

晶圓廠 擴散區爐管復機 O.I.

#### 壹、目的:

針對各種製程的爐管,訂定此復機 O.I.做為異常事件發生時,執行復機動作的準則。

#### 貳、內容:

- 1. 墊層氧化爐管--復機程序。
- 2. SAC 氧化爐管--復機程序。
- 3. 井區擴散氧化爐管--復機程序。
- 4. 場氧化爐管--復機程序。
- 5. 閘層氧化爐管--復機程序。
- 6. N+預置爐管--復機程序。
- 7. S/D 氧化、複晶氧化爐管--復機程序。
- 8. PLUG 回火、FLOW爐管--復機程序。
- 9. 融合爐管--復機程序。
- 10. SOG 烘烤爐管--復機程序。

以上各爐管之機台代號,請參閱爐管區程式 O.I. 之"爐管功能配置表",技資編號"G3212-

0006" 。

註:復機程序須按各爐管所定之程序步驟由上往下順序為之。

#### 參、生效與修訂

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# 1.墊層氧化爐管--復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	更換 Trans-LC 瓶	更換 Boat or 保溫筒
測漏 (run LK)	V			
測溫 (run PF)	V	V		
PG	V			V
PCV	V		V	V
PE Check SCA Data	V		V	V
EQ Check Particle	V		V	V
S01test run 規格:400+/-7	V	V		
S02 test run 規格:250+/-5	V	V	V	V
S03 test run 規格:150+/-4	V	V		
S04 test run 規格: 70+/-4	V	V		
PE Check Tox or 重測	V	V	V	V
PE or EQ Release	V	V	V	V
備註	1.data OK release O.I 2.其餘程式暫設愈期待 owner check 3.test run補滿檔片	1.data OK release O.I 2.其餘程式暫設愈期待owner check 3.test run補滿檔片	1.data OK release O.I 2.test run補滿檔片	1.data OK release O.I 2.test run補滿檔片

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復機程序	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫
測漏 (run LK)				
測溫 (run PF)				
PG				
PCV				
PE Check SCA Data				
EQ Check Particle				
S01test run 規格:400+/-7				
S02 test run 規格:250+/-5	V	V	V	V
S03 test run 規格:150+/-4				
S04 test run 規格: 70+/-4				
PE Check Tox or 重測	V	V	V	V
PE or EQ Release	V	V	V	V
備註	1. data OK release O.I 2.test run補滿檔片	1.data OK release O.I 2.test run補滿檔片	1.data OK release O.I 2.test run補滿檔片	1.data OK release O.I 2.test run補滿檔片

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## 2.SAC 氧化爐管--復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC 瓶	更換 Boat or 保溫筒
測漏 (run LK)	V				
測溫 (run PF)	V	V			
PG	V				V
PCV	V			V	V
PE Check SCA Data	V			V	V
EQ Check Particle	V			V	V
S51 test run(補滿檔片) 規格:425+/-8	V	V			
S52 test run(補滿檔片) 規格:352+/-5	V	V	V	V	V
S53 test run(補滿檔片) 規格:200+/-4	V	V			
S13 test run(補滿檔片) 規格:1800+/-35	依愈期程式是否有S13而 做test run	依愈期程式是否有S13而 做test run			
PE Check Tox or 重測	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註	1.data OK release O.I 2.其餘程式暫設愈期待 owner check	1.data OK release O.I 2.其餘程式暫設愈期待 owner check	data OK release O.I	data OK release O.I	data OK release O.I

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復機程序	更換 Torch or Piping	更換M120	更換 M340 PCB	更換 M3100 PCB	110V breaker 跳脫
	or Torch Heater		or MFC	or M3100 cold start	
測漏 (run LK)	V				
測溫 (run PF)					
PG					
PCV	V				
PE Check SCA Data	V				
EQ Check Particle	V				
S51 test run(補滿檔片) 規格:425+/-8					
S52 test run(補滿檔片) 規格:352+/-5	V	V	V	V	V
S53 test run(補滿檔片) 規格:200+/-4					
S13 test run(補滿檔片) 規格:1800+/-35					
PE Check Tox or 重測	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註	data OK release O.I	data OK release O.I	data OK release O.I	data OK release O.I	data OK release O.I

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# 3.井區氧化、擴散爐管--復機程序

復機程序	PM	更換 SPIC controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC	更換 Boat or 保温筒
測漏 (run LK)	V				
測溫 (run PF)	V	V			
PG	V			V	
PCV	V			V	V
EQ Check PCV data	V			V	V
I24 test run ( Wet oxide ) 規格: 290+/-10A	V	V	V	V	V
HOX test run ( 1150°C ) 規格: C1/C6: 1545+/-10A, C4: 1530+/-10A	V	V			
<u>I38</u> test run ( Wet oxide ) 規格: <u>600+/-20A</u> ,	V			V	V
HO2 test run ( 1200°C ) 規格: 1890+/-10A	V	V			
PE or EQ Check Tox	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註	1. Test I24 時 C8 slot 1/3 放厚度控片 C8 slot 2 放全新高阻值加量 PTC.PTC_I24 及 HOX 合格則可 release run 1150℃. 2. Test I38 C1/C4/C6 放全新高阻值加量 PTC.	只有 F04,F11 需 test H03.		1. I24/ <u>I38</u> 同PM 方 式擺放. 2. 如 <u>I38</u> 未逾期 則 不需 test I24.	1. I24/ <u>I38</u> 同PM 方 式擺放. 2. 如 <u>I38</u> 未逾期則 不需 test I24.

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復機程序	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫	更換 Torch or Piping or Torch Heater
測漏 (run LK)					V
測溫 (run PF)					
PG					V
PCV					V
EQ Check PCV data					V
I24 test run ( Wet oxide ) 規格: 290+/-10A	V	V	V	V	V
HOX test run ( 1150℃ ) 規格 : C1/C6 : 1545+/-10A,C4 : 1530+/-10A	V		V	<u> </u>	
<u>I38</u> test run ( Wet oxide ) <u>規格: 600+/-20A.</u>					V
HO2 test run ( 1200℃ ) 規格: 1890+/-10A	V		V	V	
PE or EQ Check Tox	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註					1. I24/I38 同PM 方 式擺放. 2. 如I38 未逾期則 不需 test I24.

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## 4. 場氧化爐管--復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC	更換 Boat or 保溫筒
LK	V				
PF	V	V			
PG	V			V	V
PCV	V			V	V
PE check Qox data	V			V	V
EQ check Particle	V			V	V
<u>I24 test run ( Wet oxide )</u> 規格: 290+/-10A	<u>V</u>	<u>V</u>			
<u>HOX test run ( 1150°C )</u> 規格: C1/C6: 1545+/-10A. C4: 1530+/-10A	<u>V</u>	<u>V</u>			
<u>I38 test run ( Wet oxide )</u> 規格: 600+/-20A,	<u>V</u>				
<u>HO2 test run ( 1200℃ )</u> 規格: 1890+/-10A	<u> V</u>	<u>V</u>			
F11 test run (補滿檔片,1050度) 規格: 1600±30A	V	V	V		V
F12 test run (補滿檔片,1050度) 規格: 4500±50A	V				
F10 test run (補滿檔片,990度) 規格: 6500±50A	V	V			
PE or EQ Release	V	V	V	V	V

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備	主	1.逾期程式有124機 台才需做124,Test 124 時 C8 slot 1/3 放厚度控片 C8 slot 2 放全新 高阻值加 PTC.PTC 124 及 HOX 合格則可 release run 1150 ℃. 2. Test 138 C1/C4/C6 放全新高 阻值加量PTC.							



復機程序	更換 Torch or Pipping	更換M120	更換M340 PCB	更換M3100 PCB	110V breaker 跳脫
LK	V				
PF					
PG					
PCV	V				
PE check Qox data	V				
EQ check Particle	V				
<u>I24 test run ( Wet oxide )</u> 規格: 290+/-10 <u>A</u>					
HOX test run ( 1150°C ) 規格: C1/C6: 1545+/-10A. C4: 1530+/-10A		V			
<u>I38 test run ( Wet oxide )</u> 規格: 600+/-204,					
<u>HO2 test run ( 1200℃ )</u> 規格: 1890+/-10A		V			
F11 test run (補滿檔片,1050度) 規格: 1600±30A	V	V	V	V	V
F12 test run (補滿檔片,1050度) 規格: 4500±50A					
F10 test run (補滿檔片,990度) 規格: 6500±50A		V			
PE or EQ Release	V	V	V	V	V
備註		有例測HOX/HO2機台 才需要測機。			

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### 場氧化爐管 FO2 backup IGBT 復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC	更換 Boat or 保溫筒
LK	V				
PF	V	V			
PG	V			V	V
PCV	V			V	V
PE check Qox data	V			V	V
EQ check Particle	V			V	V
HOX test run 規格: C1=1545±10A 規格: C4=1530±10A 規格: C6=1545±10A	V	V			
S51 test run (補滿專用檔片) 規格: 425±5A	V		V		V
F95 test run (補滿專用檔片) 規格: 15K±250A	V				
S23 test run (補滿專用檔片) 規格: 425±8A	V				
I90 test run (補滿專用檔片) 規格: 250±6A	V				
G44 test run (補滿專用檔片) 規格: 1300±20A	V	V			
PE or EQ Release	V	V	V	V	V
備註					

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復機程序	更換 Torch Or Pipping	更換M120	更换M340 PCB	更換M3100 PCB	110V breaker 跳脫
LK	V				
PF					
PG					
PCV	V				
PE check Qox data	V				
EQ check Particle	V				
HOX test run 規格: C1=1545±10A 規格: C4=1530±10A 規格: C6=1545±10A					
S51 test run (補滿專用檔片) 規格: 425±5A	V	V	V	V	V
F95 test run (補滿專用檔片) 規格: 15K±250A					
S23 test run (補滿專用檔片) 規格: 425±8A					
I90 test run (補滿專用檔片) 規格: 250±6A					
G44 test run (補滿專用檔片) 規格: 1300±20A					
PE or EQ Release	V	V	V	V	V
備註					

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### 5. 閘層氧化爐管--復機程序

復機程序	控片規格	PM	更換 SPIKE controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC 瓶	更換 Boat or 保溫筒
測漏 (run LK)		V				
測溫 (run PF)		V	V			
Purge (run PG)		V				V
CV Test (run PCV)		V			V	V
PE Check SCA Data (控片續跑 C-V 流程)		V			V	V
EQ Check Particle		V			V	V
Call PE 將所有程式設定為逾期		V	V			
GO9 test run (補滿檔片)	123 ± 2A	V	V	V	V	V
GO8 test run (補滿檔片)	133 ± 2A	V	V			
G25 test run (補滿檔片)	205 ± 2A	V	V			
PE Check Tox or 重測		V	V	V	V	V
PE Check C-V Data		V			V	V
PE or EQ Release		V	V	V	V	V
備註		1.Test run data ok之程式可優先 release。 2.PM復機程式依PE 交接之程式為優先 。	1.復機程式若逾期,不 需執行 test run。 2.Test run data ok之 程式可優先release。	1.G09程式若逾期,請 PE確認 test run 程 式。 2.Test run data ok ,release O.I run貨	請PE確認 test run 程式。 2.Test run data	1.G09程式若逾期,請 PE確認 test run 程 式。 2.Test run data ok ,release O.I run貨

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復機程序	控片規格	更換 Torch Or Piping or Torch Heater	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫
測漏 (run LK)		V				
測溫 (run PF)						
Purge (run PG)						
CV Test (run PCV)		V				
PE Check SCA Data (控片續跑 C-V 流程)		V				
EQ Check Particle		V				
Call PE 將所有程式設定為逾期						
GO9 test run (補滿檔片)	123 ± 2A	V	V	V	V	V
GO8 test run (補滿檔片)	133 ± 2A					
G25 test run (補滿檔片)	205 ± 2A					
PE Check Tox or 重測		V	V	V	V	V
PE Check C-V Data		V				
PE or EQ Release		V	V	V	V	V
<b>備</b> 註		1.G09程式若逾期,請 PE確認 test run 程 式。 2.Test run data ok ,release O.I run貨。		1.G09程式若逾期,請PE 確認 test run 程式。 2.Test run data ok ,release O.I run貨。	1.G09程式若逾期,請 PE確認 test run 程 式。 2.Test run data ok ,release O.I run貨	1.G09程式若逾期,請PE 確認 test run 程式。 2.Test run data ok ,release O.I run貨。

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### 6.N+預置爐管--復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	更換 Boat or 保溫筒	更換 POC13 瓶
測溫 (run PF)	V	V		
Call PE 將程式設定逾期	V			
B05 test run $45 \pm 1\Omega$	V	V	V	V
B01 test run $17 \pm 0.3\Omega$	V	V		
Check RS	V	V	V	V
備註	B01 / B05 data all ok release OI	B01 / B05 data all ok release OI	BO5 data all ok release OI	BO5 data all ok release OI

復機程序	更換 M120	更換 M340 PCB or MFC	更换 M3100 PCB or M3100 cold start	110V breaker 跳脫
測溫 (run PF)				
Call PE 將程式設定逾期				
B05 test run $45 \pm 1\Omega$	V	V	V	V
B01 test run $17 \pm 0.3\Omega$			V	
Check RS	V	V	V	V
備註	BO5 data all ok release OI	BO5 data all ok release OI	B01 / B05 data all ok release OI	BO5 data all ok release OI

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## 7.S/D氧化、複晶氧化爐管--復機程序

復機程序	PM	更換 SPIC controller T/C (double)	Flame or Low Temp or Hi Temp Alarm	更換 Trans-LC	更換 Boat or 保溫筒
測漏 (run LK)	V				
測溫 (run PF)	V	V			
PG	V			V	V
PCV	V			V	V
EQ Check PCV data	V			V	V
HOX test run ( 1150℃ ) 規格 : C1 : 1545+/-10A C4 : 1530+/-10A C6 : 1545+/-10A	V	V			
Y53 test run ( Dry oxide ) 規格 : 60+/-5A	V	V			V
Y90 test run ( Dry oxide ) 規格: 250+/-6A ( 只能調 sO2 )	V				
PE or EQ Check Tox	V	V	V		V
PE or EQ Release	V	V	V	V	V
備註	1.如測機程式溫度調機超過3℃ 所有 未逾期程式需有測機值才可 release。 2.只有 F33 需要做 HOX ,Y90 test run 3.PM 後將Y51程式設為逾期禁 run , Y51 程式需控片確認LNHP/P3Rs 正常後 才可以 Release。	只有 F33 需要做 HOX test run	Test 原程式		

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復機程序	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫	更換 Torch or Piping or Torch Heater
測漏 (run LK)					V
測溫 (run PF)					
PG					V
PCV					V
EQ Check PCV data					V
HOX test run ( 1150℃ ) 規格: C1: 1545+/-10A C4: 1530+/-10A C6: 1545+/-10A	V		V	V	
Y53 test run ( Dry oxide ) 規格 : 60+/-5A	V	V	V	V	V
Y90 test run ( Dry oxide ) 規格 : 250+/-6A ( 只能調 sO2 )					
PE or EQ Check Tox	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註	只有 F33 需要做 HOX test run		只有 F33 需要做 HOX test run	只有 F33 需要做 HOX test run	

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### 8.PLUG回火、FLOW爐管--復機程序

復機程序	PM	更換 SPIKE controller T/C (double)	更換 Trans-LC 瓶	更換 Boat or 保溫筒	更換M120
測漏 (run LK)	V				
測溫 (run PF)	V	V			
test PG	V			V	
test CV	V		V	V	
PE Check SCA Data	V		V	V	
EQ Check Particle	V		V	V	
<u>VR4 test run(補滿檔片)</u> 規格:200+/-20	<u>V</u>	<u>V</u>		<u>V</u>	<u>V</u>
PE Check Tox or 重測	V	V	V	V	V
PE or EQ Release	V	V	V	V	V
備註	data OK release O.I	data OK release O.I	data OK release O.I	data OK release O.I	data OK release O.I

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復機程序	更換 M340 PCB or MFC	更换 M3100 PCB or M3100 cold start	110V breaker 跳脫	更換 Torch or Piping or Torch Heater
測漏 (run LK)				V
測溫 (run PF)				
test PG				
test CV				V
PE Check SCA Data				V
EQ Check Particle				V
<u>VR4 test run(補滿檔片)</u> 規格:200+/-20	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>
PE Check Tox or 重測	V	V	V	V
PE or EQ Release	V	V	V	V
備註	data OK release O.I	data OK release O.I	data OK release O.I	data OK release O.I

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### 9.融合爐管--復機程序

復機程序	PM	更換 Boat or 保溫筒	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫
測漏 (run LK)						
測溫 (run PF)						
CO5 test run(補滿檔片) 規格: SOG:9010+/-250 curing:8940+/-250 B15:5+/-145	V	V	V	V	V	V
EQ Check Particle (CO5 recipe)	V	V	V	V	V	V
PE Check Tox or 重測	V	V	V	V	V	V
PE or EQ Release	V	V	V	V	V	V
備註	data OK release O.I	data OK release O.I				

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### 10.SOG 烘烤爐管--復機程序

復機程序	PM	更換 Boat or 保溫筒	更換M120	更換 M340 PCB or MFC	更換 M3100 PCB or M3100 cold start	110V breaker 跳脫
測漏 (run LK)						
測溫 (run PF)						
CO5 test run(補滿檔片) 規格: SOG:9010+/-250 curing:8940+/-250 B15:5+/-145	V	V	V	V	V	V
EQ Check Particle (CO5 recipe)	V	V	V	V	V	V
PE Check Tox or 重測	V	V	V	V	V	V
PE or EQ Release	V	V	V	V	V	V
備註	data OK release O.I	data OK release O.I				

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## 11.KOYO POLYIMIDE 烘烤爐管--復機程序

復機程序	YPM	換 Thermo couple	更換 Boat or 保溫筒	
Test run 記錄溫度 (每10 分鐘記錄一次)	V	V		
O2 back	V	V	V	
PE Check Temp Or 重測	V	V	V	
PE or EQ Release	V	V	V	
備註	data OK release O.I	data OK release O.I	data OK release O.I	

### 參、生效與修訂

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