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(12)

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(24)

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2001 10 19

(21) 10 - 1999 - 0003172
(22) 1999 01 30

(65) 1999 - 0068237
(43) 1999 08 25

(30) 1998 - 18547 1998 01 30 (JP)

(73) 가 가
가 가
가 4 - 6

(72) 271 - 2
15 - 6

(74)

:

(54)

가 , , (1A)
가 , , (1A) , (1A1) (1A) Ri가 (
1A2) Ro , BM

1

2

3

4

5

6

7

가

가

8

9

10

11

12

<

>

1: 1A:

1A1: 1A2:

1B: 2:

3: 4:

5: 6:

7: 8:

9: 10:

11: 12.

(外圍器:envelope) ,

가 ,

가 ,

가 ,

가 ,

가 .

11 ,

11 , (31)
(31)

, (311)
, tpa
(311)

(31) , (312)
, Rpi
(31) , Rpo
0

, tpc
0

(3

12)

11

, tpa가
(312)

(31) ,

Rpo

, tpc < tpa,

(311)
Rpi < Rpo가

tpc

Rpi가

(31)

tpc가 ,

tpa가

(31)

tpc가

(31)

가 ,

tpa가

(31)

(31)
, Tpc > Tpa

, 가 , ,

(31)

Tpc,

Tpa

(31)
가 .

, 가 ,

, 가 .

(31)

가 ,

가 ,

가 .

가 .

- (3) , 가 RDI ,
tc , RDO - tc RDI
BM 70% 100% . , BM
- (4) , ,
BM 110% . ,
- (5) , ,
BM 110% . ,
- (6) 가 , , 가
 , ,
- (7) , 가
 . ,
- (8) 3 3 (dot tr
io) , 0.26mm ,
가 .
- (1) (8) ,
(9) BM BM ,
- (10) BM BM .
- (11) , 가 RVI ,
tc , RVO - tc RVI 가 . 가 RVO ,
- (12) (10.6mm 56.8%, 546nm EIAJ
) .
- (13) (10.6mm 46%, 546nm EIA
J) .
- (14) 46cm .
- (15) 0.26mm .
- (16) 100 ° .
- (17) 110% .
- (18) .
- (19) 110% .
- (20) 105% .

(21) BM BM 90% 110% .

(22) .

1 , ,

1 , (1) , (1A) , (1B) , (2) , (3) , (4)
, (5) , (6) , (7) , (8) , (9)
, (10) , (11) , (12) .

가 (2) , (3) (1) (1) (11)
(1B) , (1A) (4) (被着) , (4)
(5)가 (1) (3) (7)가 (11) (6)가
3 (3) (2) , (7) (5) (9),
(4) (12)(1) , (2) (10) (18),

(1) (1A) 2 1

2 , (1A1) , (1A2) , tc (1A)
, ta (1A) , Ri (1A1) , Ro
(1A2) , 1 (1A) (tc) (ta) ,
(1A1) (1A2) (1A) (ta)
, (1A1) (1A2) (1A) (1A2) .

2 (1A) , (1A1) Ri
ta (1A2) Ro 가 Ro Ri + tc , (1A1)
tc (4) , 3 (1A1)
11) (1) (1A) , (1)

S1 , (1A) (1A2) Ro .

가 , ,
 BM 110% BM 110% , ,

(114) , 3 , (112), (113), (112)
 , (113) , 가 가 가
 , BM (114) .

(10.6mm 56.8%, (CDT) 546nm EIAJ)
 IAJ) 가 . (10.6mm 46%, 546nm E

가 0.26mm ,
 가 BM ,
 가 .
 , 19'
 , 19' (46cm) ,

	12.5mm	11.3mm
BM	42.4%	39.8%
	17.6%	17.1%
	0.26mm	0.27mm

(球面)

E Z , 7 , 가 R

$$RE = (Z^2 + d^2) / 2Z$$

가 가 (114) 가 , 가

8

가

90%

BM

, BM

BM

70%

가
110%

110%

110%

가

105%

105%

9

가

, 10 , 1

(1A1)

10

Ro

Rpo가

10 , A

, B

, C

10

(11)

(12) ,

(7)

(12)
C

0

A

A

(12)

= $\tan^{-1} (y / z)$

가

, z

(12)

C

(正射影)

A

L

,

Ri,

(12)

0

$z = L - R \cos \{ \sin^{-1} (y / Ri) \}$

B

B

y

0

$$\theta = \tan^{-1} (y / z') \dots\dots$$

'가 C , z' , '가 A Rpi , z'

$$z' = L - R \cos \{ \sin^{-1} (y / Rpi) \}$$

Ro Rpi Ri Rpo가 Ri > Rpi 가 z > z'

z > z' , 2 , ' < ' .
3 (輻射)
Z - Z' 가 , , 100°
가 .

(57)

1.

가 , 가 , RDI tc
가 RDO , 가

$$RDO - tc < RDI$$

110% , BM () BM

2.

1 , BM BM

3.

가 , , , ,
가 , , , ,
가 RHO , RHI ,
tc ,

RHO - tc < RHI

BM BM 110%

4.

3 , BM BM

5.

1 , , 가 RVO ,
RVI , tc ,

RVO - tc RVI

6.

3 , , 가 RVO ,
RVI , tc ,

RVO - tc RVI

7.

1 ,

8.

3	,	.	
9.			
1	,	.	
10.			
3	,	.	
11.			
1	,	46cm	.
12.			
3	,	46cm	.
13.			
11	,	0.26mm	.
14.			
12	,	0.26mm	.
15.			
1	,	100 °	.
16.			
3	,	100 °	.
17.			
1	,		110
%	.		
18.			
1	,		
19.			
1	,	110%	

20.

1 2 , 105%
.

21.

가 , ,
가 ,
가 RDI ,
RDO ,

tc ,

RDO - tc RDI

BM BM 70%
, 110% .

22.

18 , BM BM 90% ,
110% .

23.

18 , , 가
RVI , tc , RVO ,

RVO - tc RVI

24.

21 , .

25.

21 , .

26.

21 , 46cm .

27.

21 , 0.26cm .

28.

21 , 110%

29.

21 ,

30.

21 , 110%

31.

21 , 105%

32.

BM 가 , 110%

33.

32 , BM BM

34.

32 ,

35.

BM 가 , 110%

36.

35 , BM BM

37.

32

110%

38.

32

105%

39.

가

가

가

40.

가

가

가

41.

가

3

3

0.26mm

3

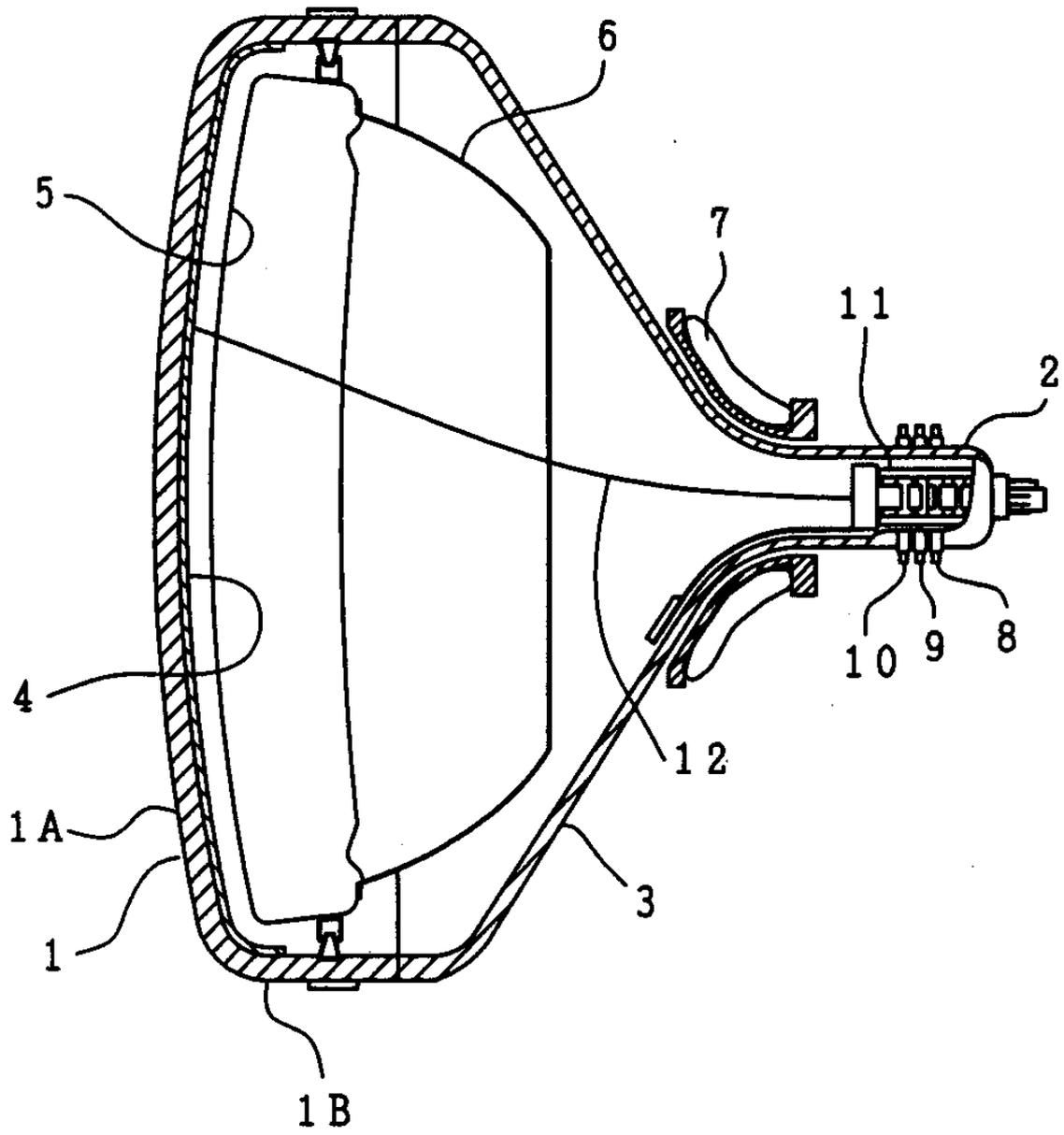
가

(dot tr

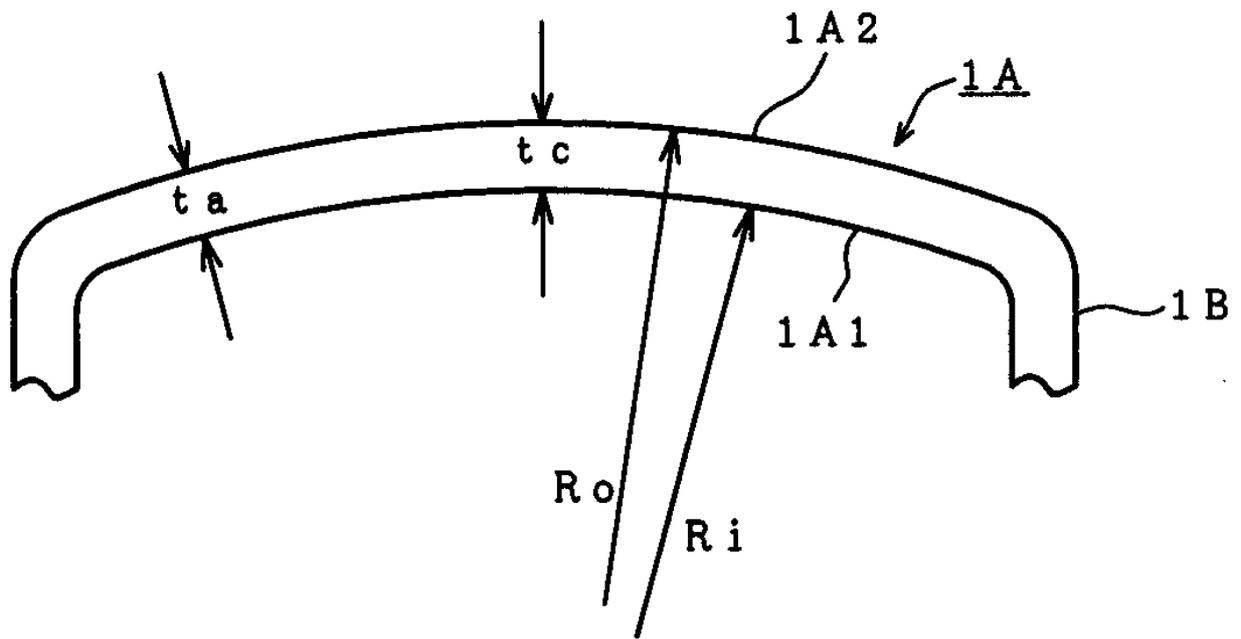
io)

가

1

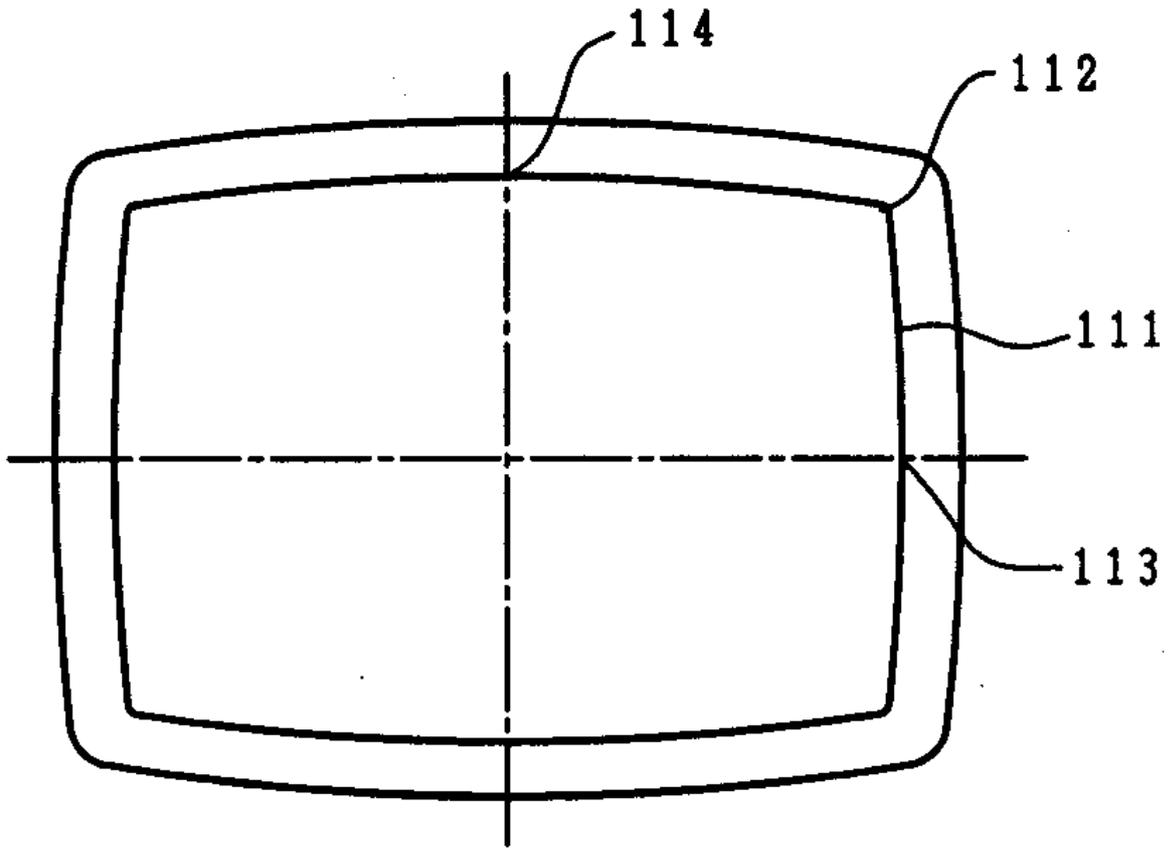


2

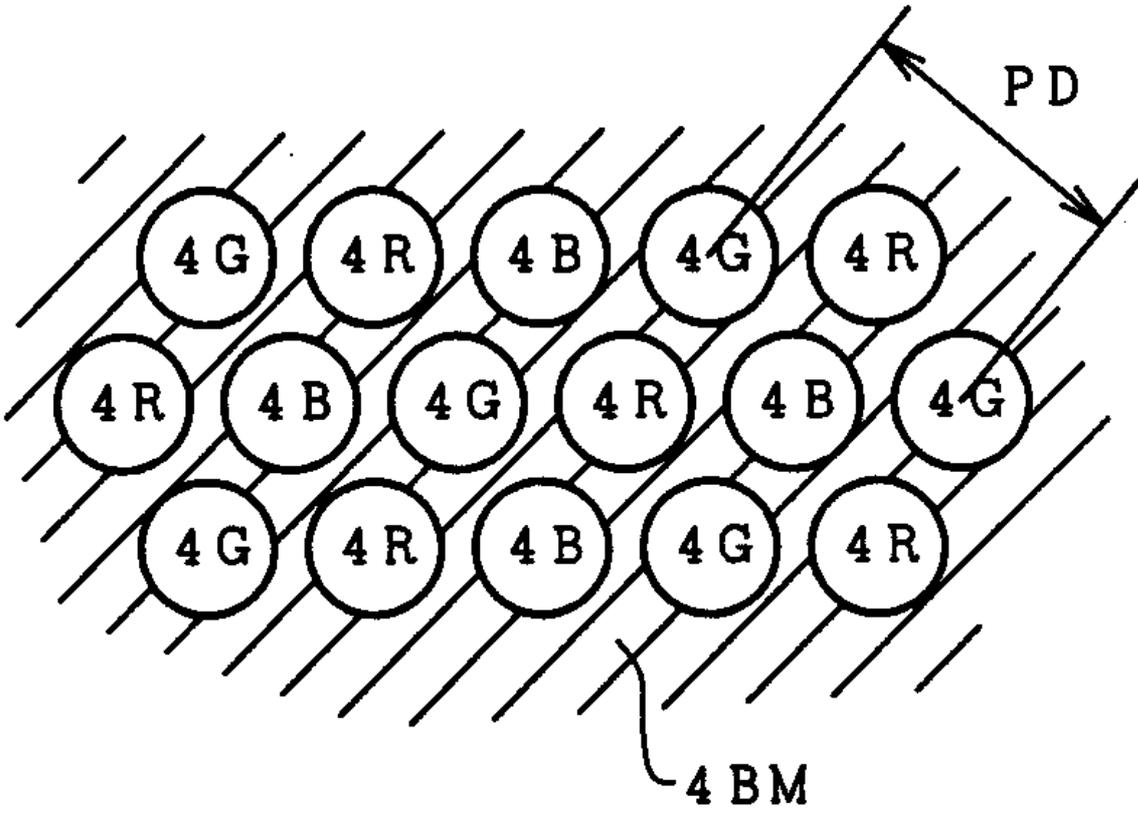


$$R_o \leq R_i + t_c$$
$$t_a < t_c$$

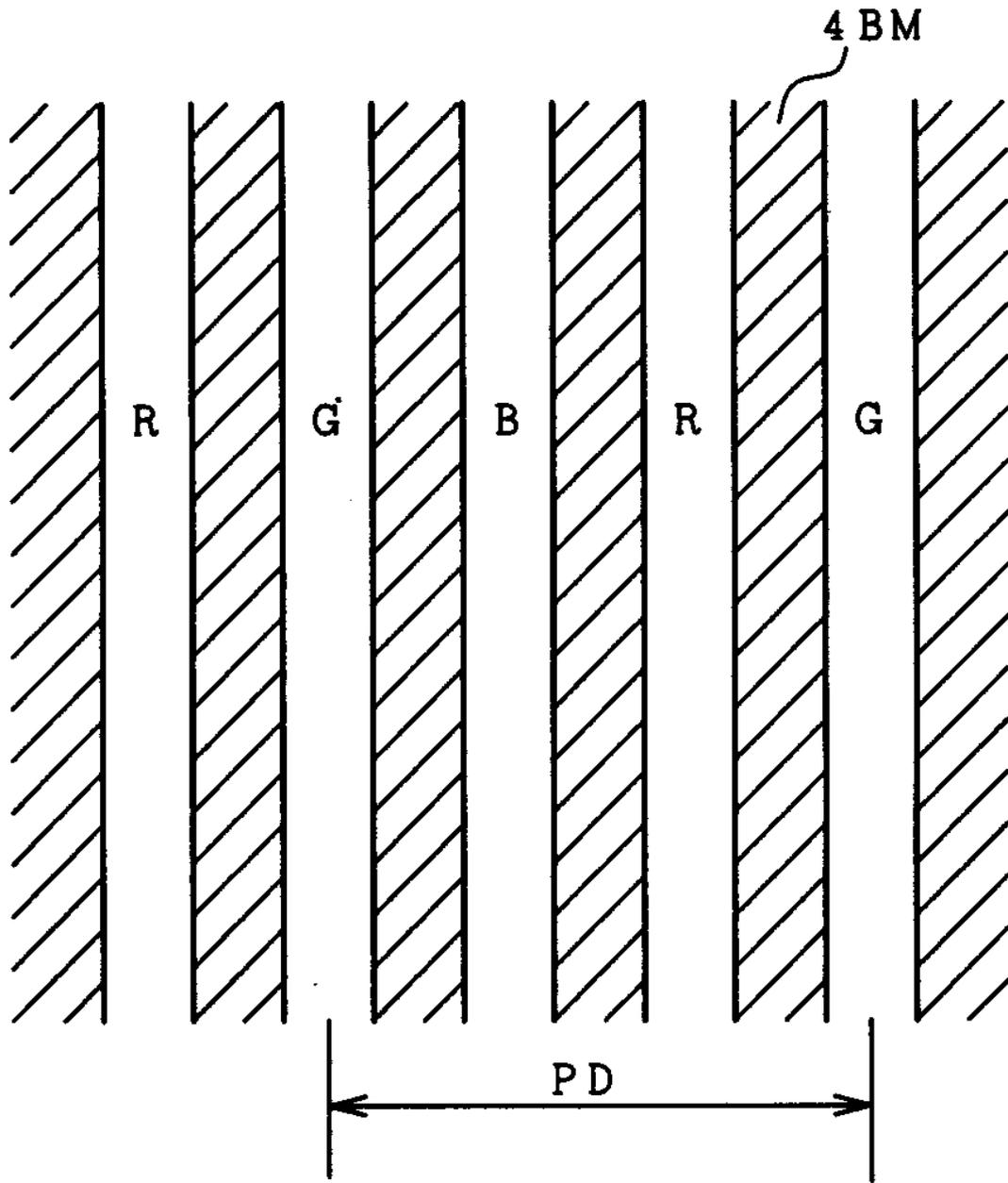
3



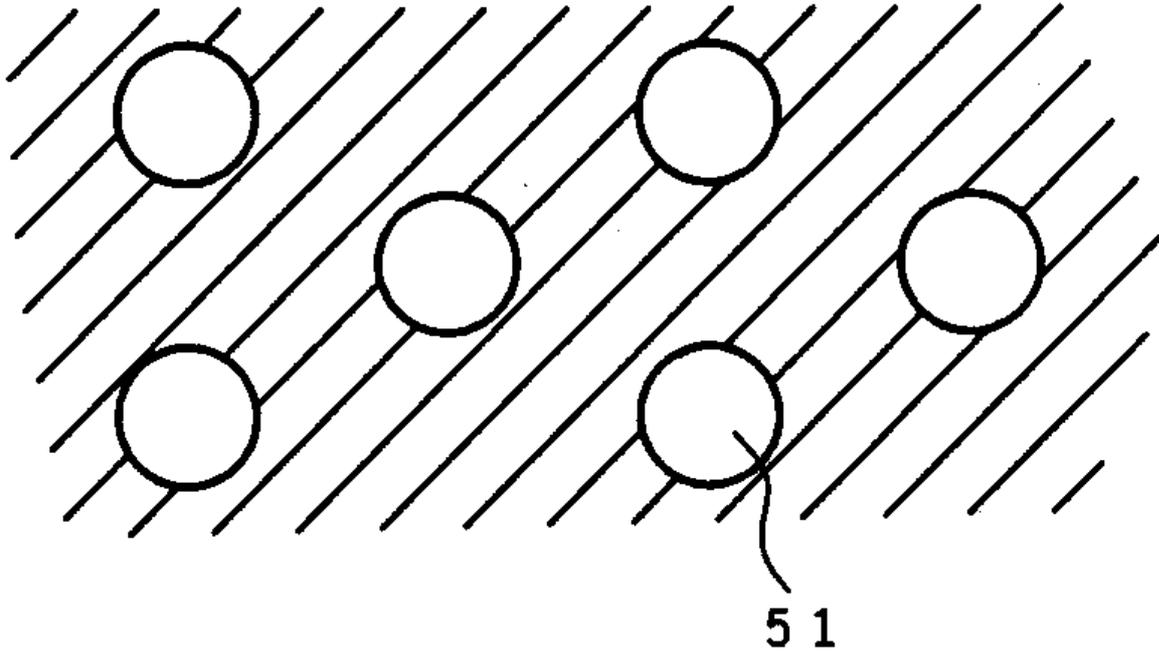
4



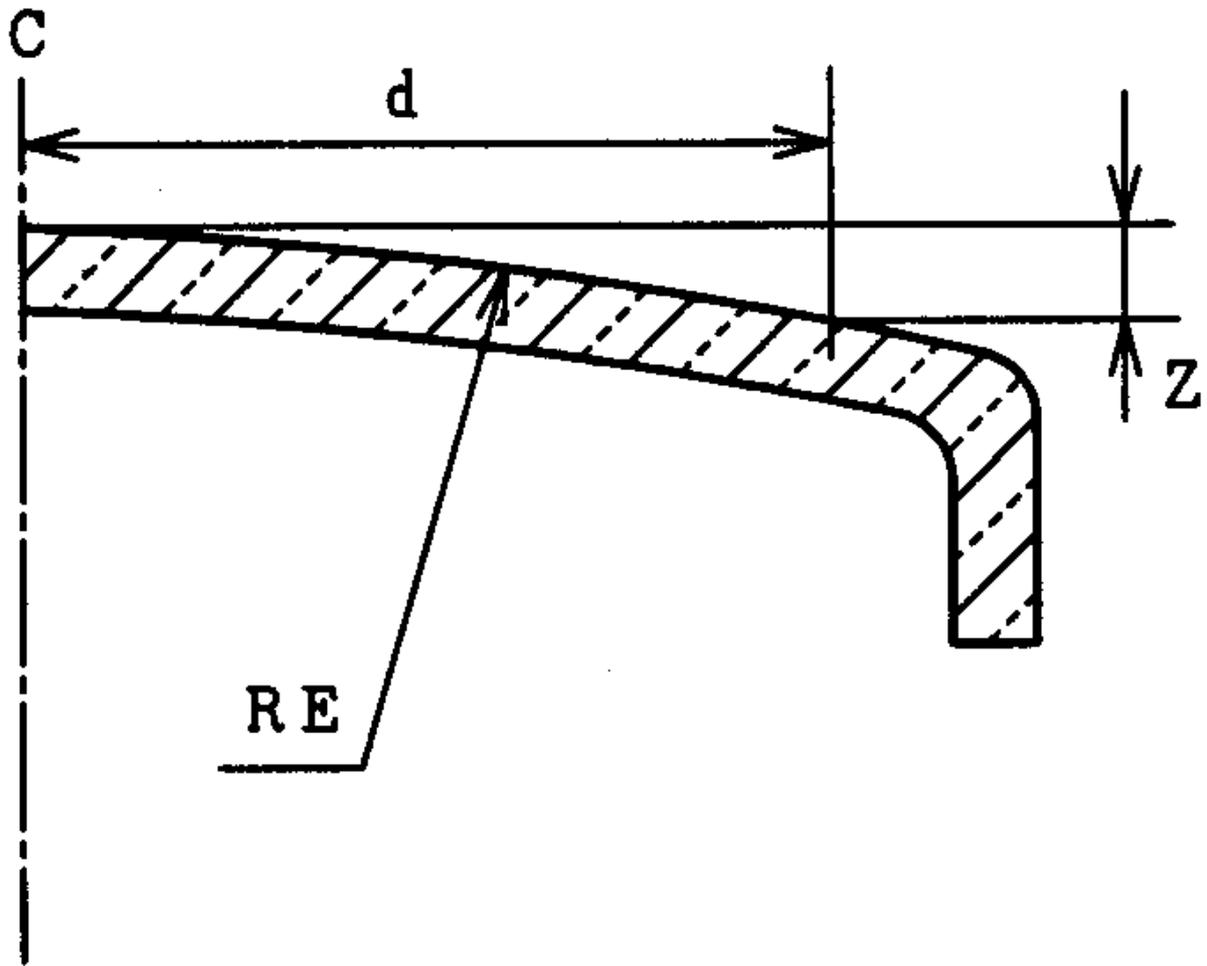
5

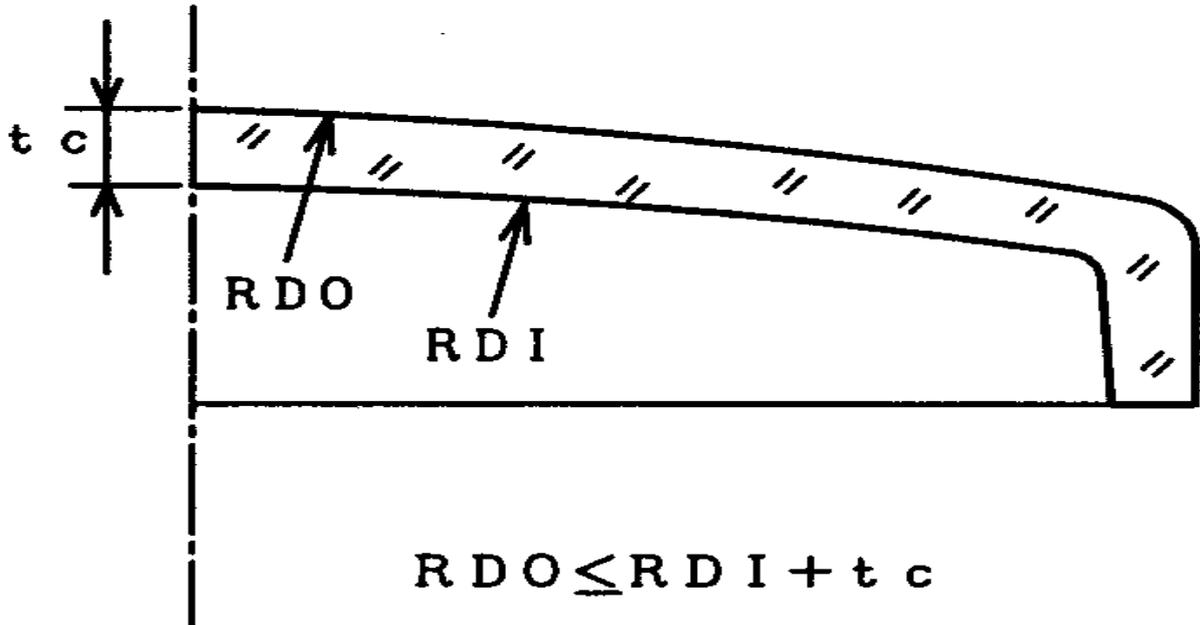


6



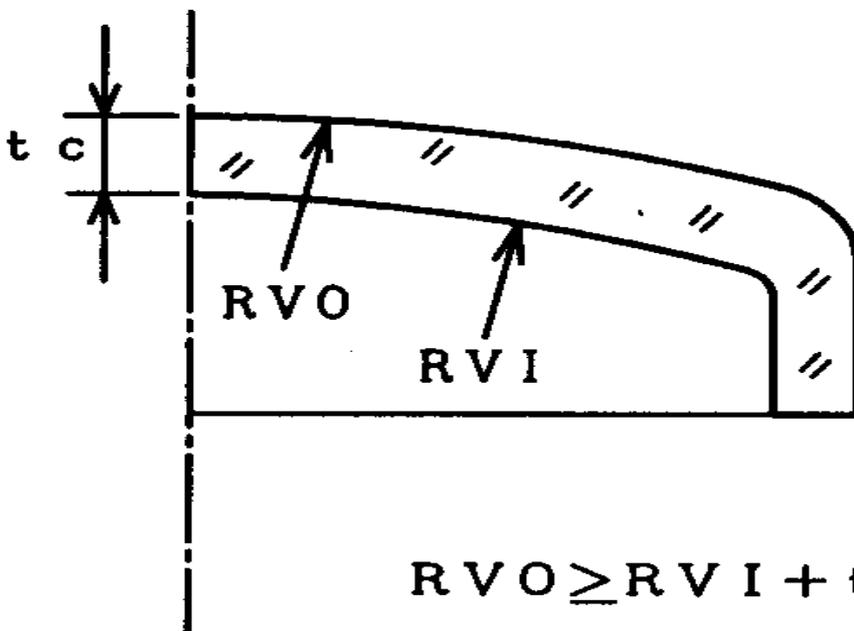
7





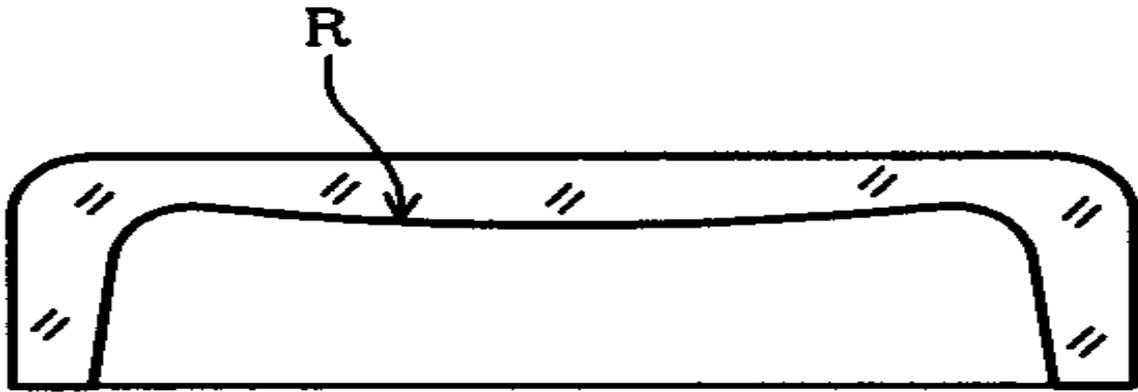
$$R D O \leq R D I + t c$$

대각방향

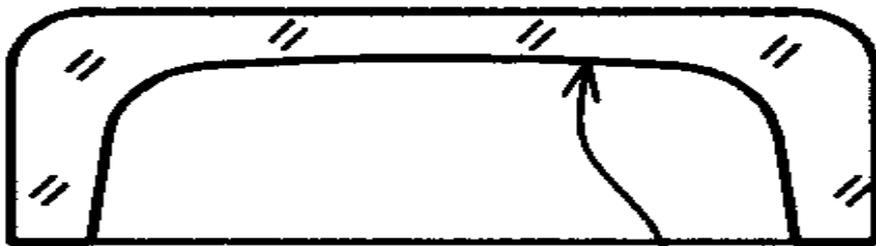


$$R V O \geq R V I + t c$$

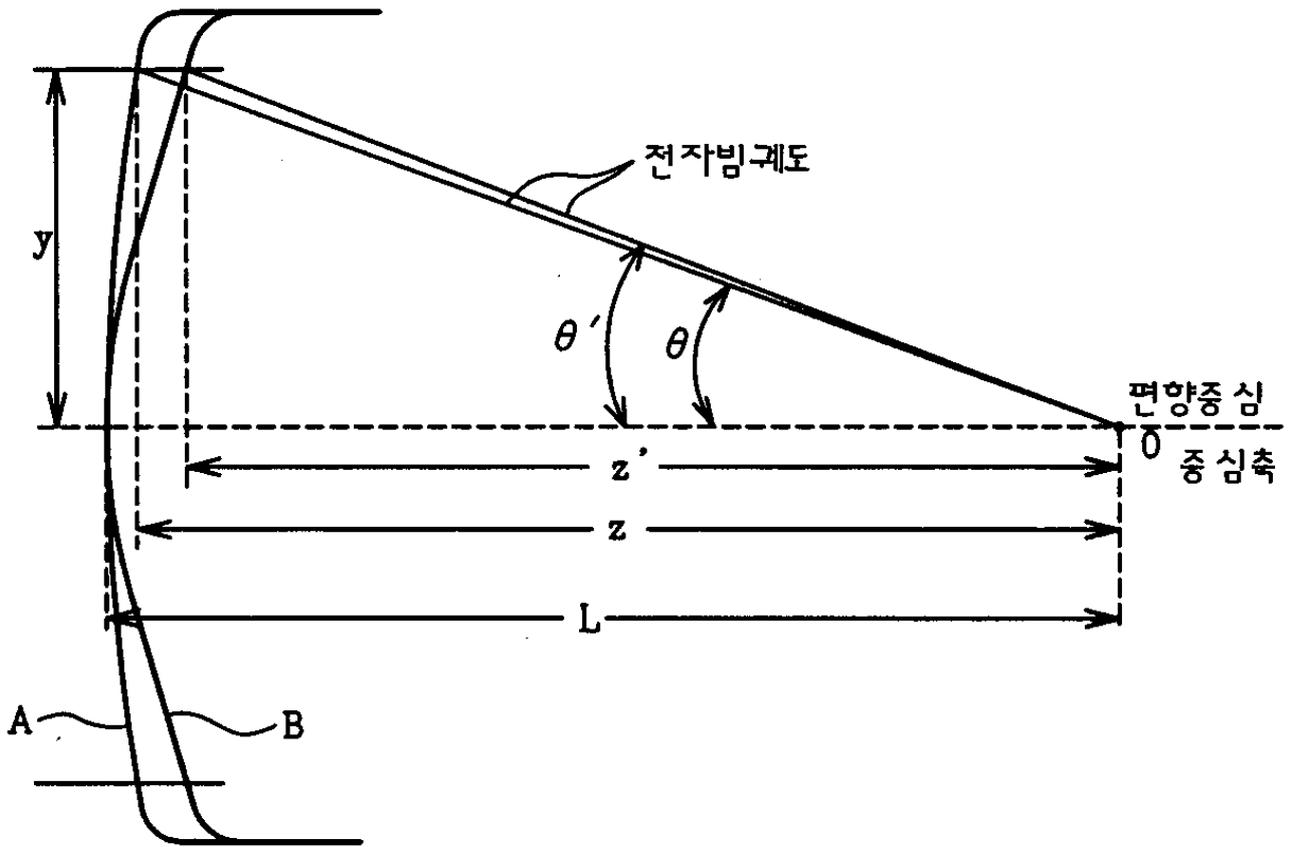
짧은 축 방향



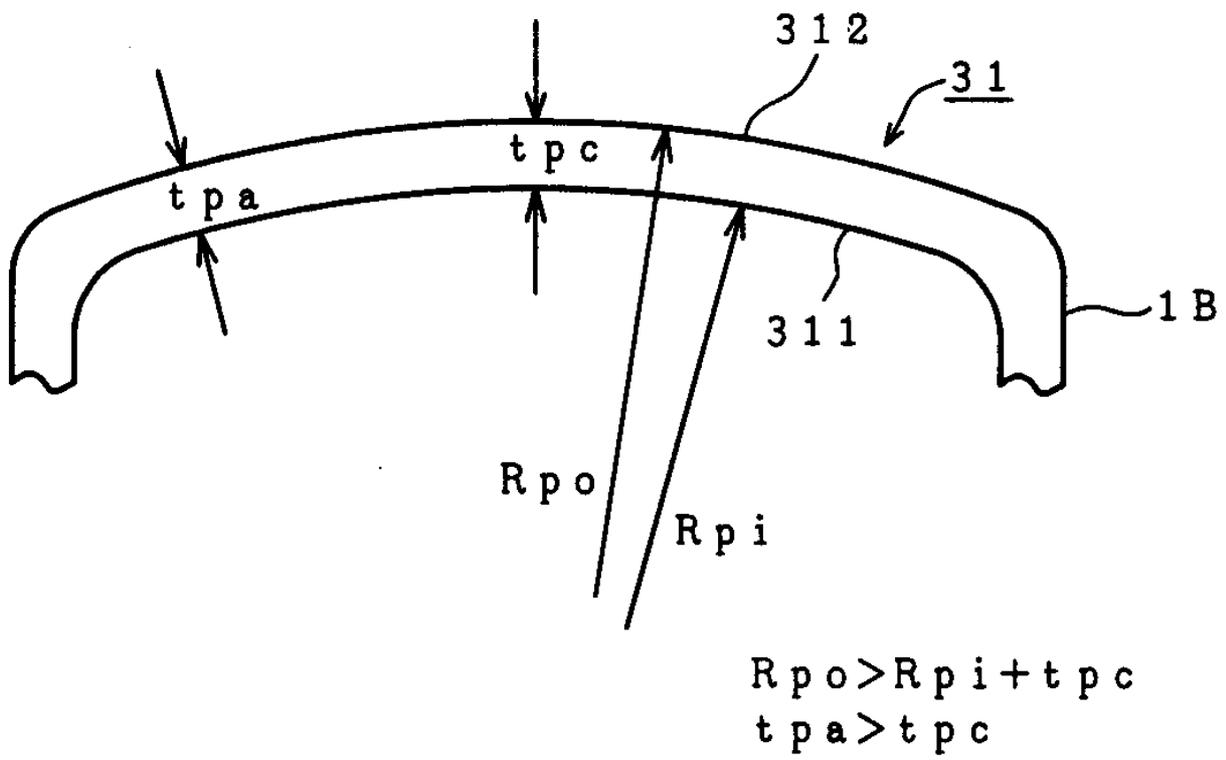
대각방향

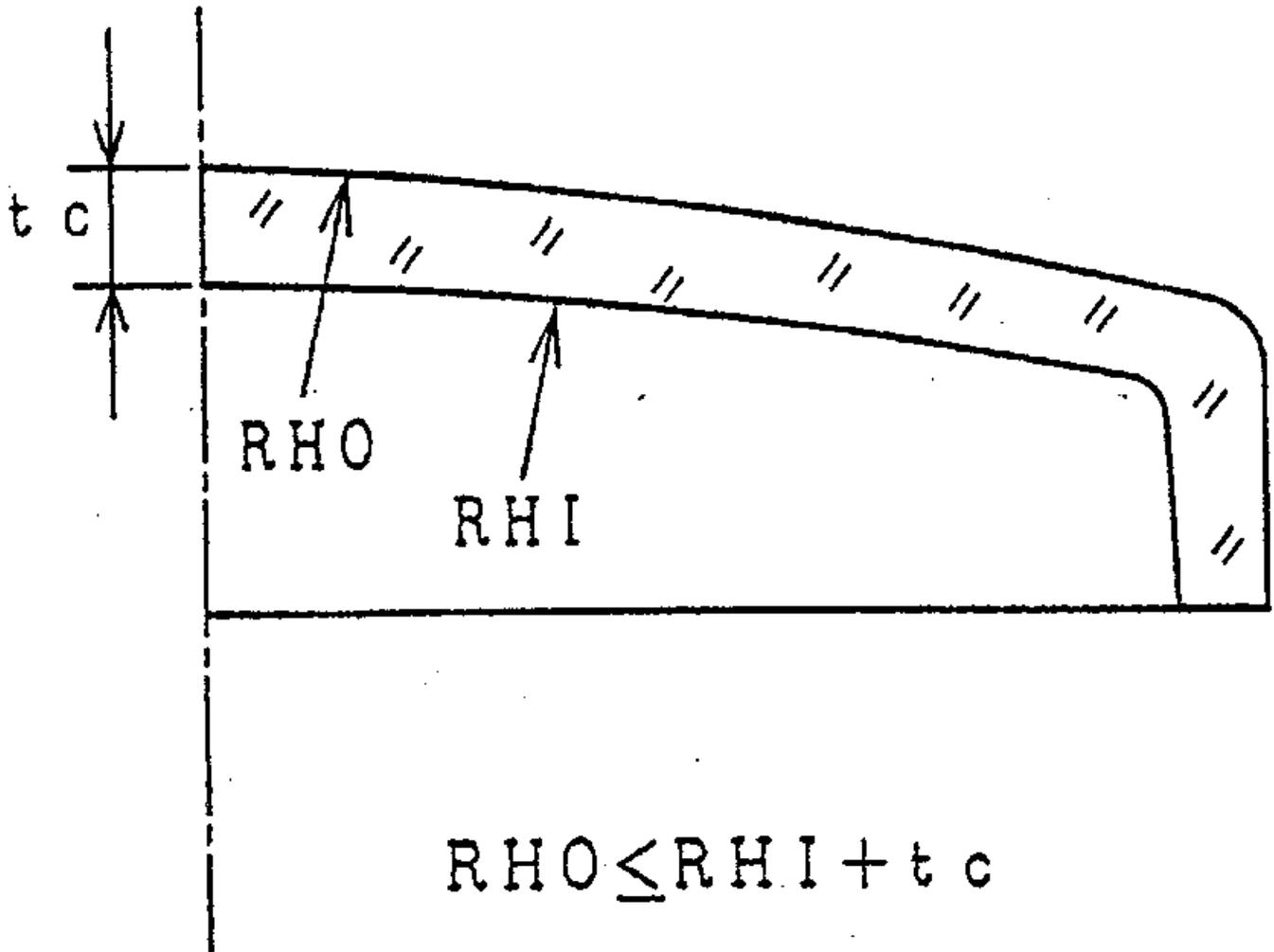


짧은 축 방향



11





수평방향