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(43)2002 - 0076849
2002 10 11(21) 10 - 2001 - 0017002
(22) 2001 03 30

(71) 가 1 32 - 3 105 805

(72) 가 1 32 - 3 105 805

(74)

:

(54)

(Glass)

(Ceramic)

PC(Poly Carbonate), PET(Poly Ethylene Terephehalate), Polyimid

(Plastic) , 가 150 PET(Poly
Ethylene Terephehalate)(Heat treatment Polyester), , (PEI: Poly Ethyl Imid)
→ (水) → → (水)Chamber 1 × 10⁻⁶ torr 가 (10
2) (Ar) (O₂) 가 80:20 (103) 가 , 가
5 10I Shadow Mask) 1000 (Stripe) (Meta
000 SiO₂, Ta₂O₅ , 5000 - 7000 3000 - 5

(Plastic)

1	.
2	.
3	가 .
4	,
A C	ITO(Imdium - Tim - Oxide) .
D E	.
F	.
G H	.
I	.
5	.
♣	♣
11:	. 12: .
13:	. 14: .
15:	. 16:
13a,15a:	SiO ₂ . 13b,15b: Ta ₂ O ₅ .
20:	.
100:	. 101: . 102: .
103:	. 104: . 105: .
106:	. 107: . 108: .
109:	. 110: .
111:	.
120:	가 . 121: .

te), PET (Poly Ethylene Terephehalate), Polyimid
PC(Poly Carbona
(Plastic)
가 CTR
가 (LCD: Ligu
y), (PDP: Plasma Display Panel), TFELD, (FED: Field Emission Display)
(Full Color) (FPD: Flat Panel Display)
AM (LCD: Ligu
가 가 , μs
가
(Full Color AMEL Display) (Planar) 4
Size 18
(Ceramic) (1) ITO(Indium - Tim - Oxide) (2) (Strip)
(Pettering) (3) (4)
(5)
(6) (Stripe)
가
(Glass) (Ceramic)
(Plastic)
가
200 400 가
가 가 200 400
가 가
200 400
가
(Plastic)

1/3 Wearable (가 Plastic

C(Poly Carbonate), PET(Poly Ethylene Terephehalate), Polyimid (Plastic)

(Plastic)

가 150 PET(Poly Ethylene Terephehalate)(Heat treatment Polyester), (11)

(PEI: Polyethylimid) (水) → (水)

(102) (Ar) (O₂) 가 80:20 (103) 가 5 10

(Plasma)

(Metal Shadow Mask)(20) (11) 1000 (Stripe)

(12) (12) (Plasma ion source)

3000 - 5000 SiO₂, Ta₂O₅ (13)

(13) 180 (102) 가 (14)

5000 - 7000 (14) (12)

(13) (16) (12) SiO₂ Al₂O₃

(16) (Plastic)

Si₃N₄ SiON

ZnS Mn 0.5 - 1.4wt% 가 ZnS: Mn, ZnS

TbF₃ 가 0.5mol% - 2.0mol% 가 ZnS: Tb, F ZnS SmCl₃ 가 가 ZnS: Sm, Cl

350eV - 400eV

(100)

(Plasma ion source) (1020 2

2, 5

가 150 PET(Poly Ethylene Terephehalate)(Heat treatment Polyester), (11)

(PEI: Polyethylimid) (水) → (水)

(100) (100) 1 × 10⁻⁶ torr 가 (111)

, 2 (102) (Ar) (O₂) 가 80:20 (103)

가 (11)

5 10 가

가 , 가

(11) 4

(20) (11) 1000 Stripe (12)

0) (12) (20) (12) (20) 2 (13) (11)
 3) (20) (12) (13) (1)
 , CVD
 (102)
 3000 - 5000 SiO_2 , Ta_2O_5 (13) (102)
 13) 5000 - 7000 (14) (11) 180
 (14) (102) 가 (103)
 가
 가 350eV - 400eV (14) ZnS
 Mn 0.5 - 1.4wt% 가 ZnS: Mn, ZnS TbF_3 가 0.5mol% - 2.0mol%
 가 ZnS:Tb, F ZnS SmCl_3 가 가 ZnS:Sm, Cl
 (14) (14) (13)
 (15) (12) (16)

ET(Poly Ethylene Terephehalate), Polyimid PC(Poly Carbonate), P
 (Plastic)
 1/3
 Wearable (가 : ,)

(57)

1.

가 150 PET(Poly Ethylene Terephehalate)(Heat treatment Polyester),
 (PEI: Polyethylimid) (11)
 → (水) → (水)
 ,
 (102) (Ar) (O₂) 가 80:20 (103) 가
 (Plasma)
 5 10
 20) (11) 1000 (Stripe) (Metal Shadow Mask)(
 (12)

00 (12) (Plasma ion source) 3000 - 50
 SiO_2 , Ta_2O_5 (13) ,

(13) 180 (102) 가
 5000 - 7000 (14) ,

(14) (13) (16)

,
 (12) (16)
 (Plastic) .

2.

가 150 PET (Poly Ethylene Terephehalate) (Heat treatment Polyester),
 , (PEI: Polyethylimid) (11)
 → (水) → → (水)

,
 (Ar) (O₂) 가 80:20 1 × 10⁻⁶ torr 가 , (102)
 (Plasma) (103) 5 10

,
 20) (11) 1000 (Stripe) (Metal Shadow Mask) (
 (12)

,
 00 (12) (Plasma ion source) 3000 - 50
 SiO_2 , Ta_2O_5 (13) ,

(13) 180 (102) 가
 5000 - 7000 (14) ,

(14) (13) (16)

,
 (12) (16)
 SiO_2 Al_2O_3 Si_3N_4 SiON (

Plastic) .

3.

1 ,

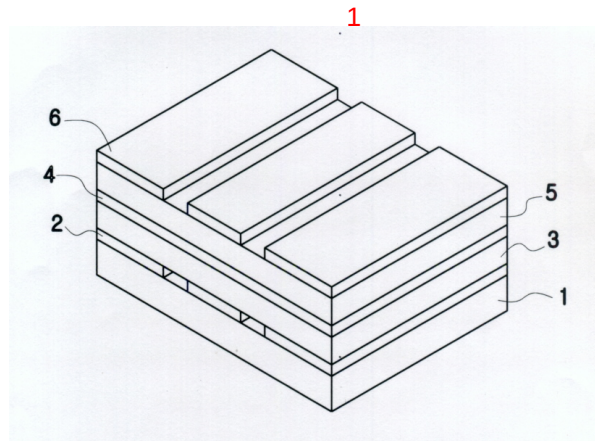
TbF₃ 가 0.5mol% - 2.0mol% ZnS 가 Mn 0.5 - 1.4wt% 가 ZnS: Mn, ZnS
 (Plastic) ZnS: Tb, F ZnS SmCl₃ 가 가 ZnS: Sm, Cl

4.

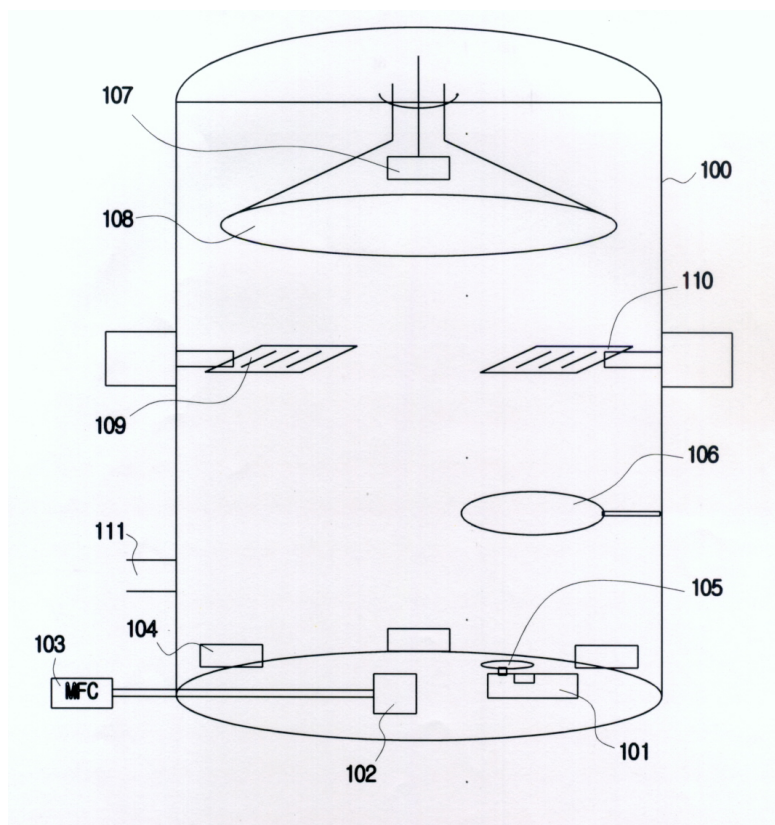
1 ,

가 350eV - 400eV

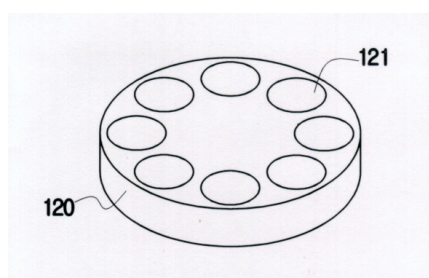
(Plastic)



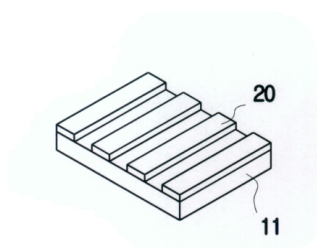
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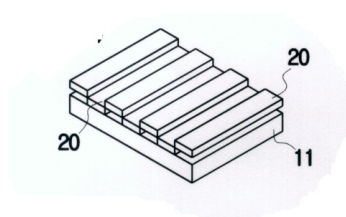
3



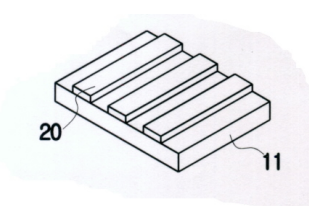
4a



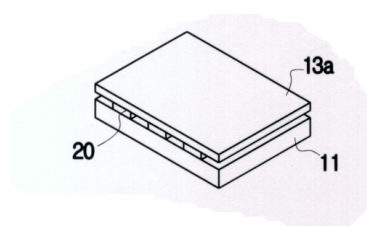
4b



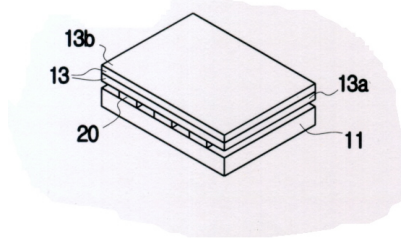
4c



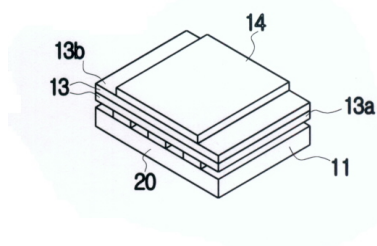
4d



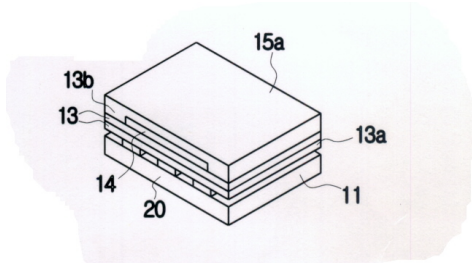
4e



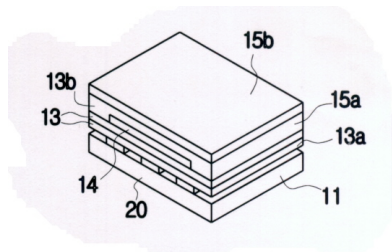
4f



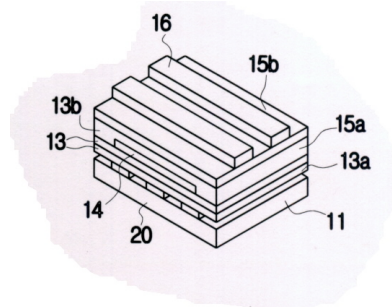
4g



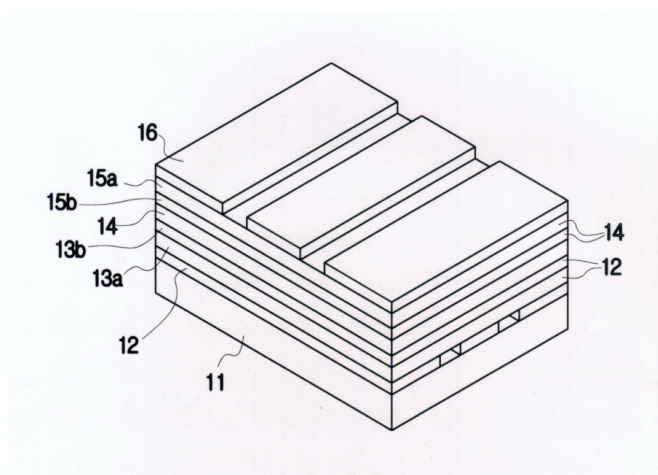
4h



4i



5



专利名称(译)	塑料薄膜电致发光器件及其制造方法		
公开(公告)号	KR1020020076849A	公开(公告)日	2002-10-11
申请号	KR1020010017002	申请日	2001-03-30
[标]申请(专利权)人(译)	JEON YOUNG KUK 英国前		
申请(专利权)人(译)	英国前		
当前申请(专利权)人(译)	英国前		
[标]发明人	JEON YOUNG KUK		
发明人	JEON, YOUNG KUK		
IPC分类号	H05B33/10		
CPC分类号	H01L21/02301 H05B33/10		
代理人(译)	韩，勇俊		
外部链接	Espacenet		

摘要(译)

代替玻璃的(玻璃)或陶瓷本发明(陶瓷)基板是在现有的使用涉及一种薄膜EL装置中使用的塑料材料,例如PC(聚碳酸酯),PET(聚乙烯Terephehalate),聚酰亚胺的树脂制的仪表板并通过实现薄膜电致发光显示装置,并大幅度降低了装置的重量,热处理塑料消除装置(塑料)的薄膜电致发光器件的损坏风险,并涉及制造一样,超过150°C的热变形温度的一个方法的PET(聚乙烯Terephehalate)(热处理聚酯),聚酰亚胺,聚echil酰亚胺:温和的洗涤剂→超纯水(水)至(PEI聚乙基IMID),以除去有机物质和污染物在塑料基片的气氛,例如一个→醇→超纯水(水)中,然后进行超声波清洗在小料的顺序在洗涤步骤中,洗涤步骤,其中所述材料以除去水分洗涤真空室充电用尽低于 1×10^{-6} 托的真空度的真空室的内部压力,然后,氩(Ar)和氧等离子体的离子束(102)的80(O₂)气体流量比:20,以控制(和103),以通过在为了提高除去残留的水分和表面粗糙度通过进行约5~10分钟进行的预处理步骤,形成氩气和氧气的混合物的等离子体发送等离子体处理流动时,

通过等离子体处理前,如和金属电极形成步骤中,与用于在带材(条带)形成金属电极的厚度为1000,等离子体离子束与金属电极的顶部形成塑料衬底的塑料基板的金属电极的金属荫罩(金属荫罩)对准通过使用辅助电子束的多层薄膜沉积方法形成厚度为3000A至5000A的SiO₂和Ta₂O₅的下绝缘层,通过与形成下绝缘层相同的方法在发光层的上部形成上绝缘层;通过形成透明电极来完成塑料薄膜电致发光器件以完成器件。 五 - 1 -

