

3003-h14 vs 5052-h32 Aluminum Plate

In aluminum sheet processing, various alloying elements are added to impart specific mechanical properties to the metal. Aluminum alloys are generally classified into **seven series**. For example, the 2024 alloy belongs to the 2xxx series, 3003 aluminum is part of the 3xxx series, and 5052 H32 aluminum sheet falls under the 5xxx series.

1000 Series

The 1000 series consists of **essentially pure aluminum**, such as 1060, with aluminum content above 99%. These alloys have excellent electrical conductivity and are cost-effective, making them commonly used in **transformers and packaging**.

2000 Series

Aluminum sheets in the 2000 series are **copper-based alloys**, with copper content ranging from 2% to 5% or higher depending on the application. These alloys have significantly higher hardness than other grades and are widely used in **aerospace applications**, earning them the nickname "aviation aluminum." Due to limited civilian use, fewer manufacturers produce 2000 series aluminum, and prices are relatively high. GNEE Aluminum produces 2xxx series alloys with high quality.

3003 H14 vs 5052 H32

The **3000 series** is manganese-based, with manganese content typically between 2 and 5%. A common example is the 3003 H14 aluminum sheet, known for its **excellent anti-rust performance** and suitability for humid environments like **air conditioners and refrigerators**. Compared to 5xxx alloys, 3003 has a **price advantage**, making it cost-effective for general applications.

The **5052 H32 aluminum sheet** is another popular alloy with a **lightweight specific gravity of 2.68**, making it lighter than many other aluminum grades of the same size. Its **tensile strength is higher**, providing superior resistance to deformation. With an elongation rate of **15–30%**, 5052 aluminum performs well in **stamping and bending operations**.

The main alloying element in 5052 is **magnesium**, which contributes to **excellent corrosion and rust resistance**, surpassing the capabilities of the 3003 series. This makes 5052 ideal for applications such as **aircraft fuel tanks, precision electronic components, hardware building materials, and security doors**.

7000 Series

The 7000 series stands out for its **hardness**, with performance comparable to 2xxx series alloys.

8000 Series

The 8000 series is primarily represented by **8011 aluminum foil**, commonly used in **packaging applications**.

GNEE Aluminum offers a wide range of **1xxx–8xxx series aluminum alloys** in various forms, including **sheets, coils, and foil**. For inquiries about aluminum 3003 pricing, you are welcome to leave a message below.