



KCE

Korea Coil Engineering co.,Ltd

TEL:+ 82-2-974-7034 URL:www.coiltrans.com

FAX:+ 82-2-974-7345 Mail:kce@coiltrans.com

*KCE Technical Information*

: Pb-free Solder	vol:10
: 2003.6.30	

1.

가  
(極地) 가  
Spray 가  
( ), (Cr), (Cd), (Hg), (As)  
(精鍊)

2.

(Sn) (Pb)  
14 CRT-TV Monitor 15g  
,PC g  
가  
Plastic 100%가

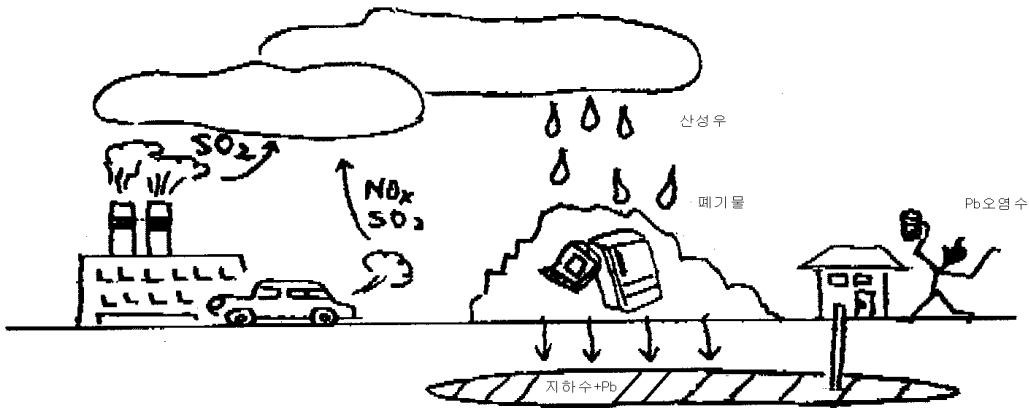
3.

가 SnPb 40%  
Gas SO NO ,NO  
Cl

- " "
- 1) Pb( :Solder)+1/2 O ---->PbO( )
  - 2)-1 PbO+H SO ( ) ----->PbSO +H O
  - 2)-2 PbO+HNO ( ) ----->Pb(NO ) +H O
  - 2)-3 PbO+HCl( ) ----->PbCl +H O

" "

연 화합물이 지하수에 침입한다



4. Pb-Free Solder

PCB(Printed Circuit Board)

SnPb 가  
 가 Maker(Matsushita, Toshiba ) 2003 7 Free-Solder  
 Pb가  
 Maker Pb-Free 가 Maker  
 Pb-Free (Cr,Cd,As )  
 VOC(Volatile Organic Compound: ) 가  
 Maker (Green ) 가

5. Pb-Free solder

Pb-Free SnPb 가  
 1) ((Creep ( 1), ))  
 2) ( Cycle )  
 3)Lift Off( 2)(Solder )  
 4) , (20~30 )  
 5)Flux 가 Flux Maker  
 Maker 가 Cu  
 (溶出) , ,Dross( : )  
 Maker

6.

Catalogue 가 No  
 가 Maker  
 가  
 1998 2000 Pb-Free 가  
 NEDO( 3),JEWS( 4) (JEIDA) (EIIJA)가  
 가

SnAg	Sn3.5Ag0.7Cu	(偏析: 5)	
SnCu	Sn0.7Cu0.3Ag	Cu가	Bridge( 6)가
SnAgBi	Sn2Ag3Bi0.75Cu	Bi 가	가
	Sn2Ag5Bi0.5Cu0.1Ge	Bridge가	
	Sn3.5Ag5Bi0.7Cu	Bi	
	Sn3.5Ag6Bi		
SnBi	Sn57Bi1Ag	Solder	

JEIDA 가  
 Creep , Cycle SnPb Bi  
 가 Fillet Bi가 SnPb (相性)  
 Lift Off 가  
 Pb-Free Solder 가 SnAgCu 가

千住/松下 (特開平 5-50289)	Iowa (US 5,527,628)
* * 3~5Ag, 0.5~3Cu, 0~5Sb * :1991.7.8 * :1993.3.2 *	* Pb-Free --3 (3元共晶) * 3.5~7.7Ag, 1.0~4.0Cu+0~10Bi/Si, Sb, Zn, Mg, Ca, RE~1% * :1993.7.20 *

Iowa 가

7.user

Pb-Free Solder

			( )	( )
Toshiba	Dip	#7101	Sn-1Ag-4Cu(千住金屬)	217~225
	Flow	#7102	Sn-3Ag-0.5Cu( )	217~219
(Flux:光輝 No-----)				
Mitsumi	Coil Dip	SN100C3	Sn-0.7Cu+Ni( Superior)	227
		SN100C4	Sn-0.7Cu+Ni( Superior)	
TCE	Coil, SMD Trans Dip		Sn-4Cu	320
Sony	Flow	#7102	Sn-3Ag-0.5Cu( )	217~219

Pb-Free Solder  
Flux

8.

1) Creep

(荷重)

가

2) Lift Off

Fillet

Lift Off

Lift Off

Fillet-Lifting

Fillet

T , ,

PCB

가 가 (鑄物)

Cu

Through

Micro ,Lift Off

3)NEDO

New Energy and Industrial Technology Development Organization

4)JEWS

5) (偏析:Segregation)

6)Bridge( )

가 .

2003.6.30