

Gaining Advantage



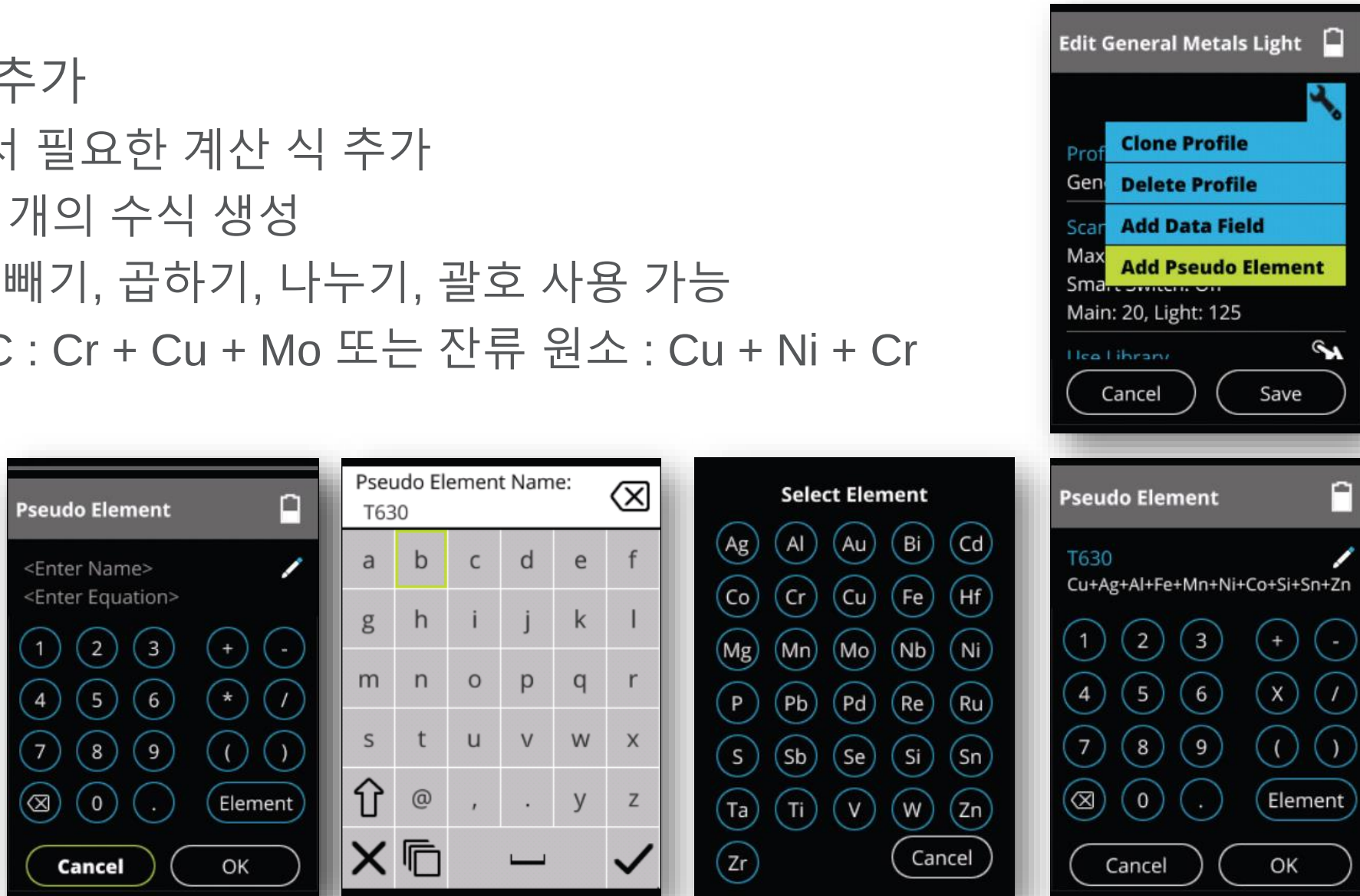
ThermoFisher
SCIENTIFIC

휴대용엑스선형광분석기
Coating mode
XL5



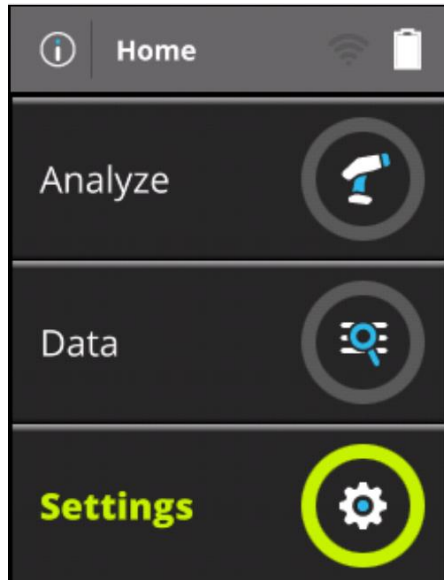
운용 5 – 계산 식 추가 (가상 원소 Pseudo Element)

- 계산 식 추가
 - 분석에서 필요한 계산 식 추가
 - 최대 15 개의 수식 생성
 - 더하기, 빼기, 곱하기, 나누기, 괄호 사용 가능
 - 예 : FAC : Cr + Cu + Mo 또는 잔류 원소 : Cu + Ni + Cr

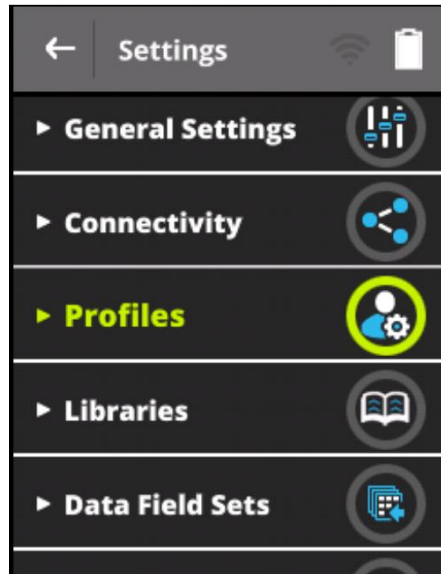


코팅 모드 Coating mode

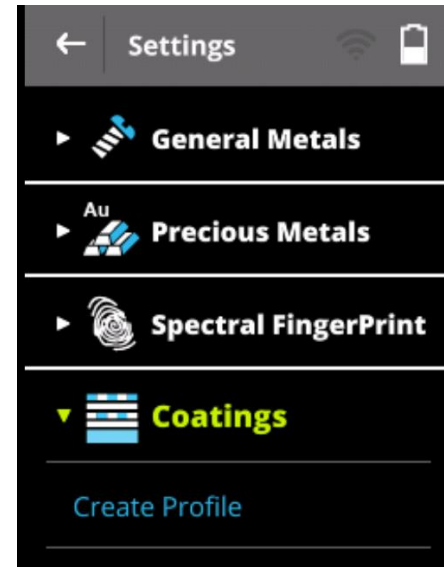
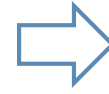
- 프로파일 생성



1. 세팅 선택



2. 프로파일 선택

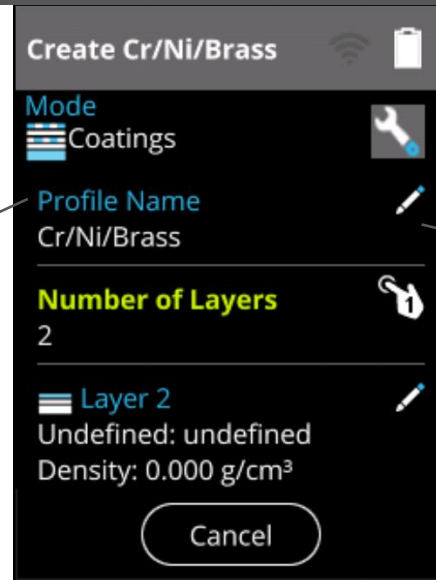


3. 프로파일 생성
선택

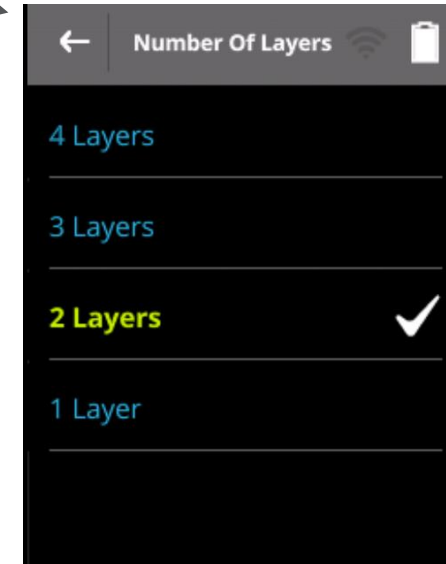
1. 코팅 종류별 프로파일을 작성 가능
2. 표준시료 없이 반정량으로 측정 가능



프로파일 이름 입력



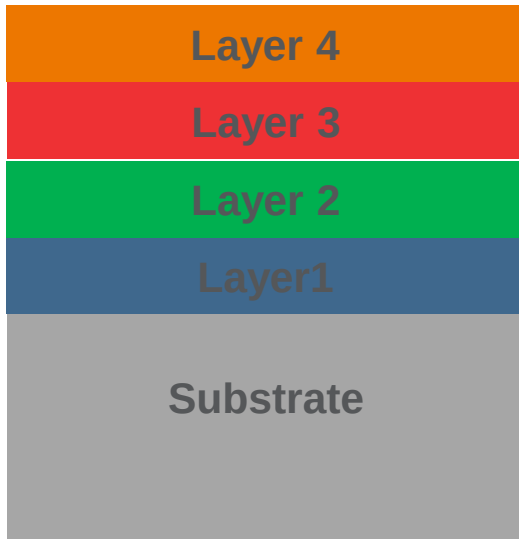
프로파일 완성 예



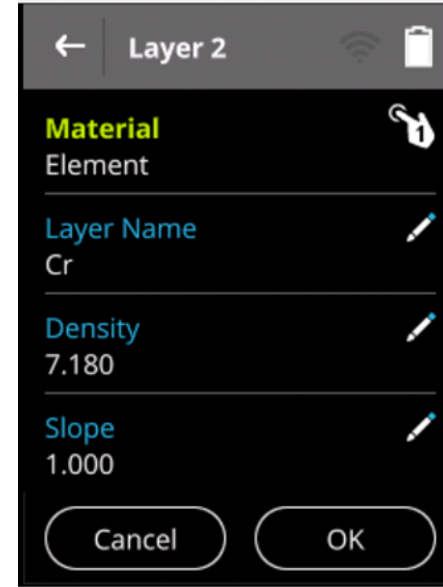
분석 코팅 개수 선택

최대 4개의 코팅 측정 가능

수정하고자 하는 레이어 선택



레이어 수정

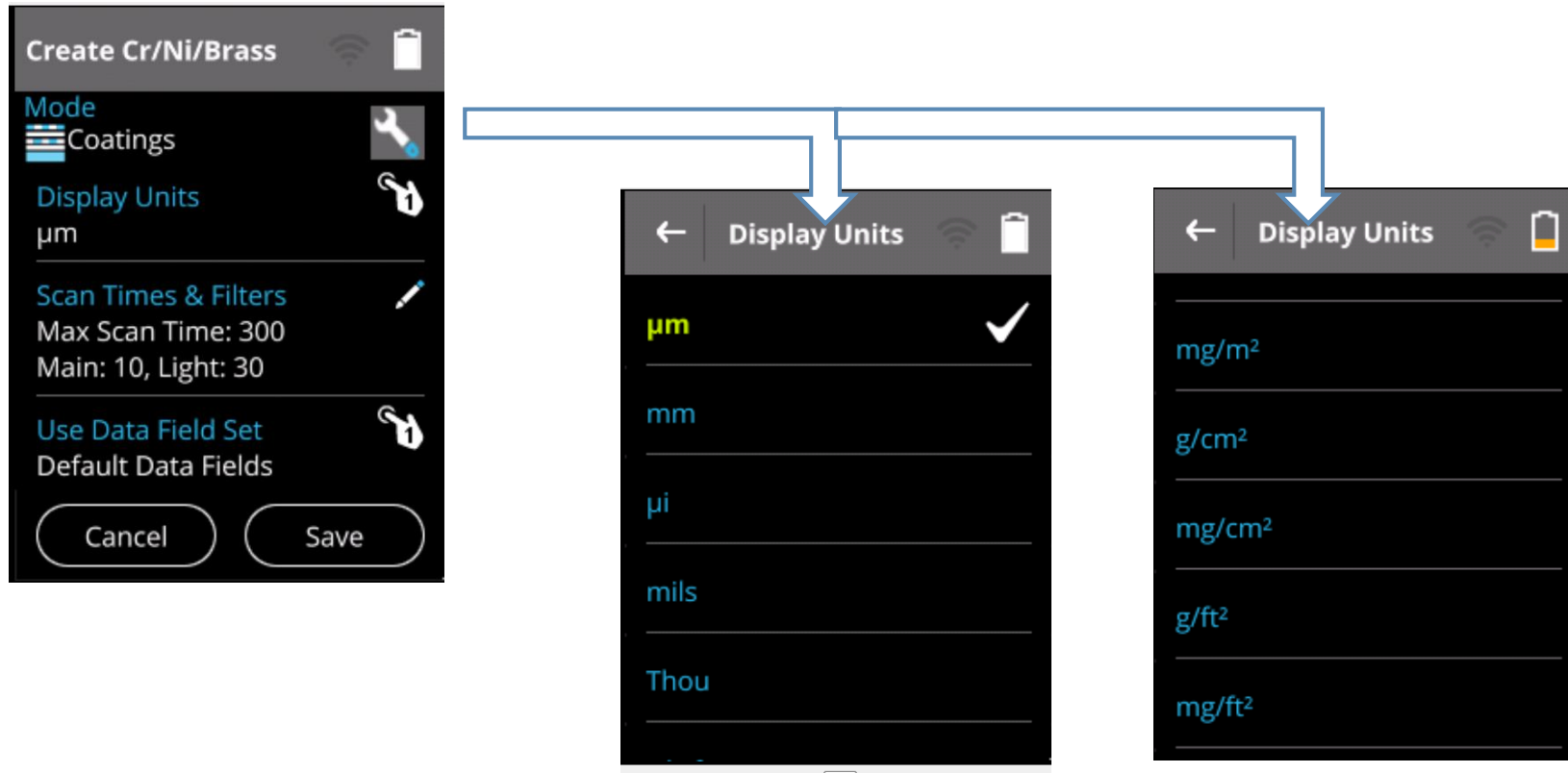


- 각 레이어 별 원소 선택이 가능하고 해당 원소 선택시 자동으로 밀도와 슬로프 값이 입력됨

레이어별 설정 가능

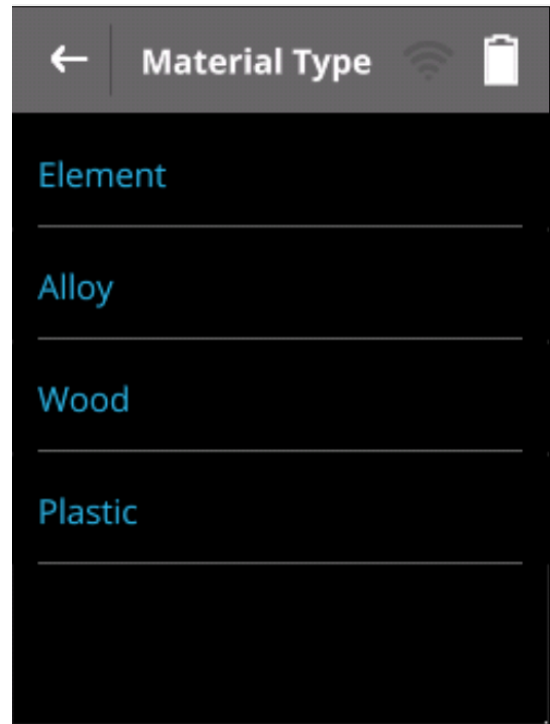
코팅 모드 – 측정 단위 선택

- 두께 단위 : Ang, μm , mm, μi , mils, thou
- 코팅 무게 단위 : $\mu\text{g}/\text{cm}^2$, g/m^2 , mg/m^2 , g/cm^2 , mg/cm^2 , g/ft^2 , mg/ft^2 , $\mu\text{g}/\text{ft}^2$, oz/ft^2



다양한 분석 단위 설정

Substrate 설정



← Material Type

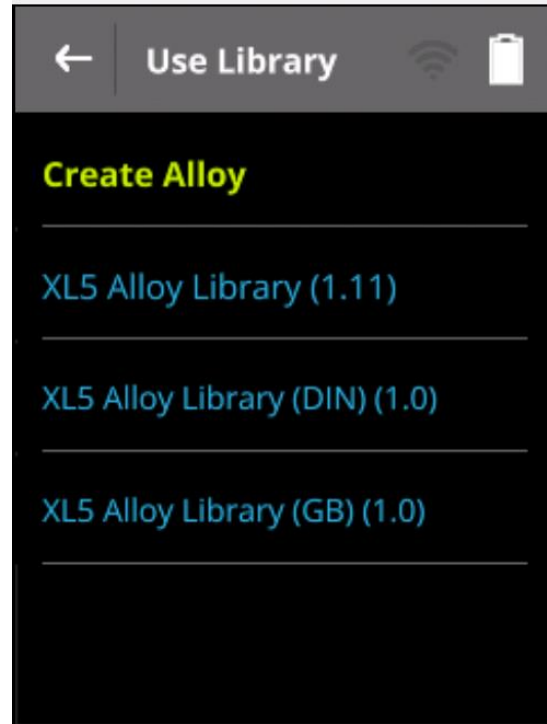
Element

Alloy

Wood

Plastic

다양한
서브스트리트 설정



← Use Library

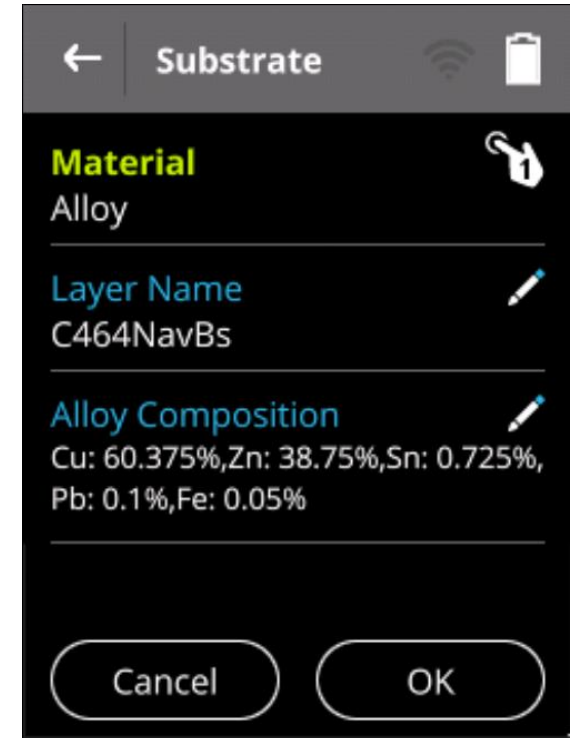
Create Alloy

XL5 Alloy Library (1.11)

XL5 Alloy Library (DIN) (1.0)

XL5 Alloy Library (GB) (1.0)

합금 설정 가능



← Substrate

Material Alloy

Layer Name C464NavBs

Alloy Composition
Cu: 60.375%, Zn: 38.75%, Sn: 0.725%,
Pb: 0.1%, Fe: 0.05%

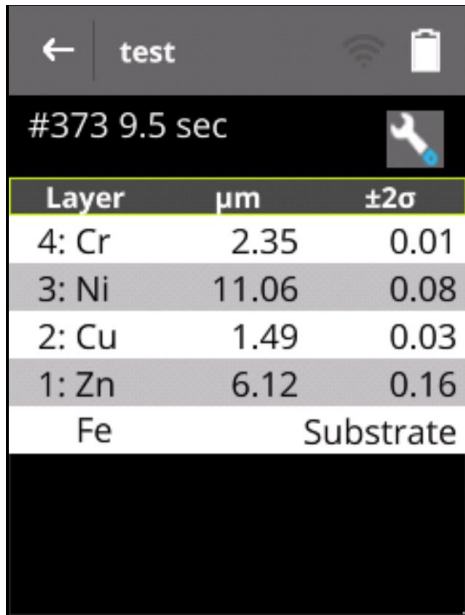
Cancel OK

합금의 원소 및 농도
고려한 코팅 분석

Capabilities of coatings Mode

Analyzing up to 4 layers

2 μ mCr/10 μ mNi/1.5 μ mCu/
6.3 μ mZn/Fe substrate



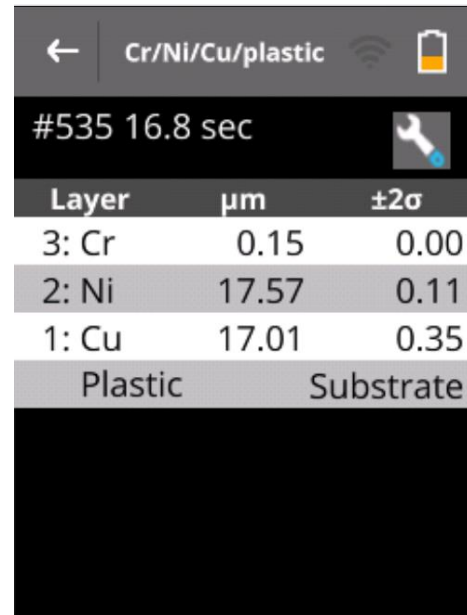
← test

#373 9.5 sec

Layer	μ m	$\pm 2\sigma$
4: Cr	2.35	0.01
3: Ni	11.06	0.08
2: Cu	1.49	0.03
1: Zn	6.12	0.16
Fe	Substrate	

Analyzing multiple layers over Plastics

Common decorative coating



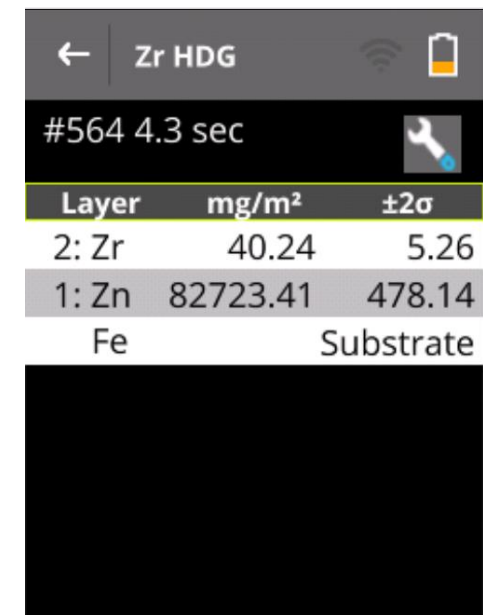
← Cr/Ni/Cu/plastic

#535 16.8 sec

Layer	μ m	$\pm 2\sigma$
3: Cr	0.15	0.00
2: Ni	17.57	0.11
1: Cu	17.01	0.35
Plastic	Substrate	

Analyzing thin layers

Passivation coating
38mg/m² Zr/HDG



← Zr HDG

#564 4.3 sec

Layer	mg/m ²	$\pm 2\sigma$
2: Zr	40.24	5.26
1: Zn	82723.41	478.14
Fe	Substrate	

Accurate Determination of Multilayer Coat Weight & Thickness

Capabilities of coatings Mode. Alloy substrates

Determination of Ni Monolayers over Stainless steel

10µm Ni/ SS 304

The screenshot shows the instrument's interface for measuring Ni layer thickness. At the top, it says 'Ni/variou' with a back arrow, a Wi-Fi icon, and a clipboard icon. Below that, it displays '#509 11.1 sec' and a wrench icon. A table shows the measurement results: Layer 1: Ni with a thickness of 9.85 µm and a standard deviation of ±0.05. Below the table, it identifies the substrate as 'SS-304'.

Layer	µm	±2σ
1: Ni	9.85	0.05
SS-304 Substrate		

SS-304: Cr:17.9%, Ni:8.36%,
Mn:1.6%, Mo:0.29%, Fe:Bal

10µm Ni/SS 316

The screenshot shows the instrument's interface for measuring Ni layer thickness. At the top, it says 'Ni/variou' with a back arrow, a Wi-Fi icon, and a clipboard icon. Below that, it displays '#508 11.0 sec' and a wrench icon. A table shows the measurement results: Layer 1: Ni with a thickness of 9.62 µm and a standard deviation of ±0.05. Below the table, it identifies the substrate as 'SS-316'.

Layer	µm	±2σ
1: Ni	9.62	0.05
SS-316 Substrate		

SS-316: Cr:16.7%, Ni:10.2%,
Mn:1.6%, Mo:2.14%, Fe:Bal

10µm Ni/SS 310

The screenshot shows the instrument's interface for measuring Ni layer thickness. At the top, it says 'Ni/variou' with a back arrow, a Wi-Fi icon, and a clipboard icon. Below that, it displays '#510 9.8 sec' and a wrench icon. A table shows the measurement results: Layer 1: Ni with a thickness of 9.60 µm and a standard deviation of ±0.06. Below the table, it identifies the substrate as 'SS-310'.

Layer	µm	±2σ
1: Ni	9.60	0.06
SS-310 Substrate		

SS-310: Cr:24.9%, Ni:19.7%,
Mn:1.6%, Mo:0.39%, Fe:Bal

***Accurate determination of layer thickness over alloy substrates
containing the same element***