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가

가

# 1. (Tensile Test)

가

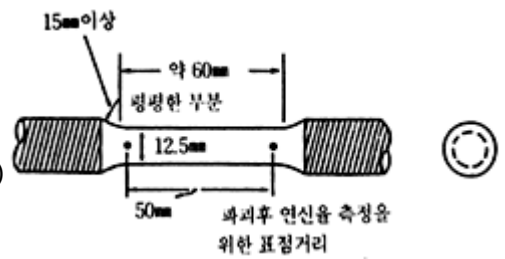
가

< 1:

>

(KS

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( 2: \_ )

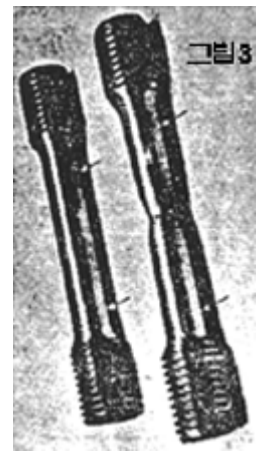
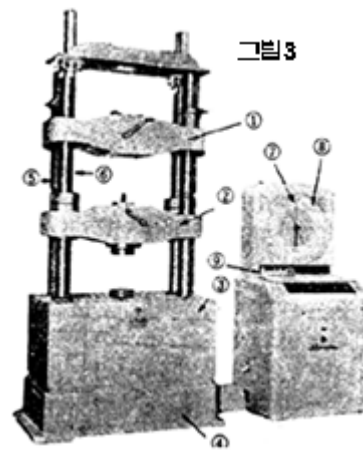
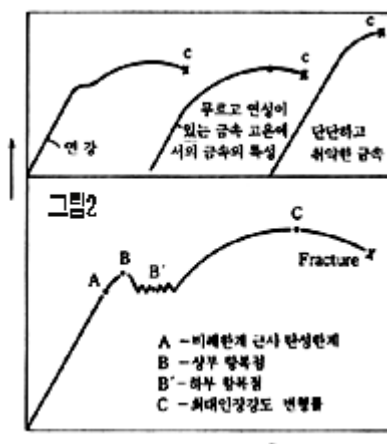
. < 3:

>

< 4:

>

( )



(nec - king):

( )

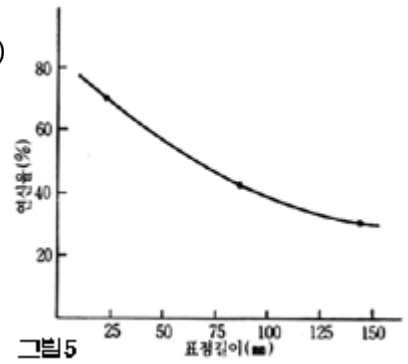


그림 5

(%)=( 가 ×100)/

(%)= {( - )×100}/

< 5:

>

## 2. (Compressive Test)

가

가

가

가

## 3. (Inpact Test)

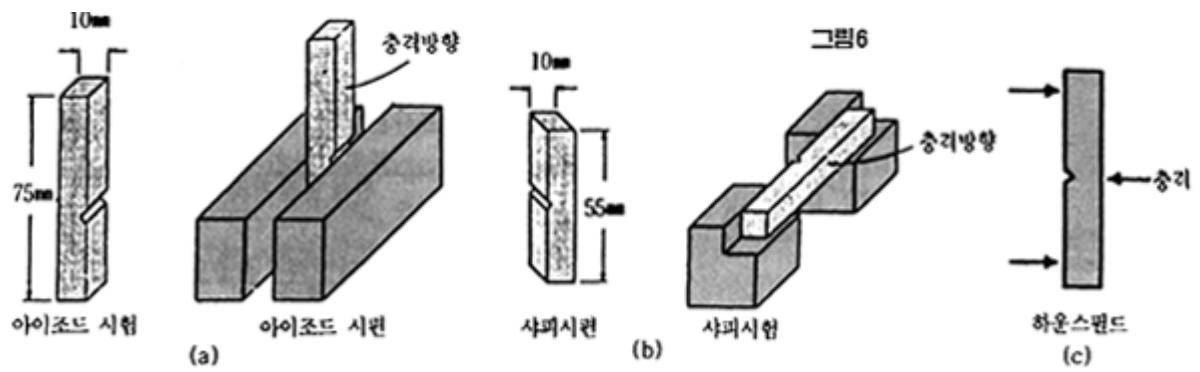
가

가

(brittle)

(ductile)

(toughness)



< 6>

(a) (b) 가

(Izod)

. ( 6.a)

(Charpy)

(an - vil)

가

(notch)

. ( 6.b)

Hounsfield Balanced Impact

(pendulum)

2

Swing

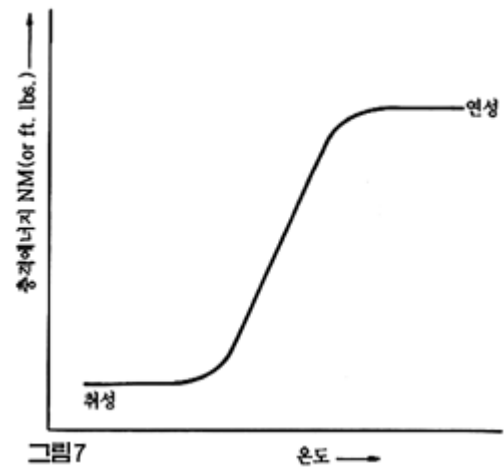


그림7

온도 →

< 6,c>

. 3가

가

(square)

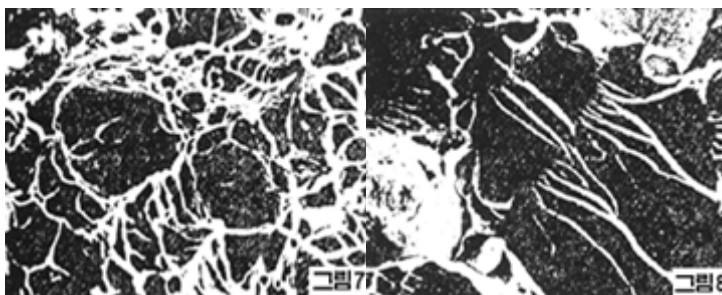
(round)

가

(kinetic energy)

가

가



< 7>

(cleavage)

( cleav - age fracture)

가

< 8>

< 9>

#### 4. (Hardness Test)

가

가

가

가

가

가

가

가

가

2

가

가

(1)

. < 10>

( 11)

( 12)



10~15

(BRINELL HARDNESS TESTER)

D mm

(鋼球)

P kg

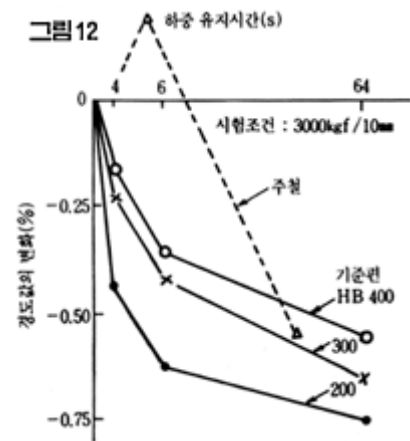
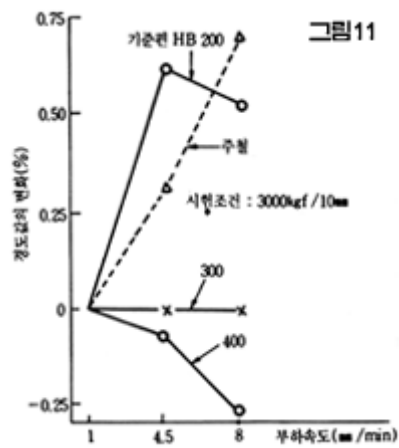
D mm

가 h

mm

HB

$HB = P / \pi D h$



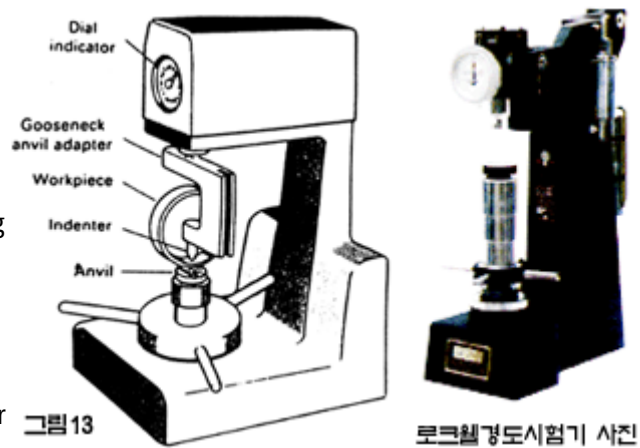
(2)

가

(primary load)

10kg

(major 그림 13



로크웰경도시험기 사진

load)

가

가

가

가

< 13>

(3)

(Vickers hardness)

(對面角) 136 °

S mm<sup>2</sup>

HV>=P /S

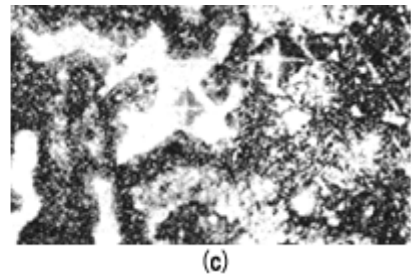
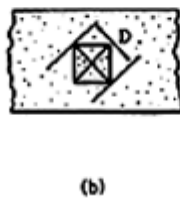
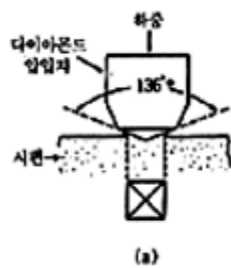
P kg,

(Shore hardness)



그림 14

(對面角) 136° (壓子) (pit:  
) (荷重) (表面積)  
(Vickers hardness) .( 15 a.b)  
(Vickers hardness) Pkg, dmm ,  
H v H v=1.854 P/d2 .  
가 가  
가



가  
가  
가 가



15,c>

가 (micro) . <

25 g f ~1kg f . , 가 , ,

가

1kg

미소경도시험기

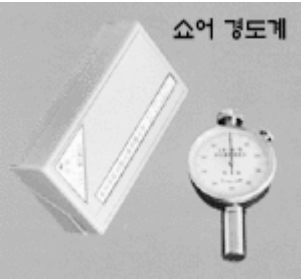
g (荷重)

가

(壓子)

가

(4)



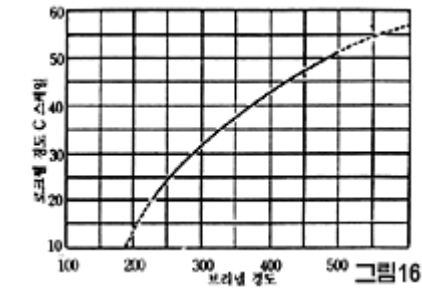
가

가

가

가

가

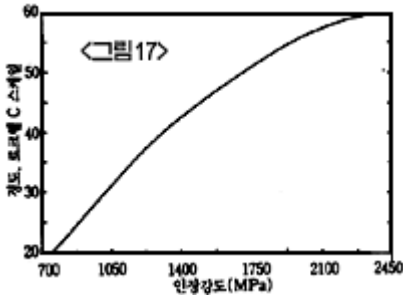


( 16

)

< 17>

100%



가 가 가  
가

- 250 :
- 300 :
- 350 :
- 400 :
- 400 :

가

가

가

가

가

## 5. (Fatigue Test)

(fatigue)

(cyclic load)

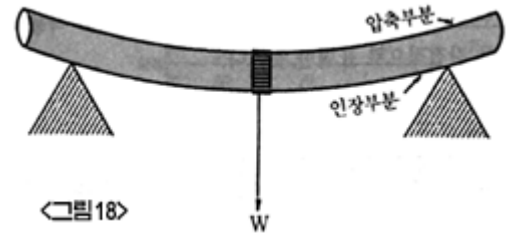


그림18

(wire)

가

< 18>

180°

1

( )가

가

< 19>

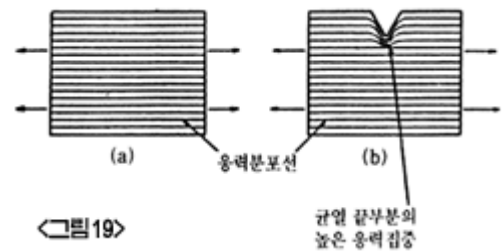


그림19

가

가

가

가

가

(

).

가

< 20>

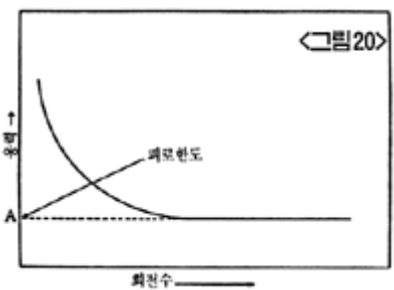
S-N ( - )

A

가

(fatigue limit, endurance limit)

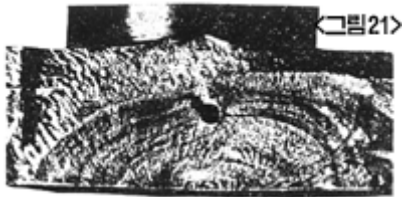
가



350MPa

550 Mpa

< 21>



6.

< 22>

A

, B

C

E

( 10%)

< 23>

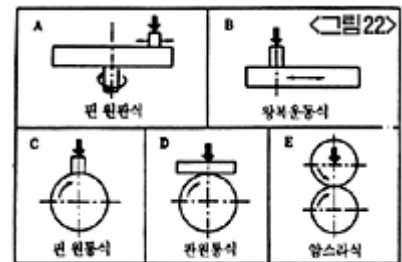
가

가

7.

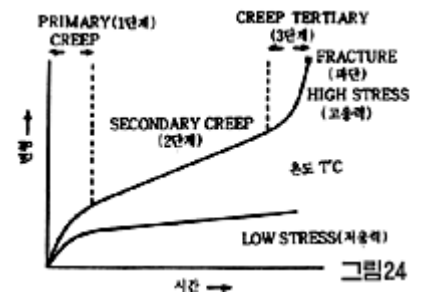
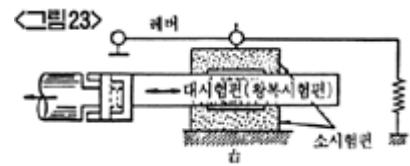
(Creep Test)

2~3



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가

가

(Casing)

가

가

가 .

< 24> .

가 3가

) 1 :

) 2 :

) 3 : 가 가

100,000

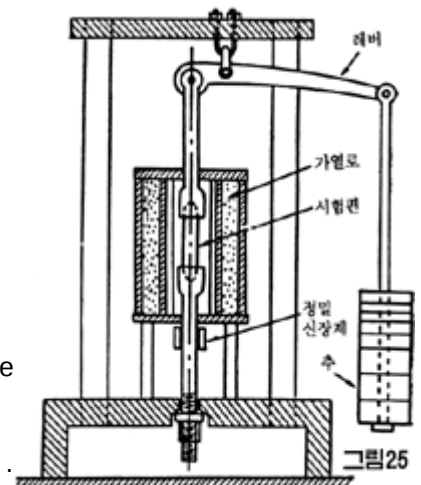
1 2

1

(Creep Rupture

-  
Test)

( 25)



가

가

가 가