

What Every Scrap Alloy Plant Needs To know Ultimate Aluminum Alloy Sorting Guide

Want productivity and accuracy?

You'll be amazed!

No, really.

If you want 100% accuracy in
one-second tests, all day long,
day after day, after day?
Even Aluminum Alloys

There's only one.

X-250 Scrapper

Designed specifically for the scrap industry
by the originators of handheld
X-ray gun technology.

Schedule a demo today.



SciAps

(339) 927.9455 SCIAPS.COM

Ultimate Aluminum Alloy Sorting Guide

for Handheld XRF

There are traditionally two approaches to sort aluminum alloys with handheld X-ray. The value of these two approaches is determined by the desired testing speed, and how finely the aluminum grades need to be sorted.


X-250

SciAps X-250 provides an ultra-fine level of aluminum grade sorting, with the same speed (1-2 seconds) and simplicity as the basic units.



How do we do this? Two ways. Our unique X-ray tube design optimizes fast measurement of magnesium (Mg) and silicon (Si), critical elements to aluminum sorting.

Our patent-pending Aluminum App takes a smarter approach to sorting even highly similar Al alloys.

Degree of Aluminum Sorting	XRF Type	Pros	Cons
<p>Basic Sorting</p> <p>Sorting into most likely grade type. Examples: 2024 type, 7050/7075 type, 3003 type, mixed low coppers (MLCs).</p>	<p>PiN or SDD type guns.</p> <p>Most models will do this level of sorting in 1-2 seconds (SDD) or 3-5 seconds (PiNs).</p>	<p>Fast, easy for basic Al sorting.</p> <p>Even least expensive X-ray guns can do this level of sorting.</p> <p>Minimal operator decision-making required.</p> <p>Anodized material generally has no impact on sorting result, since no magnesium (Mg) or silicon (Si) measurement.</p> <p>If your business only requires a basic level of sorting, this approach may be enough.</p>	<p>No measurement of Si or Mg, so cannot reliably separate into more specific grades.</p> <p>Frequent mix-ups of common alloy and subsequent downgrades or rejections. For example:</p> <ul style="list-style-type: none"> • 6063/1100 mixes, • Cannot separate between 3000 series grades like 3003/3004/3005/3105, • Calls every 5000 a 5052, • Mixes common 2000s like 2014/2024 and mixes in many cast grades, • Mixes 6000s and 3000s.
<p>Advanced Sorting</p> <p>Measure Mg and Si, allowing for finer sorting by aluminum grade.</p>  <p>Sort mountains of aluminum with 2 Second tests</p>	<p>Only SDD type X-ray guns.</p> <p>SciAps X-250 sorts in 1-2 seconds. SciAps X-200 sorts in 6-8 seconds.</p> <p>All other X-ray gun brands require 15-60 seconds depending on magnesium (Mg) concentration in alloy.</p>	<p>Easily sort grades that only differ by low levels of Mg or Si, if this makes sense economically.</p> <ul style="list-style-type: none"> • Eliminate 6063/1100 mix-ups forever, • Sort within 2000s for higher pricing, 2014 from 2024, • Sort within 3000s: 3003/3004/3005, • A356 from A357 (only difference is 0.2% Mg), • Sort cast aluminums by Si content, • 3105 from 6061, and other 6000s like 6022, etc., • Separate 5000 grades like 5052, 5083, 5005, etc. <p>Many more – inquire with SciAps.</p>	<p>Advanced sorting units cost more money, so is the faster, more advanced sorting worth the extra cost of the device?</p> <p>Somewhat higher level of operator training and aluminum alloy knowledge is preferred but not required.</p> <p>Sometimes operator may have to grind or wipe material since surface dirt often contains silicon (Si).</p> <p>Anodized aluminum requires grinding in order to measure Mg and Si.</p>

Note: SciAps is the only XRF that detects the presence of anodized aluminum and warns operator!

For informative videos, go to <https://bit.ly/2KtX4ZS>



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