

# Types of Aerospace Grade Metals

## Aluminum



01

Aluminum is one of the most common metals in the world, and aerospace companies have used it to construct airplanes since the industry began. Up to 80% of the materials used to construct planes are aluminum alloys. Aluminum is a preferred material because it is extremely lightweight, allowing for better fuel efficiency, and its strength-to-weight ratio outperforms other metals consistently. This versatile metal is corrosion-resistant and malleable making it suitable for the construction of aerospace parts like wings, fuselages, and other complex parts.

## Nickel



02

Nickel alloys are used in aerospace design because they're extremely tough and resistant to high temperatures and corrosion. Nickel alloys can withstand temperatures as high as 1600°F/870°C while maintaining their physical integrity, making them ideal for constructing turbine blades and other jet engine parts. Due to its durability, nickel is used to create aerospace products that are able to withstand constant wear and exposure to extreme elements like high temperatures for extended periods of time. Oftentimes, this includes rocket engines and pressure and exhaust valves.

## Steel



03

Steel is an essential material in the aerospace industry. It is extremely tough and resistant to high temperatures, corrosion, and constant wear while still being lightweight. Aerospace-grade steel is often used to produce landing gear because of its ability to withstand high stress and large impacts. It is a cost-effective choice for many aircraft parts that require high-quality and long-lasting performance.

Some components commonly made of steel include:



Engines



Exhaust Ducts



Landing Gear



Fuel Tanks

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