

X-ray fluorescence analysis
equipment specialized company

X-ray Fluorescence Analysis and 2D /
3D Imaging Analysis Equipment Specialized Company

ISP CO., LTD.

www.ispXRF.com

XRF / Plating Thickness Analyzer / Component Analysis



ISP CO., LTD.
www.ispXRF.com

ISP Co., Ltd. is a leading supplier of non-destructive inspection equipment using X-ray fluorescence analysis technology.

Our company's products and technologies help customers improve their product quality, performance, and core manufacturing processes.

The business segments are materials analysis, plating thickness analysis, RoHS, WEEE, ELV compliant screening and in-line analyzers.

We approach our work with the clear goal of manufacturing "Innovative Solution Provider Products" for our customers.

CEO 



2022

Opened Dongtan Office (Geumgang Pentarium)
Started CMP Metal Thickness Measuring Instrument Development

2021

X-ray fluorescence analysis System and method for continuous printout thickness measurement (Patent application number 10-2021-0016625)
iEDX-850T (Developed In-Line Pt Measuring Instrument)

2020

X-ray fluorescence analyzer (Patent application number 10-2020-0054843)
Variable X-ray generator using X-ray focusing optical system
(Patent application number 10-2020-0054847)
Development of uranium analyzer (iEDX-150M) and export of IAEA
(Austria International Atomic Energy Agency)

2019

Designated as a high-tech company (No.168)
Capital increase: KRW 525 million

2018

Designation of promising export SMEs (No.14, 16, 18 Jeonbuk-01)
Headquarters relocation: 1st floor, 109 Wonmanseong-ro, Deokjin-gu, Jeonju-si,
Jeollabuk-do (Palbok-dong 2-ga)

2017

Developed iEDX-750T (Automated Plating Thickness Analysis Equipment)
XRD (30kV, 5mA) production licensed

2012

Developed measuring instrument dedicated to plating thickness (iEDX-150WT)
Contactless thickness measuring device using fluorescence X-ray (Patent No.10-119050)
DPP (Digital Pulse Processor) Localization Development
MCA (Multi-channel Analyzer) Localization Development

2004
11

Development of X-ray Fluorescence Analyzer
Establishment of affiliated research institute
Establishment of company

iEDX-120A

RoHS / Hazardous Materials Analyzer



- RoHS / Halogen Free
- Simultaneous Multi-Element Analysis
- Non destructive testing that does not require a pretreatment process
- Configuration
 - Sample Cup: 10 EA
 - Mylar Film: 1 Roll
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Rh/W Target 50kVp, 1mA
Detection System	SDD
Collimator	RoHS: 4mm HalogenFree: 4mm Auto Change
Detection Element	RoHS: Al(13)~U(92)
Sample Type	Solid / Liquid / Powder
Size(WxDxH)	Product: 500x550x430 Chamber: 430x290x140
CCD X	10~15X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	10Ch Auto Sampler / Standard Specimen
Hazardous Material	Cr, Br, Cd, Hg, Pb, Cl, Sb, Sn, S

iEDX-120A

RoHS / Hazardous Materials Analyzer & Plating Thickness

○○○

- RoHS / Halogen Free + Plating Thickness
- Simultaneous Multi-Element Analysis
- Non-destructive testing that does not require a pretreatment process
- Plating Thickness Analysis
- Configuration
 - Sample Cup: 10 EA
 - Mylar Film: 1 Roll
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA



Description	
X-ray Tube	Rh/W Target 50kVp, 1mA
Detection System	SDD
Collimator	RoHS: 4mm HalogenFree: 4mm Plating: 0.2, 0.5, 1mm Auto Change
Detection Element	RoHS: Al(13)~U(92) / Plating: Ti(22)~U(92)
Sample Type	RoHS: Solid,Liquid,Powder / Plating: Solid
Size(WxDxH)	Product: 500x550x430 Chamber: 430x290x140
CCD X	10~15X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	10Ch Auto Sampler / Standard Specimen
Hazardous Material	Cr, Br, Cd, Hg, Pb, Cl, Sb, Sn, S



iEDX-150T mp30

Plating Thickness Analyzer



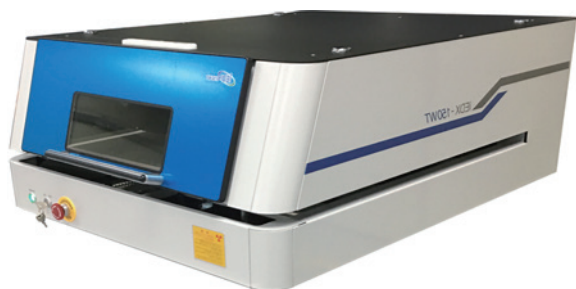
○ ○ ○

- Lead frame, Wire, MLCC, Connector
- Single & Multi Layer and Alloy
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	W Target 50kVp, 1mA
Detection System	SDD
Collimator	0.05, 0.1, 0.3, 1mm Auto change
Detection Element	Plating: Ti(22)~U(92)
Sample Type	Solid
Size(WxDxH)	Product: 520x770x500 650x820x600 Table: 210x210 310x260 Traverse: 160x160x100 220x200x150
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe

iEDX-150WT mp30

Plating Thickness Analyzer



○○○

- PCB, Lead frame, Wire, MLCC
- Single & Multi Layer and Alloy
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	W Target 50kVp, 1mA
Detection System	SDD
Collimator	0.05, 0.1, 0.3, 1mm Auto change
Detection Element	Plating: Ti(22)~U(92)
Sample Type	Solid
Size(WxDxH)	Product: 610x910x360 815x1100x430 Table: 526x610 520x520 Traverse: 310x310x10 520x520x10 (10mm: Tube Moving Distance)
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe



iEDX-150T mp40

Plating Thickness + Hazardous Materials Analyzer



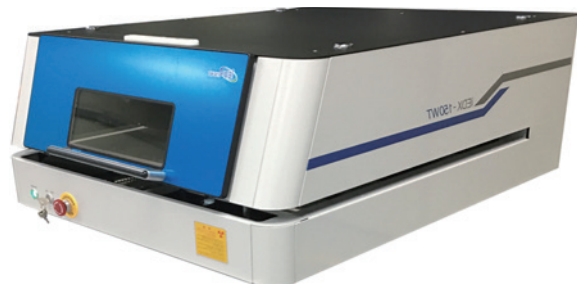
○○○

- Lead frame, Wire, MLCC, Connector
- Single & Multi Layer and Alloy
- RoHS I, II
- Halogen Free
- WEEE
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Simultaneous Multi-Element Analysis
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Cup: 10 EA
 - Mylar Film: 1 Roll
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Rh/W Target 50kVp, 1mA
Detection System	SDD
Collimator	0.05, 0.1, 0.3mm RoHS: 1mm, 4mm HalogenFree: 4mm Auto change
Detection Element	RoHS: Al(13)~U(92) / Plating: Ti(22)~U(92)
Sample Type	RoHS: Solid,Liquid,Powder / Plating: Solid
Size(WxDxH)	Product: 520x770x500 650x820x600 Table: 210x210 310x260 Traverse: 160x160x100 220x200x150
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe
Hazardous Material	Cr, Br, Cd, Hg, Pb, Cl, Sb, Sn, S

iEDX-150WT mp40

Plating Thickness + Hazardous Materials Analyzer



○○○

- PCB, Lead frame, Wire, MLCC
- Single & Multi Layer and Alloy
- RoHS I, II
- Halogen Free
- WEEE
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Simultaneous Multi-Element Analysis
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Cup: 10 EA
 - Mylar Film: 1 Roll
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Rh/W Target 50kVp, 1mA
Detection System	SDD
Collimator	0.05, 0.1, 0.3mm RoHS: 1mm, 4mm HalogenFree: 4mm Auto change
Detection Element	RoHS: Al(13)~U(92) / Plating: Ti(22)~U(92)
Sample Type	RoHS: Solid,Liquid,Powder / Plating: Solid
Size(WxDxH)	Product: 610x910x360 815x1100x430 Table: 526x610 520x520 Traverse: 310x310x10 520x520x10 (10mm: Tube Moving Distance)
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe
Hazardous Material	Cr, Br, Cd, Hg, Pb, Cl, Sb, Sn, S



iEDX-150uT

High Performance Plating Thickness Analyzer



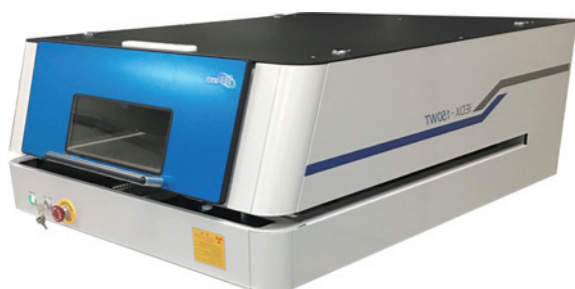
○○○

- Lead frame, Wire, Connector, MLCC
- Single & Multi Layer and Alloy
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Mo Target 50kVp, 1mA
Detection System	F-SDD
Poly Capillary	Focal Spot 30um (option 8um, 15um)
Detection Element	Plating: Ti(22)~U(92)
Sample Type	Solid / Powder
Size(WxDxH)	Product: 650x820x600 Table: 310x260 Traverse: 220x200x150
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe

iEDX-150uWT

High Performance Plating Thickness Analyzer



○○○

- PCB, Lead frame, Wire, MLCC
- Single & Multi Layer and Alloy
- Multi-layer thin film measurement (up to 5 layer)
- Multi-point measurement possible
- Non-destructive testing that does not require a pretreatment process
- Configuration
 - Sample Jig: 1 EA
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable: 1 EA
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Mo Target 50kVp, 1mA
Detection System	F-SDD
Poly Capillary	Focal Spot 30um (option 8um, 15um)
Detection Element	Plating: Ti(22)~U(92)
Sample Type	Solid / Powder
Size(WxDxH)	Product: 815x1100x430 Table: 520x520 Traverse: 500x500x10 (10mm: Tube Moving Distance)
CCD X	40~80X
Safety	3 Point Interlock
Report Type	Excel, PDF, Custom Form
Option	Standard Specimen
Main Application	Au/Ni/Cu, Au/NiP/Cu, Sn/Cu, Ni/Cu, Sn/Ni/Cu, Ni/Fe, Zn/Fe, ZnNi/Fe, Ni/Cu/Fe, Cu/Fe, Cr/Ni/Fe

iEDX-150M

Nuclear materials: Uranium(U), Plutonium(Pu)



- Configuration
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable
 - Ethernet Cable(Tube Control)
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Ag Target 50kVp, 1mA
Detection System	F-SDD
X-ray optic	Doubly Curved Crystal(DCC) Focal Spot: 110um
Detection Element	Nuclear materials: Uranium(U), Plutonium(Pu)
Size(WxDxH)	Product: 640x900x770mm Table : 200x270mm Traverse: 150x180x65mm (65mm: Tube Moving Distance)
Safety	3 Point Interlock
Report Type	Excel, PDF

iEDX-150M

Nuclear materials: Uranium(U), Plutonium(Pu)



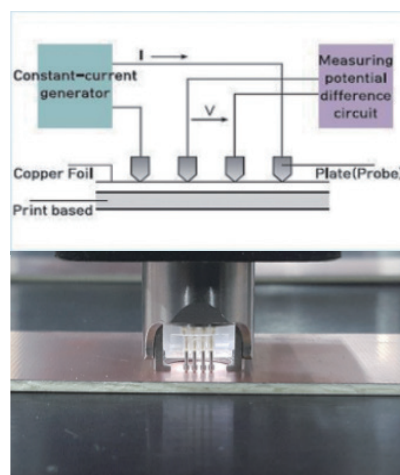
- Configuration
 - USB Memory(Driver): 1EA
 - Manual: 1 EA
 - USB Cable
 - Ethernet Cable(Tube Control)
 - X-Ray Lock Key: 1 EA

Description	
X-ray Tube	Ag Target 50kVp, 1mA
Detection System	F-SDD
X-ray optic	Doubly Curved Crystal(DCC) Focal Spot: 80um
Detection Element	Nuclear materials: Uranium(U), Plutonium(Pu)
Size(WxDxH)	Product: 520x300x800mm Table : 200x270mm Traverse: 100x100x30mm (30mm: Tube Moving Distance)
Safety	3 Point Interlock
Report Type	Excel, PDF

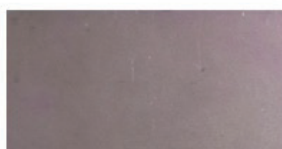
iTG-B10

Copper Thickness Gauge

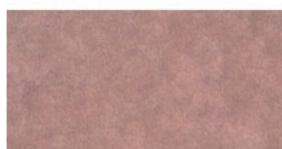
Equipment Configuration:



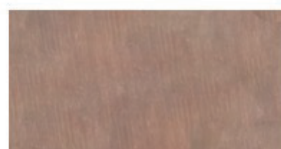
standard specimen



5um Sample



11.5um Sample



31.7um Sample

Description	
Measurement Type	4Pin probe Electrical Resistance Method
Measurable Sample	Copper layer on PCB
Measurement Range	Range 1 : 0.1~1.2 μ m Range 2 : 1.2~5 μ m Range 3 : 5~120 μ m
Accuracy	$\pm$ 1~3% under with reference to standards
Measurement Time	1 sec/point
Operating Computer	Laptop computer
Measurable Counts	Unlimited
Storage Capacity	Unlimited
Result Data	PDF, Excel
Probe Life Time	500,000 repeated measurements

SIRIUS-i100

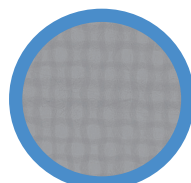
X-Ray Nano Scanner

Small Precision Part and Biosensors Analysis

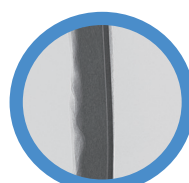


Life Science and Materials Science

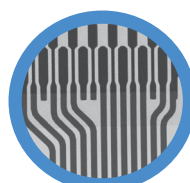
- Laboratory Animal Photography
- Skeleton, Dentistry, Plant & Food
- Geology, Electronics, Industrial Applications, Jewelry



Hemp Fiber



Regeneration Band



FPCB

Micro CT Scanner for 3D imaging at sub-micrometer resolution

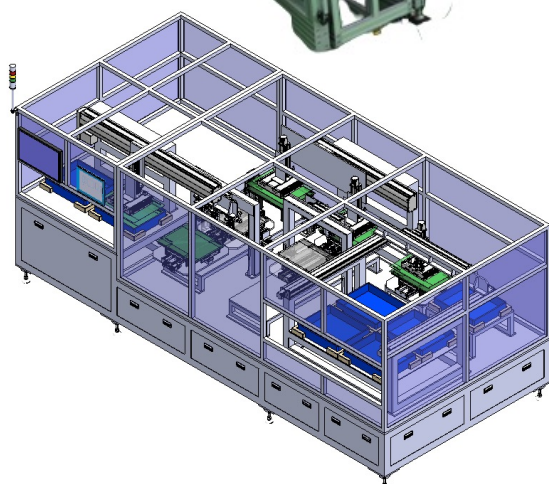
Description	
X-ray source	Microfocus X-ray tube, 20~100kV, focal spot 5 um @ 7.5W, max. 15watts
X-ray detector	sCMOS Detector 36.7 x 36.7 mm, 4096x4096, 16M Pixels
Scanning time	< 6 min / sample
Magnification	1.2 ~ 10x
FOV	about 3.7 ~ 30 mm
Resolution	0.9 ~ 7.5 um / pixel
Radiation safety	< 1uSv/h at any point on the instrument surface
Dimension (WxDxH)	1000(W) x 800(D) x 570(H) mm
Weight	about 250 kg

iTG-1000A

In Line Copper Plating Thickness Analyzer



- PCB Cu Plating Thickness
- Configuration
 - iTG-1000A
 - Manual: 1 EA



Semi Automatic

Description	
Measurement Type	4Pin probe Electrical Resistance Method
Measurable Sample	Copper layer on PCB
Measurement Range	Range 1 : 0.1~1.2 μ m Range 2 : 1.2~5 μ m Range 3 : 5~120 μ m
Accuracy	$\pm$ 1~3% under with reference to standards
Measurement Time	1 sec/point
Probe Qty	Total 6 Prove Unit (Top and Bottom Side)
PCB Size	510x620 Max.
Loading Type	5 Box Max. in Cartridge
Probe Life Time	50,000 Time

iEDX-750T

Auto PCB Plating Thickness Analyzer



○○○

- PCB Au/Ni Plating Thickness
- Configuration
 - iEDX-750T(Semi Auto)
 - Manual: 1 EA

Description	
X-ray Tube	Mo Target, 50kVp, 1mA
Detection System	F-SDD
Poly Capillary	Focal Size: 30um / 15um
Detection Element	Plating: Ti(22)~U(92)
Sample Type	WIDE PCB
Size(WxDxH)	Product: 2600x1350x2050mm PCB : 415x510 / 610x510 / 810x610mm
CCD X	2448 x 2048(5MP)
Report Type	Excel, PDF
Main Application	Au/Ni/Cu, Au/Pd/Ni/Cu

iEDX-750T

Auto MLCC Plating Thickness Analyzer



○ ○ ○

- MLCC Ni Plating Thickness
- Configuration
 - iEDX-750T (Semi Auto)
 - Manual: 1 EA

Description	
X-ray Tube	Mo Target, 50kVp, 1mA
Detection System	F-SDD
Poly Capillary	Focal Size: 15um
Detection Element	Plating: Ti(22)~U(92)
Sample Type	MLCC Ni Printing Film
Size(WxDxH)	Product: 1380x2210x2345 PCB : 220x220 / 330x330 / 440x440mm
Cartridge Qty	107# (500x500mm)
CCD X	4032 x 3024(12MP)
Safety	3 Point Interlock
Report Type	Excel, PDF
Main Application	Ni/PET

iEDX-750T

In Line PLP Plating Thickness Analyzer



PLP: Panel Level Packaging

○○○

- PLP Au/Ni Plating Thickness
- Configuration
 - iEDX-750T
 - Manual: 1 EA

Description	
X-ray Tube	Mo Target, 50kVp, 1mA
Detection System	F-SDD
Poly Capillary	Focal Size: 30um / 15um / 8um
Detection Element	Plating: Ti(22)~U(92)
Sample Type	PLP: Panel Level Packaging
Size(WxDxH)	2500x2500x2200mm
CCD X	2448 x 2048(5MP)
Safety	3 Point Interlock
Report Type	Excel, PDF
Main Application	Au/Ni/Cu

iEDX-830T

In Line Battery Plating Thickness Analyzer



- Battery Pt Plating Thickness
(Anode and Cathode Material)
- Configuration
 - iEDX-830T
 - Manual: 1 EA

Description	
X-ray Tube	Mo Target, 50kVp, 1mA
Detection System	F-SDD
Collimator	2mm / 4mm
Detection Element	Plating: Ti(22)~U(92)
Sample Type	Pt Printing Film
Size(WxDxH)	1000x1300x2400mm
CCD X	2448 x 2048(5MP)
Safety	3 Point Interlock
Report Type	Excel, PDF
Main Application	Pt/Membrane, Ni, Co

iEDX-850T

Auto Battery Plating Thickness Analyzer



○○○

- OLED Film Plating Thickness
- Configuration
 - iEDX-850T
 - Manual: 1 EA

Description	
X-ray Tube	Mo Target, 50kVp, 1mA
Detection System	F-SDD
Collimator	0.5mm / 1mm / 1.5mm
Detection Element	Plating: Ti(22)~U(92)
Sample Type	OLED Film
Size(WxDxH)	2500x3600x2400mm
CCD X	2448 x 2048(5MP)
Safety	3 Point Interlock
Report Type	Excel, PDF
Main Application	Invar (Fe+Ni) / Glass



iEDX-100L

On Line Liquid Analyzer



○○○

- Solution Analysis
- Configuration
 - iEDX-100L
 - Manual: 1 EA

Description	
X-ray Tube	Cr/Rh/Mo/W Target, 50kVp, 1mA
Detection System	SDD
Collimator	23mm x 10mm
Detection Element	Plating: Al(13)~U(92)
Sample Type	Solution
Size(WxDxH)	600x750x2200mm
Safety	3 Point Interlock
Report Type	Excel, PDF
Main Application	Au, Ag, Pd, Cu, Zn, Sn solution

Standard Specimen

RoHS & Hazardous



Foils



RoHS



Sb



CL



PE



PVC

Standard Specimen Spec Table

	Specimen	Spec	Concentration: ppm(%)		
1	PE3-5ED-31	Plastic Polyethylene Check Standards for WEEE RoHS Requirements, Disc, 3 standards per set, 5 elements per standard, 31 mm disc each. Concentrations:			
		Br @ Blank, 0.0250, 0.0500,	250(0.025)	500(0.05)	
		Cd @ Blank, 0.0050, 0.0100,	50(0.005)	100(0.01)	
		Cr @ Blank, 0.0500, 0.1000,	500(0.05)	1000(0.1)	
		Hg @ Blank, 0.0500, 0.1000,	500(0.05)	1000(0.1)	
		Pb @ Blank, 0.0500, 0.1000 Wt%	500(0.05)	1000(0.1)	
2	CLPE3-31	Chlorine in Polyethylene Disc Check Standards; 3 standards per set, 31 mm disc each; Concentrations @ Blank, 500, 1000 mg/kg	500(0.05)	1000(0.1)	
3	SPE4-31	Sulfur in Polyethylene Calibration Standards, 4 standards per set, 31 mm disc each. Concentrations @ Blank, 3000, 5000, 10000 mg/kg	3000(0.3)	5000(0.5)	10000(1)
4	SbPE3-31	Antimony in Polyethylene, 3 samples per set, 31mm disk, 0, 500, 1000 mg/kg	500(0.05)	1000(0.1)	
5	SnPE3-31	Tin in Polyethylene, 3 samples per set, 31mm disk, 0, 500, 1000 mg/kg	500(0.05)	1000(0.1)	



[주]아이에스피
www.ispXRF.com

본사

전북 전주시 덕진구 원만성로 109 (팔복동2가, 1층)
TEL.063)263-8444 / FAX.063)263-8445

시흥 오피스

경기도 시흥시 서울대로 59-69(배곧테크노밸리 514호)
TEL.031-507-8787 / FAX.031-507-8784

동탄 오피스

경기도 화성시 영천동 283-1 금강펜테리움IX타워 1506호



ISP CO., LTD.
www.ispXRF.com

Head Office

109, Woomanseong-ro, Deokjin-gu, Jeonju-si, Jeollabuk-do, Korea(Palbok-dong 2-ga)
TEL.+82-63-263-8444 / FAX.+82-63-263-8445

Siheung Branch(Office)

59-69, Seoul Daehak-ro, Siheung-si, Gyeonggi-do, Korea(Room 514)
TEL.+82-31-507-8787 / FAX.+82-31-507-8784

Dongtan Office (Geumgang Pentarium)

Room 1506, Geumgang Pentarium IX Tower, 283-1
Yeongcheon-dong, Hwaseong-si, Gyeonggi-do, Korea

