

(Roving)

9.

가. (hank)

2가

840yd 1

()

(hank sliver)

1lb() 840yd 2

1lb 가 $2 \times 840 = 1,680$ yd

가

12yd (grain)

가 24yd 36yd ,

가 1 1lb

$$\frac{1\text{lb}}{1\text{hank}} = \frac{7,000}{1 ()} = 1\text{lb}$$

1gr = 0.0648g, 1g = 15.432gr

$$1\text{yd} \quad \frac{1}{840} \quad 1\text{yd} \quad \frac{1}{840}$$

12yd 1yd

$$\frac{100}{12\text{yd} ()} = \frac{8.33}{1\text{yd} ()} = 1\text{lb}$$

[1] 50gr()

가?

$$\frac{8.33}{50} = 0.167$$

[2] 0.6 1yd 가?

$$\frac{8.33}{\chi} = 0.6, \quad \chi = \frac{8.33}{0.6} = 93.9 \text{ gr}$$

•

3

(actual draft)

12yd

• ,

1)

$$= \frac{12\text{yd}}{12\text{yd}}$$

$$\frac{100}{12\text{yd}} =$$

$$\frac{100}{8} = 12.5 \text{ yd}$$

$$= \frac{100}{100}$$

가 2가

_____ ()×

$$= \frac{(\text{gr/yd}) \times}{(\text{gr/yd})}$$

2) (total draft)

< 12>

$$\frac{70 \times 100 \times 17 \times 1 \frac{1}{8}}{DC \times 21 \times 18 \times 1 \frac{1}{8}} = \frac{314.8}{DC}$$

314.8

DC:37T

8.51

(brake draft)

3rd

3rd

$$\frac{15}{16} \times 25.4 + 1.4 \times 0.9 \times 2 = 26.33(\text{mm}) = 1.037(\text{in})$$

가 1.4mm

1.4 × 0.9mm

$$\frac{27 \times 1.037}{21 \times 1 \frac{1}{8}} = 1.185$$

(main draft)

3rd 2nd

$$\frac{21 \times 70 \times 100 \times 1}{27 \times DC \times 21 \times 1.037} = \frac{250}{DC}$$

(condense draft)

2nd

$$\frac{17 \times 1 \frac{1}{8}}{18 \times 1} = 1.062$$

(waste)

(clearer)

가 1

가 1

(

)

가

(draft constant)

(change wheel)

1

_____ =

_____ =

=

×

가

가

가

가

가

가

가

가

가

가

가

가 1

(roving)

in (T.P.I)

(T.M)

$$T.P.I = \sqrt{\quad}$$

1in (main shaft)

(twist change gear)

가

(twist constant)

1

가

$$\text{T.P.I} = \frac{\text{rpm} \times 60(\text{min}) \times \pi}{\text{in} \times 36(\text{in}) \times 840(\text{yd})},$$

$$= \frac{1}{\text{T.P.I}}$$

가

1 (lb)

가 , 1

가 ,

, 1

$$\frac{\text{rpm} \times 60(\text{min}) \times \pi}{\text{in} \times 36(\text{in}) \times 840(\text{yd})}$$

$$\frac{(\text{in}/\text{rev}) \times 60(\text{min}) \times \pi}{36(\text{in}) \times 840(\text{yd})}$$

$$(\text{FR}) \quad (\text{in}/\text{rev}) = \text{FR rpm} \times \text{FR} \quad (\text{in}) \times \pi$$

(lb)

$$\circ 1 \quad (\text{lb}) = \frac{\text{rpm} \times 60(\text{min}) \times \pi}{\text{in} \times 36(\text{in}) \times 840(\text{yd})} \div$$

$$\circ 1 \quad (\text{lb}) = \frac{\text{rpm} \times 60(\text{min}) \times \pi}{\text{in} \times 36(\text{in}) \times 840(\text{yd})} \div \times$$

(lb)

$$\frac{\text{rpm} \times 60(\text{min}) \times \pi}{\text{in} \times 36(\text{in}) \times 840(\text{yd})} \times$$

$$\frac{(\text{in/min}) \times 60(\quad) \times \quad \times}{36(\text{in}) \times 840(\text{yd}) \times \quad \times 2.2}$$

(%)

$$\text{—————} \times 100$$

$$(\text{lb}) = \frac{(\text{lb}) \times (\%)}{100}$$

. (layer)
 () 가
 1in (layer)
 . 가 1

,
 , (-)
 .
 12
 58T

n_1 :
 n_2 : 106T
 n_3 : 58T
 D_T :
 D_B :

().

가 n_1 106T
 58T n_1 .

○ 106T

$$n_2 = n_1 \times \frac{TC \times D_T \times 36 \times 45 \times WC}{30 \times D_B \times 36 \times 50 \times 106}$$

○ 58T

$$n_3 = n_1 - (n_1 - n_2) \times \frac{34 \times 21 \times 14}{21 \times 28 \times 90} = n_1 \left\{ 1 + \frac{(TC \times DT \times 36 \times 45 \times WC - 1)}{(30 \times DB \times 36 \times 50 \times 106)} \times \frac{(34 \times 21 \times 14)}{(21 \times 28 \times 90)} \right\}$$

$$N_B = n_3 \times \frac{58 \times 56}{47 \times 24} = (1.54 \times 10^{-4} \times \frac{TC \times D_T \times WC}{D_B} + 2.33)n_3$$

$$Ns = n_1 \times \frac{39 \times 56}{39 \times 24} = 2.33 \times n_1$$

$$N = N_B - Ns = 1.54 \times 10^{-4} \times \frac{TC \times D_T \times LC}{D_B} \times n_1$$

(in)

$$S_B = n_1 \times \frac{TC \times D_T \times 36 \times 13 \times 12 \times LC \times 17 \times 22 \times \pi}{30 \times D_B \times 36 \times 50 \times 100 \times 40 \times 90 \times 100} = 3.39 \times 10^{-5} \times \frac{TC \times D_T \times LC}{D_B} \times n_1$$

(, : 10DP × 22T)

(, : 10DP × 22T)

$$L = \frac{N}{S_B} = \frac{1.54 \times 10^{-4} \times WC}{3.39 \times 10^{-5} \times LC} = 4.54 \times \frac{WC}{LC}$$

(LC)

5in

/in

LC

(layer constant) .

= × LC

LC

.

LC = _____

가

()

()

(SC) (patent) (PC) .
IT() (long rack)

,

IT (M mm)

$$M = \frac{PC \times 60 \times 25.4 \times \pi}{SC \times 25 \times 12} = 15.95 \times \frac{PC}{SC} (\text{mm}) (: 12DP \times 60T)$$

SC PC M M