Alloys, Carbon, Carbon Equivalents

NDT/PMI

...even L, H Grades in Stainless

All with a Handheld
LASER: Carbon, Carbon Equivalents & Residuals

Meet the Z.

The world’s ONLY HANDHELD analyzer that measures carbon in steels, stainless and other alloying materials. The Z features our patented LIBS technology plus miniaturized argon purge. It’s lightweight, compact, and delivers highly precise carbon measurements. Take it anywhere – up a tower, into the ditch, onto a rack. Measure carbon, silicon, and alloying metals in seconds.

LIBS = Laser induced breakdown spectroscopy.

More than just Carbon!

Lithium, Boron, Beryllium in Aluminum alloys. LIBS technology excels at measuring critical alloy elements such as Mg, Si, Li, Be, B, Cr, Mn, Cu and other transition, heavy metals.

Sulfidic corrosion. The Z measures Si down to 0.02% in 3 seconds for sulfidic corrosion. In use at major refineries.

Cr for Flow accelerated corrosion (FAC). The Z measures Cr content < 0.03% in just a few seconds, without the need for X-ray radiation sources.

Specialty alloy applications? The Z measures elements that X-ray can’t: Li, Be, B, Na. Many specialty materials are distinguished by presence of alloying low atomic number elements not detectable with handheld X-ray technology.

Major Applications

Upstream
Alloy material verification for on-shore, off-shore rigs.

Midstream
Pipeline Safety – fast, in-ditch measurements of carbon and carbon equivalents. Material verification per API 5L, PHMSA “Mega Rule.”

Downstream
PMI for carbon steels, L, and H grade stainless and nickel alloys. Residuals (Cr, Cu, Ni) including carbon. Carbon, carbon equivalents in welds and materials.

Reduce your Argon Footprint

Reduce your argon costs to pennies per test. Eliminate the hassles of gas tanks. The Z offers the lowest cost of ownership of any carbon testing technology.
The X
Latest X-ray Technology

Performance and Value
Three Options

X-250
The flagship for high performance PMI. The X-250 delivers fast, precise measurements of low concentrations of Si, P, S, Mg, Al, Ti, V, and Cr. It’s field proven to measure Si below 0.1% in 5 seconds, for sulfidic corrosion applications. Fast P and S measurements in steel and stainless, and Ti and V for 5L. Need to test aluminum alloys? The X-250 measures 0.3% Mg in just 2 seconds – precise Mg and Si measurements are critical to aluminum alloy verification.

Defy Obsolescence
SciAps continues to lead the industry with the upgradeability guarantee. If you purchase a lower performing model, and your requirements change, you can always upgrade to a higher performing version.

Data and Reporting
Stacks of spreadsheets. PMI data lost before it’s been downloaded. Painstakingly matching up hand-written notes with downloaded analyzer data. Yes, it’s a nightmare, and we’re developing better approaches. Here’s what’s available now, and what’s under development – partners welcome!

X-200
The workhorse. For daily PMI/NDT activities where blazing speed on Si, P, S, Mg, and Al isn’t mission critical, the X-200 is the ideal choice. Fast, lightweight, and the best value on the market for high performance XRF testing.

X-50
Features the cost-effective PIN technology. If you only require verification of common stainless, nickels, other high temp alloys, brasses, bronzes save money, get the X-50.

What’s different about the X?
The SciAps high brightness turbo tube technology, for starters. SciAps offers the world’s most powerful X-ray tube for distinguishing low atomic number elements Si, P, S, Mg, Al, Ti, V, Cr. Operating with nearly 3x more intensity, the flagship X-250 measures these elements faster than any other handheld X-ray technology. This means faster, more precise measurements for sulfidic corrosion applications, P and S in steels and stainless, Ti and V for API 5L, and aluminum alloys.

Now Available

Real-time Synching
Every test result is stored on the analyzer and sent via WiFi to one or more online PC’s located anywhere in the world.

Custom Auto Report Generation
Who has time to download data, cut and paste into spreadsheets and documents? Instead create a report template one time, with your company logo, layout, etc. Then download data directly, print (even via WiFi) and done.

Available in 2019

Cloud-based Data
Test results are automatically uploaded to a secure cloud site, and can be viewed, edited and downloaded from browser software.

Data Merging
You use X-ray for some materials. You use LIBS for others. How about automatically merging the data from both analyzers into a single report? Even a competitor’s XRF!

New Pipeline App
Pipeline Safety App now available. The Pipeline Safety App automates the testing procedure for carbon, CE in pipeline steels and welds, to reduce operator error. Most pipeline owners or operators accept testing data from the Z provided the App is utilized.

Application Notes
For technical details, please see our Carbon Application Note, Carbon Equivalents or Aluminum Alloy App Notes.

Download page
https://goo.gl/qd7CMd
One-Box

The Ultimate in Portability

The One-Box exploits the best of X-ray and the best of LIBS via a compact, affordable package of analyzers with shared accessories like batteries, charger and cables. In fact, the One-Box delivers optimal performance for virtually every alloy and element for less money than a comparable spark OES system.

Check out the table above.

<table>
<thead>
<tr>
<th>Alloy/Element</th>
<th>Best Technology</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Carbon in stainless, steels or other alloys</td>
<td>LIBS – Z</td>
<td>The Z is the only handheld that measures carbon in these alloys. X-ray cannot measure carbon.</td>
</tr>
<tr>
<td>Common stainless, Cr/Mo steels, nickel or other high temp alloys not requiring carbon</td>
<td>XRF – X250 or X200</td>
<td>Use the lower cost X-50 if you don’t need to measure Si, P, S, Mg or Al. Upgrade anytime!</td>
</tr>
<tr>
<td>Specialty elements Li, Be, B</td>
<td>LIBS – Z</td>
<td>X-ray cannot measure Li, Be, B.</td>
</tr>
<tr>
<td>Phosphorus and sulfur</td>
<td>XRF – X250 or X200</td>
<td>LIBS can’t yet measure P or S.</td>
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