

Why Material Matters

Material Choice is Critical for Certain Slip Ring Applications

Overview

The technical evolution that is underway across the aerospace, industrial, military, and energy-related industries is staggering, as companies use technology as a competitive advantage to deliver products and services to their customers and grow their business. Many of the uses for delivering key data, information and services to customers require the use of a type of electromechanical devices, known as slip-rings, that allow the transmission of power and electrical signals from a stationary device to a rotating structure. These technologies require unrestrained, intermittent and even continuous rotation while still transmitting power and data across the device, and the functionality of slip rings provides the necessary ability and throughput.

Many of these technologies and applications in these core industries require the use of slip rings in mission-critical systems, such as radar, drilling equipment, or military weaponry. Often, the design and development of these systems ensures that the slip rings are inaccessible after installation, and so the longevity and usability of these systems requires that slip rings be constructed in the highest quality manner to ensure non-compromised signal integrity of important circuitry. This becomes even more critical as many of these systems, regardless of industry, are deployed in corrosive working environments, subject to extreme use, weather and environmental conditions. Failure of these mission-critical systems can be based on the underlying slip rings, and the materials used to manufacture the slip rings maintain much of that burden. While silver is the preferred material, often the use of lower grade material in a slip ring within a mission-critical system increases the risk of failure, and can significantly raise the operational costs of that system.

In order to effectively meet these demands, companies across any industry that utilize slip rings in the manufacture of their systems have a core set of needs that have to be addressed in order to effectively compete in the market.

Initially, quality is central to the development of any system or technology that utilizes slip rings. Quality issues arise when manufacturers can't deliver the necessary wear characteristics in slip rings to meet the mission critical needs of the customer, and settle on using cheaper materials that deliver reduced durability. The manufacturing of slip rings must provide the highest properties for wear, especially for mission-critical systems, and must be able to support tight and sometimes non-standard tolerances. These quality properties must be delivered in successful silver slip ring components.

Next, companies must have immediate and reliable delivery of slip ring components. Often, slip rings are utilized in systems that have very small production volumes. Suppliers must be able to meet these production needs, even when companies don't have full visibility into future order

needs. The ability to support low-volume and high-mix manufacturing requirements is critical for any organization to effectively develop and deliver systems that utilize slip rings.

Finally, companies need suppliers that provide lower and more predictable costs. The ability to maintain, and even increase, competitiveness in the market requires that suppliers provide slip ring technology in the most efficient, cost-effective and predictable manner, reducing lead times and product waste. High quality, silver slip ring manufacturing can only be delivered at a low cost if the supplier has precious metals market expertise, and knows how to efficiently source and manufacture with silver. These combined needs can dramatically allow companies to provide greater stability in delivering highest quality and most cost effective products to their customers.

The essential ability to meet these demands and more efficiently compete can now be met with market leading capabilities from A.T. Wall that deliver the highest quality and lowest cost silver and precious metal slip rings available. Our 100 years of building expertise in the precious metals market has allowed us to develop the know-how to efficiently source and manufacture precious metals with low cost and highest quality. Expertise from small quantity raw materials to large batch precious metals allows A.T. Wall to deliver the right material at the lowest price to meet any customer need.

Additionally, A.T. Wall delivers the highest array of tooling technologies to support any business need for the design and manufacturing of silver slip rings. Your business needs suppliers who are nimble and agile to support your dynamic requirements. We have the greatest breadth and depth of tooling technologies available, developed over decades, to help you quickly, seamlessly and cost-effectively deliver highest quality systems. This flexibility allows you to efficiently serve your customers and compete across your market.

Lastly, our highly customizable processes allow A.T. Wall to deliver exacting and scalable solutions to every one of our customers. The prototyping, design and manufacturing processes are fully configurable, which enables us to continually meet the dynamic, changing requirements of your business.

A.T. Wall offers a truly unique platform to support your business and effectively deliver the highest quality products to your market. The benefits of this platform begin by delivering reduced lead times across the complete manufacturing cycle. By enabling high volume processes in small volume markets, by allowing our customers to “micro-purchase” any size and quantity of precious metal slip rings, and by delivering on-time and on-budget every time, you introduce stability and quality into your manufacturing processes that rely on slip rings. The peace of mind that comes with this allows you to more effectively execute your own business model and deliver value to your customers.

Through our expertise in sourcing precious metals and implementing lean processes, we are able to manufacture the highest quality slip rings at low cost. This ability directly translates to significant savings for every AT Wall customer, and these lower and more predictable costs not

only improve our customer's bottom line, but also allow them to deliver higher quality and more stable products to each of their customers.

Systems that rely on slip rings demand the highest quality and most flexible manufacturing processes, especially those technologies that transmit and support mission-critical data needs. By manufacturing these systems and technologies with the highest quality silver slip rings, which are delivered through the most cost-effective and lean processes, customers improve their own ability to deliver the best quality products to market. Our capabilities continue to be instrumental in enabling our customers to improve customer satisfaction, close on more business opportunities, and increase their revenue.

About A.T. Wall Company

Founded in 1886, ATW Companies is a world leader in the development, prototyping and manufacturing of seamless cold drawn specialty tubing and metal stamping capabilities. A.T. Wall, an ATW Company, provides a wide range of state-of-the-art fabrication technologies to meet the exacting requirements for the most critical applications across the aerospace, defense, electronics, firearms, and telecommunications industries. ATW Companies has established and maintains ISO certification. For more information, visit www.atwcompanies.com , or call at 401-244-1002.