



The Advantages of Owning A Timppte Aluminum Trailer: Lightweight, Durable, Smart

In the world of transportation, it's important to choose the right trailer for the task at hand. For years there's been a debate between aluminum and steel trailers, and which material provides the best performance. When deciding between an aluminum or steel trailer, there are quite a few things to take into consideration. Let's take a moment to see what makes aluminum trailers stand out.

Metallurgy

It's important to understand when we compare steel and aluminum trailers, we are comparing "Aluminum Alloy" against "Steel Alloy" trailers. An alloy is a metal made by combining two or more metallic elements to give greater strength or resistance to corrosion. We'll look at Timppte's aluminum alloy and see how it matches up against steel alloys of other manufacturers, but before we get started, let's define a few key terms.

- **Corrosion:** Metal or other materials damaged or even destroyed by slow chemical action.
- **Density:** The Mass of a substance per unit of volume.
- **Strength-to-Weight Ratio:** Measure of the strength of an object divided by its mass or weight.

Material	Aluminum 6061-T6	Steel HSLA 50	Steel HSLA 60	Steel HSLA 80
Density (lb/in ³)	0.098	0.284	0.280	0.282
Strength-to-Weight Ratio (in.)	409,081	176,056	214,286	283,688
Corrosion	Resistant	Prone	Prone	Prone

Key Takeaways

Density

Aluminum is 1/3 the density of steel making it a lighter material.



Strength-to-Weight Ratio

Aluminum's strength to weight ratio is considerably higher than steel.



Corrosion

Aluminum is highly resistant to rust and corrosion. Even after being exposed to harsh weather conditions.

Lightweight Material

Aluminum is a lightweight and durable material. At roughly 1/3 the density of steel, aluminum's low profile can provide benefits that its steel counterparts cannot.

Increased Fuel Economy

- An extra 100 lbs. in your vehicle could reduce your MPG by up to 2%. (U.S. Dept. Of Energy)
- Here's an example, our Ramped 1018 Flat Deck Trailer can weigh up to 600 lbs. less than the competition, so you could see the following fuel savings:

Fuel Economy Benefit:  6-12%

Fuel Cost Savings (Per gallon):  \$0.24 - \$0.42

Easier on You & Your Vehicle

- Experience less toll on the towing vehicle.
 - Less engine strain
 - Improved tire longevity
- It's easier to maneuver a trailer that weighs less, whether it's loaded or unloaded.

Higher Strength-to-Weight Ratio

- Allows you to maximize your loads and carry a higher load capacity than steel trailers with the same GVWR.

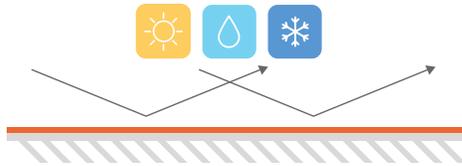
Durability

Part of what makes aluminum so durable is its resistance to corrosion. Durability plays an important role in aluminum trailers holding their value over time. Aluminum trailers can stay looking and performing like new.

Resistance to Corrosion



- Aluminum alloy extrusions generally do not rust because aluminum forms a protective oxide layer when exposed to air, preventing corrosion.
 - Even after being exposed to harsh weather conditions.
 - Avoid costly repairs from rust related issues.



Minimal Maintenance & Repairs



- Only routine maintenance is required.
- Less likely to sustain costly damage over time.
- Easily restore the exterior of your trailer with an acid wash to keep that shiny new look.

Higher Resale Value



- The durability of an aluminum trailer helps to preserve its value over time. It's simple, a used trailer in good condition is worth more than one that is damaged or starting to rust.

Leveraging Our History - Superior Construction

Since 1884, Timppte has engineered and built products to keep people, and industry, moving forward. As a pioneer in our field, Timppte trailers have played a key role in the evolution of American transportation. Today, we're the #1 selling dry bulk commodity trailer in North America. Our semi-trailers are designed to withstand some of the toughest jobs for any trailer. For example, Timppte's Roughneck Trailers are optimizing the hauling of frac sand. These trailers can be loaded with up to 27 tons of crushed stone and frac sand. While our well-known Super Hopper Trailers can accommodate a payload of up to 85,000 lbs. Through years of innovation and advancements in engineering we've designed our trailers to perform efficiently and effectively while using aluminum as our primary material. Unlike most trailer manufacturers, our trailers feature no structural welds. Structural welds can weaken the integrity by up to 40%. Instead, we use mechanically fastened joints to assemble all of our trailers. By leveraging our history with semi-trailers, we're constructing our equipment trailers with the same methods.

Benefits of Mechanically Fastened Joints

Trailer Integrity

By using mechanically fastened joints instead of structural welds the trailer integrity is never weakened.

Avoid Fatigue Cracking and Failure

Structural welds are more prone to cracking and fatigue than mechanical fasteners. If a weld flexes the failure can be catastrophic.

Remove, Replace, or Repair

Fastened joints can be easily inspected, adjusted, or replaced when needed. Welds are more difficult and expensive to repair.

Save Money Long-term

It's no secret that the initial cost for an aluminum trailer is often higher than steel. However, being lightweight and durable gives aluminum trailers additional benefits over steel, and a lot of these benefits come with hidden cost savings.

Did you notice this symbol anywhere?

This symbol represents the benefits of aluminum that save you money over time. Let's recap the hidden cost savings:

- Increased Fuel Economy
- Higher Resale Value
- Easier on Your Vehicle
- Fewer Repairs
- Resistance to Corrosion
- Minimal Maintenance

If you're looking for a new trailer, invest in one that pays you back.

Timppte's All-Aluminum

Being lightweight, durable, and a smart long-term investment makes aluminum trailers a popular choice for anyone in the market for a new trailer.

In 2024, Timppte celebrates our 140th year in business. We've backed our trailers with superior construction methods to provide you with peace of mind regarding your trailer's durability. You will not find a better designed and constructed aluminum trailer in North America.

See For Yourself

Don't just take our word for it. See for yourself how Timppte trailers are changing the industry. Reach out to your Timppte representative and request a trailer walk-around today!