SEM • TEM • SAMPLE PREP • MICROPROBES

Quantitative and Qualitative Analysis of Inorganic Elements in Plastic by FP Method - ElementEye JSX-1000S

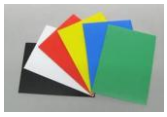
Introduction

Organic materials such as plastics are composed of carbon, hydrogen, oxygen, and nitrogen, etc. Depending on the desired performance characteristics, various inorganic elements can be added. An X-ray Fluorescence Spectrometer is an instrument that enables easy qualitative and quantitative elemental analysis. In case of organic materials, carbon and hydrogen, etc. which are not directly detectable, are calculated as balance components. Here are examples using our 'Quick and Easy Analysis' solution for organic materials which provided automated analysis at the touch of a button after automatically setting the balance component.

Measurement Examples on Standard Samples

PE

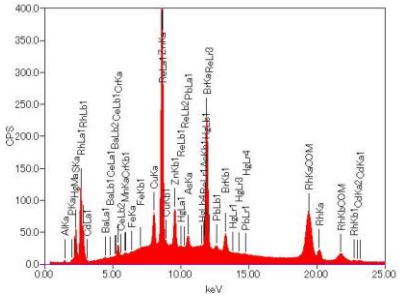
Sample



Measurement Condition

Tube Voltage : 50 kV
Collimator Dia : 9.0 mm
Atmosphere : Vacuum
Measurement Time : 60sec

Spectrum

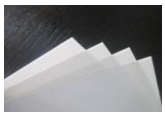


Analysis Result *Unit:Mass%*

Element	Analysis Result (Easy Analysis)	Analysis Result (Manual Analysis)	Certified Value
Cr	0.0093	0.0090	0.0100
As	0.0024	0.0030	0.0029
Br	0.0721	0.00727	0.0770
Pb	0.0085	0.0092	0.0098
Sb	0.0104	0.0082	0.0099
S	0.0574	0.0572	0.0630
Cl	ND	0.0862	0.0800
Balance	Automatic	CH2	

ABS

Sample



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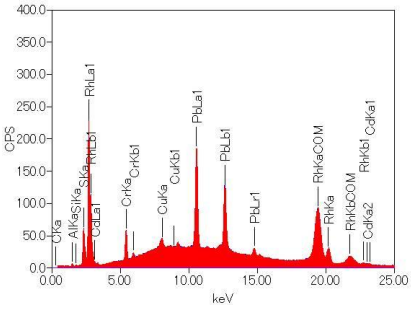
Spectrum

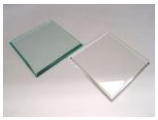


Analysis Result *Unit:Mass%*

Element	Analysis Result (Easy Analysis)	Analysis Result (Manual Analysis)	Certified Value
Cr	0.0302	0.0264	0.00269
Pb	0.01063	0.1072	0.1084
Cd	0.0099	0.0111	0.00107
Balance	Automatic	C15H17N	

PS

Sample



Measurement Condition

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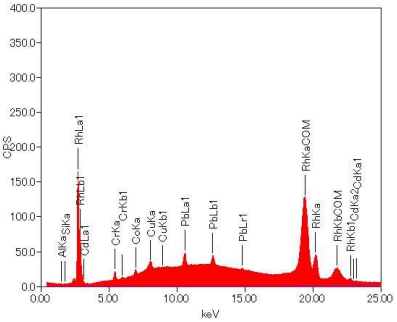
Measurement Time : 60sec

Spectrum



Analysis Result *Unit:Mass%*

Element	Analysis Result (Easy Analysis)	Analysis Result (Manual Analysis)	Certified Value
Cr	0.0105	0.0102	0.0099
Pb	0.0115	0.0116	0.0107
Cd	0.0021	0.0022	0.0024
Balance	Automatic	C4H8O	