

# LOAD REQUIREMENTS—IDENTIFY THEM TO DESIGN— UNDERSTAND THEM TO WIN

At first glance, using the TIA-5053 standard to determine the right antenna mount and maximum load can seem a bit overwhelming. TIA-5053 defines a standardized process for rating and classifying various antenna mounts (among other things) to determine the proper mounting system and maximum load capacity for a specific application.

**Sound complicated? Once you break it down, it's really not.**

The key is understanding the TIA-5053 Mount (M) ratings and how they are used to evaluate and classify different mounting systems—based on performance, safety, and compatibility—in specific applications. The M-ratings are critical; they consider factors like design, installation, and load to help ensure that the selected mounts will meet the demands of the specific application and align with industry best practices.

Andrew has created this simple guide to help industry professionals, of all experience levels, better understand the TIA-5053 M-ratings system and how to use it to ensure success every time.

**Once you know what you're looking at, it all makes perfect sense.**



## LOADING MATTERS. HERE'S WHY.

**Load requirements determine what mount is required.** When you know your load requirement, you have what you need to design successfully. Load dictates which mounts meet your current and future needs. With this information, you can specify a mount that meets your needs, and ensures your mount will be structurally sound under all anticipated environmental conditions.

	Vertical loads	Horizontal loads
<p>Types of load</p>	<p><b>Dead load:</b> Permanent or stationary loads which are transferred to the structure throughout its life span. Dead load is primarily due to self weight of structural members, permanent fixed equipment, and the weight of different materials.</p> <p><b>Live Load:</b> Movable or moving loads with out any acceleration or impact. These loads are assumed to be produced by the intended use of the structure.</p>	<p><b>Wind load, ice, and earthquakes</b></p>

**Engineers evaluate structural loads based upon published technical standards such as TIA-5053.**

## TIA-5053 MOUNTING SYSTEM CLASSIFICATION

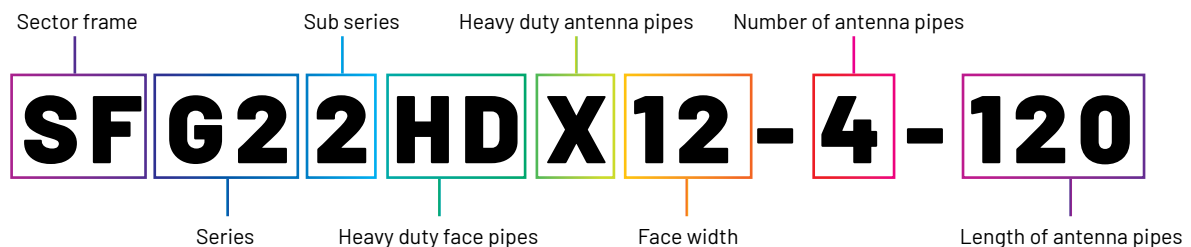
Published by the Telecommunications Industry Association (TIA) the developer of global industry standards

What is TIA-5053?	Why Do We Need TIA-5053?	Are mount manufacturers required to design and classify mounts to TIA-5053?
<p>A process for classifying existing and new mounting systems for owners to determine the maximum loads that can be applied to existing mounting systems, and the proper mounting systems required for proposed antenna configurations</p>	<p>TIA-5053 is a standard created to address multiple issues regarding the design of antenna mounts and their use in the field.</p> <p>Issues like:</p> <ul style="list-style-type: none"> <li>• Design differences among manufacturers</li> <li>• Idealized designs vs. real-world installation practices</li> <li>• Limited or obscure rating documentation on mounts</li> </ul>	<p>No. TIA-5053 is a voluntary standard. Andrew mounts are identified as classified in accordance with this standard. Therefore, as required by the standard, the entirety of the standard is incorporated into our mount designs.</p>

## TIA-5053 MOUNTING SYSTEM CLASSIFICATION NOMENCLATURE

Classification number	Unit description
<b>M2800R(2400)-4[6]</b>	The beginning of all mount identifications
<b>M2800R(2400)-4[6]</b>	The maximum factored horizontal force (F) considered for design under extreme wind condition at each mounting pipe location
<b>M2800R(2400)-4[6]</b>	Classification category
<b>M2800R(2400)-4[6]</b>	The maximum factored vertical force (fzi) considered for design under extreme ice condition at each mounting pipe location
<b>M2800R(2400)-4[6]</b>	The number of mounting pipe locations that the mount is designed for—in this case—4
<b>M2800R(2400)-4[6]</b>	Offset distance of the antenna pipe centerline above the midpoint of a sector frame, or the deck/lower face pipe of a monopole platform. The example shows 6" offset.

## UNDERSTANDING ANDREW MOUNT PART NUMBERS



**ANDREW.COM** Visit our website or contact your local ANDREW representative for more information.

©2025 Amphenol Corporation. All rights reserved. Amphenol and ANDREW are registered trademarks of Amphenol and/or its affiliates in the U.S. and other countries. All product names, trademarks and registered trademarks are property of their respective owners. CO-119647-EN (01/25)