

BULLION / COINS QUICKLY IDENTIFY FAKES

There are some simple things we can do first to determine if a Coin, Round, Bar is fake.

Step 1. Set Sigma to Match the Bullion Karat/Percentage of Fineness (if bar is out of brackets = Fake, if close like the Silver Eagle move to next step)

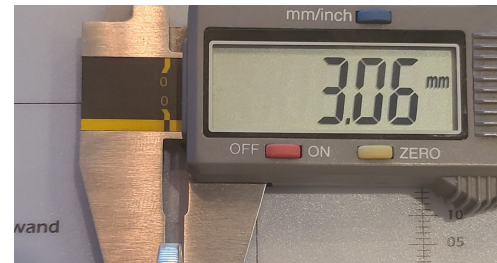


Step 2. (not in package): Check Weight against what it should be (31.1) and actual (31.5g)



United States	
Value	1.00 U.S. dollar (face value)
Mass	31.103 g (1.00 troy oz)
Diameter	40.6 mm (1.598 in)
Thickness	2.98 mm (0.1173 in)
Edge	Reeded
Composition	99.9% Ag

Step 3. (not in package): Check diameter against what it should be (40.6mm) and thickness (against what it is (40.63mm) and thickness (2.98mm) vs actual thickness 3mm). **Is this FAKE or REAL?**



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Explained. This is actually a pretty good American Eagle Fake. It almost passes the SIGMA, almost the weight, and almost the caliper. (1 bar outside is typically not a straight FAIL). It also is close to passing the measurements for specific gravity. The bar being outside of the brackets, along with the other measurements being slightly off, would give this a fail for us on an American Eagle.

Step 4. Hold the coin on your finger, then ding another against it. You should hear a distinct sound. Compare to a real one or another pure silver round. (this fake does not pass it).

Step 5. XRAY, and see how it is reading (remember your XRAY if you have one only goes through a triple plating). So if this coin had more plating, it could have passed the XRAY! (XRF, is typically not really used for bullion).

Step 6. I normally do not recommend ever sanding bullion. In this case for training, we sanded it below and it is copper filled (we knew it would be from the XRAY and also the sigma pass).



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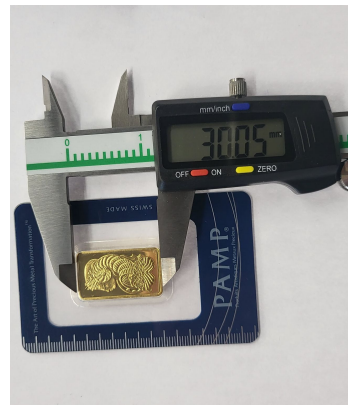
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Step 2. (in package): Check Thickness and Height against what it should be. Thick plastic = bad take it out (17.8mm Wide, 30mm Tall, 5.36mm Thick)



Step 3. (in package): Check Measurements Against. 17.8mmx30mmx5.3mm=
Gold Should Have: 1,610 cubic mm per 1 troy ounce
This Bar Has: 2,830 Cubic MM
This Bar is FAKE!

$$17.8 \times 30 \times 5.3 = 2830.2$$

The reason why, is it is probably copper filled. Copper will give false readings on the SIGMA

A tungsten bar/round/coin will pass the Caliper measurements but not the SIGMA because it has almost the same density as gold, but much different conductivity and resistivity (which the SIGMA uses to test).

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01

Morgan Dollars:

Check the weight: 26.73 Grams. If under 26grams, must be really worn. If under 25.73, it is FAKE

02

Packaging:

Thick packaging is a big no go. When in doubt take it out to the package and weigh, and SIGMA test.



03

Silver:

Copper has similar conductivity but the density is much different so the weight or size will be off.

04

Gold:

Check the weight, and SIGMA on the correct setting. When in doubt caliper.

05

Sigma:

The "BAR" should be directly between the brackets.



06

Sigma:

The Sigma has several settings, make sure you notice 99.9 and 99.99

07

Sigma:

The sigma can even work on 925 silver, and is a great way to help authenticate sterling silverware

08

Sigma Wand:

The wand is calibrated to the device. Be sure not to lose them

Precious Metal Verifier Manuals



Sigma Guides



Results Interpretation

The black cursor box will be between the brackets if the metal is within the expected range.



The black cursor box can read slightly to the left of the brackets if the sample:

- is lightly embossed
- is very cold.
- is too small and/or far away from the sensor

Further checking, research and analysis by another method is recommended.



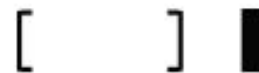
The black cursor box can read slightly to the right of the brackets if the sample:

- is deeply embossed
- is very warm
- is too thin or too small for the chosen sensor (see calibration disk page 8)
- is off the center target on the main unit sensor

Further checking, research, and analysis by other methods is recommended.



The further the black cursor is outside the brackets the more likely it is that the sample is not made from the selected metal. Further checking, research and analysis by another method is recommended.



If a left or right arrow appears, then the metal in the sample is most likely not the metal selected.



BULLION / COIN VALUES

TIPS/TRICKS

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01

<https://www.moneymetals.com>

Find the coin/round/bar and look for the "SELL TO US PRICE". This is the wholesale value



Sell to Us Price: \$1,865.15 each.

02

<https://jmbullion.com/>

Find the coin/round/bar and look for the "SELL TO US PRICE". This is the wholesale value

Sell to Us Price: \$2,041.33 ⓘ

03

1964 and before Dimes, Quarters and Half dollars are 90% silver.

Trick: Facevalue. 10 dimes = \$1 or \$1 Face Value. 5 dimes and 2 quarters = \$1 or \$1 Facevalue.

\$1 Face Value has coins contains .715 troy ounces of Silver or 20.26 Grams

<https://www.coinflation.com/>

04

Most "RARE" coins are not worth much extra unless authenticated by NGC or PSCGS. You can look up the number on their website.

<https://www.ngccoin.com/>
<https://www.pcgs.com/>

GUIDE TO METALS

There are some simple things we can do first to determine if a metals and the differences.

SILVER

Has similar conductivity/resistivity to COPPER but different density.

Density: 10.49 grams/cm³

Conductivity: 61,1

Resistivity: 1,6

Volume:

1 Troy Oz = 2,964.7mm
(length x width x height)



GOLD

Has similar density to TUNGSTEN but different conductivity.

Density: 19.30 grams/cm³

Conductivity: 44,2

Resistivity: 2,3

Volume:

1 Troy Oz = 1,609.7mm
(length x width x height)



COPPER

Has similar conductivity/resistivity to SILVER but much different density.

Density: 8.96 grams/cm³

Conductivity: 58,7

Resistivity: 1,7

Volume:

1 Troy Oz = 3,470.9mm
(length x width x height)



TUNGSTEN

Has similar density to GOLD but much different conductivity.

Density: 19.25 grams/cm³

Conductivity: 8,9

Resistivity: 11,2

Volume:

1 Troy Oz = 1,611mm
(length x width x height)



Metal	Specific Gravity	Volume in MM	Resistivity ρ (ohm m)	Conductivity σ x 10⁷ /Ωm
Aluminum	2.7	11,519.81	2.82×10 ⁻⁸	3.5×10 ⁺⁷
Copper	8.96	3,471.37	1.68x10-8	5.96×10⁺⁷
Gold	19.32	1,609.91	2.44×10⁻⁸	4.10×10⁺⁷
18K Green	15.9	1,956.19		
18K Yellow	15.58	1,996.37		
18K White	14.64	2,124.56		
18K Red	15.18	2,048.98		
14K Green	14.2	2,190.39		
14K Yellow	13.07	2,379.76		
14K White	12.61	2,466.57		
14K Red	13.26	2,345.66		
10K Green	11.03	2,819.90		
10K Yellow	11.57	2,688.29		
10K White	11.07	2,809.71		
10K Red	11.59	2,683.65		
Nickel	8.9	3,494.78		
Palladium	12	2,591.96		
Platinum	21.45	1,450.05		
Rhodium	12.44	2,500.28		
Silver	10.49	2,965.06	1.59×10⁻⁸	6.30×10⁺⁷
Sterling Silver	10.36	3,002.27		
Coin Silver	10.31	3,016.83		
Tin	7.3	4,260.75		
Tungsten	19.25	1,611.00	5.6 x10-8	1.79×10⁺⁷
Zinc	7.13	4,362.34	5.90×10 ⁻⁸	1.69×10 ⁺⁷

- **If you really like to geek out on this stuff, and understand it.**
- **Look up: “DUX+C” for Density, Ultrasound, Xray, Conductivity.**
- **Look up how metals properties, and how they related. Some are very similar and some are different, This is why passing 3 tests is important to verify the metal is authentic as stamped.**