

# ANVILOY® PRODUCTS

## DENSE. DURABLE. DEPENDABLE.

### The ANVILOY® Advantage in Aerospace Counterweights

*For engineers demanding precision mass in compact dimensions.*

In a world obsessed with lighter and faster, dense materials still hold a critical role. ANVILOY® tungsten heavy alloys redefine what's possible when size, balance, and durability matter most. From flight control to impact mitigation, our alloys bring unmatched density and versatility into the aerospace weight engineering frontier.

#### The Challenge of Mass Property Engineering

Design and materials engineers continually push the limits—seeking smaller, lighter, and stronger solutions. But when compact mass is the goal, density becomes king. Enter tungsten: the go-to metal for advanced counterweight solutions.

#### Why Tungsten? Why ANVILOY®?

- Superior Density: Up to 18.9 g/cc — more than twice that of steel.
- Non-toxic & Stable: Unlike depleted uranium, ANVILOY® offers high performance without
- Safety tradeoffs.
- High Rigidity: ~50% stiffer than steel — ideal for vibrational control.
- Machinable & Tough: ~30 HRC hardness; ductility exceeding 35% elongation.
- Custom Shapes & Sizes: From sintered blanks to fully machined parts.

**Think small. Think dense. Think ANVILOY®. When gravity is your tool, we deliver the edge.**

#### GRAVIMETRIC DENSITY COMPARISON

Element / Alloy	Density (g/cc)
7075 Aluminum	2.81
Ti-6Al-4V	4.43
Most Steels	~7.9
Cu	8.96
Lead [0-10 wt.% Sb]	11.35-10.59
Standard ANVILOY®	17.0-18.5
DU	18.9-19.1
W, Au	19.3

For structures made of Al, Ti, or Fe alloys, “hard” lead is generally considered the lowest practical density for counterweights. For elements having 50% greater density than Pb (17 g/cc), the choices are very limited:

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	Se	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac															

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U											

# PURPOSE-BUILT FOR THE HEAVIEST DEMANDS

*From counterweights to kinetic energy penetrators  
we engineer mass with mission-critical precision*

## Application Areas for ANVILOY® WHAs

- Counterweights for CG (center of gravity) optimization
- Gyroscope rotors & vibration-damping weights
- Hypervelocity impact shielding
- Frontal ballasts for munitions
- Acoustic and vibrational tuning devices
- Aerospace bucking bars
- Impactor masses for kinetic delivery

## Manufacturing & Customization

- Manufactured in a Florida-based U.S. AS9100D-certified facility
- Custom alloying options available
- Delivered as sintered blanks, near-net shapes, or precision-machined parts
- Engineering consultation included for integration into your systems

*Wherever aerospace mass balance matters —  
ANVILOY® is the answer.*



Americas

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