

# Vehicle Scales



## **Steel Deck Truck Scales**

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Exceptional Strength

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Proven Performance

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Unequaled Reliability

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**Quality Starts from the Ground Up**  
for Accuracy and Reliability

**METTLER TOLEDO**

# Durable Orthotropic Design Outperforms Other Weighbridges

- Orthotropic design provides exceptional strength and reliability
- Extensive testing ensures proven weighing performance
- Advanced construction techniques deliver the highest-quality products

The METTLER TOLEDO family of steel deck truck scales features exceptionally strong weighbridges to match your specific application (size of vehicle, gross weight, trucks per day, etc.).

All of our steel deck designs are supported by orthotropic ribs with fully automated, continuous welds. Every rib is pressure tested to ensure an airtight seal that eliminates the potential for rusting

from the inside. In fact, in 20 years our customers have never experienced a rib failure from corrosion. Other scale designs use intermittent welds to secure their top and bottom plates to structural I-beams, allowing moisture to sit between the beams and plates, rusting both away.

In most competitive designs, intermittent welds are located in high-stress areas. The constant

bending under heavy loads and the small amount of weld material can cause the welds to crack, resulting in premature deck failure. Using continuous welds located away from high-stress areas eliminates one of the most common causes of truck scale failures. Our orthotropic design provides a truck scale that will give you years of accurate, trouble-free weighing even in the harshest environments and toughest applications.

Ready to weigh: steel deck scales can be used immediately and are easy to expand for future growth.

Choose economical analog load cells or superior POWERCELL PDX load cells.

No suspension links or check rods that can wear out and require constant maintenance.

Flexible design: installed above ground or in a pit; available in any scale length.

Continuous welds: ensures every rib is airtight to eliminate internal corrosion.

Strong deck: formed rib eliminates welds in high-stress areas.

Orthotropic ribs: distribute loads to reduce stress on individual members.

### Orthotropic Design

When a highway bridge fails, the results can be catastrophic. Many bridge designers are now turning to orthotropic ribs as a better alternative to conventional I-beam structures because of the proven strength, reliability, and longevity. They know that the strength and durability of a weighbridge has more to do with how the steel is used than with how much steel is used. Don't let a failed weighbridge be catastrophic for your business.



Our scales have the same orthotropic design used for the Golden Gate Bridge and many other high-traffic roadway bridges.

### Quality Construction

Our world-class manufacturing facility fabricates the highest quality components at every stage of the operation:

- Precision cutting and forming equipment produces high-strength steel components.
  - Automated welding creates strong, consistent welds.
  - Precise tolerances ensure accurate and repeatable operations.
- The result is the same high quality for every scale, every time.



Modules are robotically welded to meet the highest quality standards.

### Durable Scale Finish

Three-step finishing process for the steel framework:

- Abrasive blast clean all surfaces to prepare them for painting.
- Coat surfaces with a custom, two-part epoxy finish designed specifically for vehicle scales.
- Force cure the finish to create a consistent, protective coating.

The end result is a durable finish that protects against the corrosion and contaminants that can shorten the life of a scale.



Metal surfaces are coated with a two-part epoxy finish to protect against corrosion.

**Many manufacturers talk about their finite-element analysis and low deck-deflection ratios to imply that their designs will last. But real-life testing is needed to prove the strength and longevity of a weighbridge design. Our product development process is the most comprehensive in the industry. No other manufacturer designs and tests truck scales this thoroughly.**

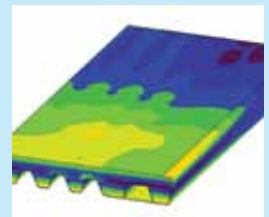
### Design

We use a three-dimensional computer-aided design (CAD) system to ensure that our truck scales meet the most rigorous design standards. Throughout more than 20 years of CAD modeling, we have refined our designs to offer you the best truck scales available. Our engineers continue to use innovative ideas to build on the success of our proven designs.



### Analysis

We use finite-element analysis (FEA) on each design to identify areas of high and low stress. This virtual testing shows how a truck scale design should perform under various loading conditions. By analyzing all areas of the weighbridge, we get immediate feedback that allows us to make improvements before building a full-size prototype.



### Testing

METTLER TOLEDO is the only manufacturer that goes beyond theoretical design and analysis to test actual scale modules. Our unique Module Masher test stand applies 20 years of truck traffic in 6 to 8 weeks, simulating millions of weighing cycles at full design load. It gives us valuable performance data that other manufacturers must wait years to obtain.



# 100% Protection for Your Truck Scale

Your truck scale is one of the most important investments at your facility. Regardless of how you use it, a truck scale should be accurate and reliable while offering you the lowest total cost of ownership. That is why METTLER TOLEDO truck scales are designed to protect you from unforeseen problems and unexpected downtime that can contribute to large, unplanned expenses.

Let METTLER TOLEDO help you eliminate these costs. A properly maintained POWERCELL® load cell system is built for 100% protection from the forces that are the leading causes of scale failure. POWERCELL load cells have stood up to the most extreme forces of nature in truck and rail scales for more than 20 years. Ask about how METTLER TOLEDO POWERCELL technology and weighbridge designs can help with:

- Scale Accuracy
- Lightning Protection
- EMI/RFI
- Load Cell Failures
- Cable and Junction Box Failures
- Corrosion
- Extreme Temperatures
- Improved Service



POWERCELL PDX Load Cell

Upgrade your scale to POWERCELL® PDX® technology and experience the ultimate in reliability. POWERCELL PDX load cells eliminate the need for maintenance-prone junction boxes, totalizers, and sectional controllers.

As the global leader in weighing, we offer a full line of truck scales and accessories to meet your weighing needs. Only one line of truck scales is accurate enough, reliable enough, and durable enough to carry the METTLER TOLEDO name.

[www.mt.com/vehicle](http://www.mt.com/vehicle)

For more information

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