.5	7.7	7.9	8.1
10	8.2	8.4	8.6	8.8	9.0	9.2	9.3	9.5	9.7	9.9
11	10.1	1.03	10.5	10.8	11.0	11.2	11.4	11.6	11.8	12.1
12	12.3	12.5	12.8	13.0	13.2	13.5	13.7	14.0	14.2	14.5

13	14.7	15.0	15.2	15.5	15.8	16.0	16.3	16.6	16.8	17.1
14	17.4	17.7	18.0	18.2	18.5	18.8	19.1	19.4	19.7	20.0
15	20.3	20.6	20.9	21.3	21.6	21.9	22.2	22.5	22.9	23.3

$$Y=0.079X^2-0.306X+1.69$$

X	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
5	2.1	2.2	2.2	2.3	2.3	2.4	2.5	2.5	2.6	2.6
6	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.3
7	3.4	3.5	3.6	3.7	3.8	3.8	3.9	4.0	4.1	4.2
8	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2
9	5.3	5.4	5.6	5.7	5.8	5.9	6.0	6.2	6.3	6.4
10	6.6	6.7	6.8	6.9	7.1	7.2	7.3	7.5	7.6	7.7
11	7.9	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2
12	9.4	9.6	9.7	9.9	10.0	10.2	10.4	10.5	10.7	10.9
13	11.1	11.2	11.4	11.6	11.8	12.0	12.1	12.3	12.5	12.7
14	12.9	13.1	13.3	13.5	13.7	13.9	14.1	14.3	14.5	14.7
15	14.9	15.1	15.3	15.5	15.7	15.9	16.1	16.4	16.6	16.8
16	17.0	17.2	17.5	17.7	17.9	18.1	18.3	18.5	18.8	19.1

2/2

$$Y=0.079X^2-0.834X+6.50$$

X	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6
7	4.6	4.7	4.7	4.7	4.8	4.8	4.8	4.9	4.9	4.9
8	5.0	5.0	5.1	5.1	5.2	5.2	5.3	5.3	5.4	5.4
9	5.5	5.6	5.6	5.7	5.7	5.8	5.9	5.9	6.0	6.1
10	6.2	6.2	6.3	6.4	6.5	6.6	6.6	6.7	6.8	6.9
11	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9
12	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.8	8.9	9.0
13	9.1	9.2	9.4	9.5	9.3	9.7	9.9	10.0	10.1	10.2
14	10.4	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7
15	11.9	12.0	12.2	12.3	12.5	12.7	12.8	13.0	13.1	13.3
16	13.5	13.7	13.8	14.0.	14.2	14.3	14.5	14.7	14.9	15.0

$$\langle 1-20 \rangle \quad \left(\% = \frac{DW}{DT} \right)$$

%		%			1/3 4	%		%	5
60	3.5	65	6.0	5.5	5.5	70	6.0	70	5.5
61~70	5.0	66~80	7.0	6.0		71~85	6.5	71~85	6.5
71~80	6.5	81	7.5	7.0		86	7.5	86	7.5
81~90	7.5								
91	8.5								

· 5 : 7.0% · : 8.5% · :

$$\langle 1-21 \rangle \quad (\%)$$

10's	2.0	2.5	12's	4.2	4.7
11's	1.0	1.5	13's~20's	3.7	4.2
			21's~30's	3.2	3.7
		0.2~0.5	31's~40's	2.7	3.2
			41's	2.2	2.7

$$(\text{lbs}) = \frac{\quad \times 1 \quad \times (1 + \quad)}{840 \times}$$

$$DW/DT = 44/45 \times 100 = 97.8 \quad , \quad 1-20 \quad 8.5\%$$

$$(\text{lbs}) = \frac{44 \times 40.4 \times 30.25(1 + 0.085)}{840 \times 15} = \frac{58,340.83}{12,600} = 4.63 \text{ lbs}$$

$$(\text{lbs}) = 4.63 \times (1 + 0.015) = 4.70 \text{ lbs}$$

$$(\text{lbs}) = \quad +$$

$$= 5.11 + 4.70 = 9.81 \text{ lbs}$$

9.8 lbs