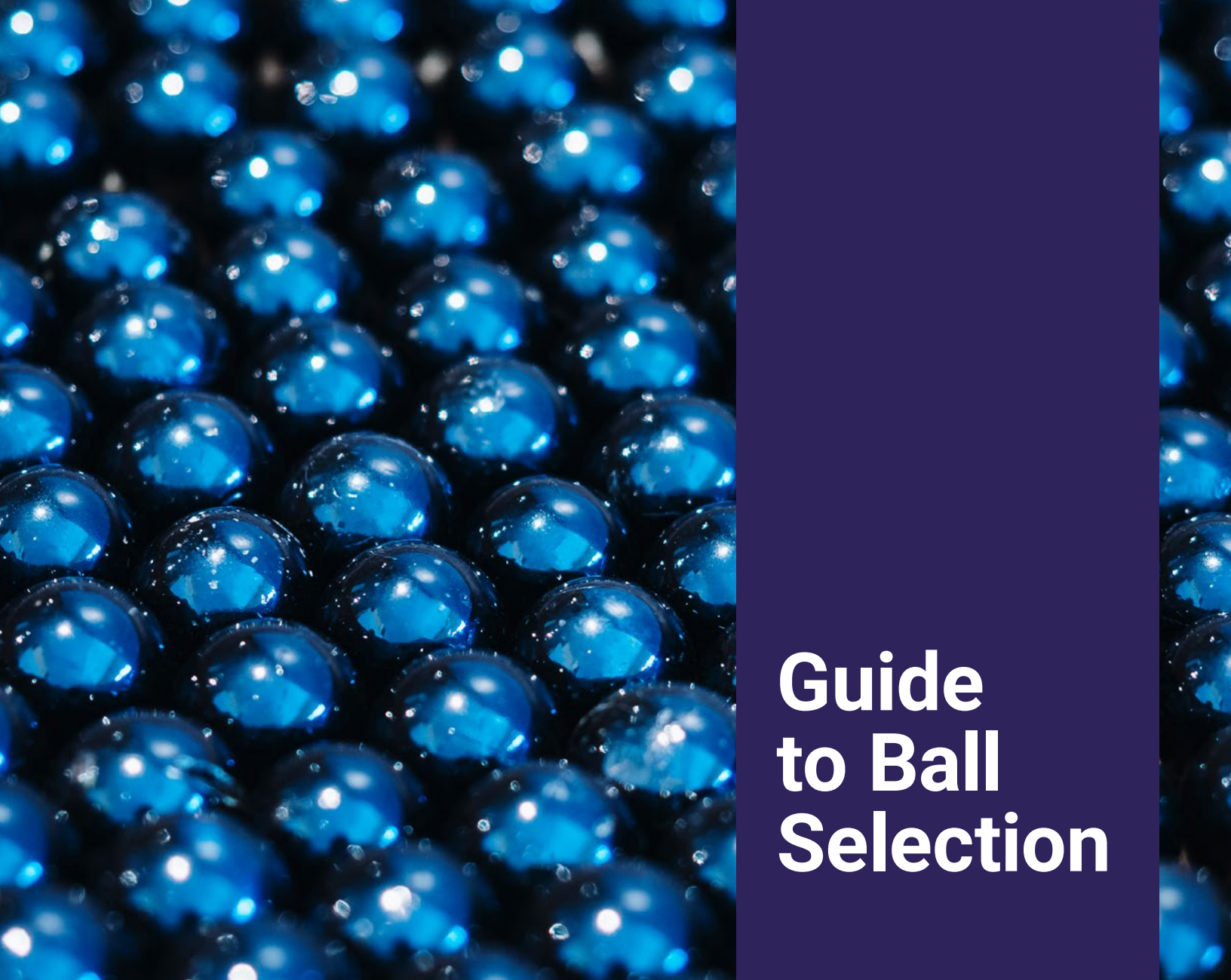




GUIDE TO INDUSTRIAL BALLS



Guide to Ball Selection

Industrial balls are used in a wide variety of everyday products, including **transfer units, bearings, paint, jewelry, toys, and weapons**. Within these applications, they serve a multitude of purposes, such as **mixing, friction reduction, polishing, grinding, and more**.

When selecting the best industrial ball for a specific application, there are numerous variables to consider, including material, size, and surface finish. In this eBook, we will provide an overview of these variables to help you make the best selection for your needs.

Products

Industrial balls are characterized by their **hardness, mechanical properties, good surface finishing, and resistance to wear, corrosion, and high temperatures.**

Because of this, they are in everything from high-speed bearings and pumps in corrosive environments to high-temperature applications and aerospace and military components.

Material Options

Industrial balls are manufactured using a wide variety of materials, including steel, other metals, plastic, ceramic, and glass. Each of these materials offers its own unique mechanical properties. When choosing the best material option for your industrial balls, it's important to consider factors such as hardness and strength as well as resistance to certain elements.

Mechanical Properties

The mechanical properties of industrial balls are largely determined by the chosen material, so it's important to choose the best material for your application. For example, tool machine applications will require durable balls made from materials such as carbide and tool steel, which offer high levels of hardness. It's also important to consider your load and speed requirements, i.e. ceramic balls are ideal for high-speed applications such as bearings.

Common industrial ball materials offer the following properties:



- **Stainless steel.** Stainless steel offers good resistance to staining and corrosion, making it a common choice for balls used in medical devices, cutlery, and building applications. These are available in both hardened and non-hardened variations.



- **Bearing steel.** Bearing steel offers great dimensional stability, surface finishing, hardness, and wear resistance. This makes it ideal for balls used in valves, pumps, conveyor belts, and automobile components.



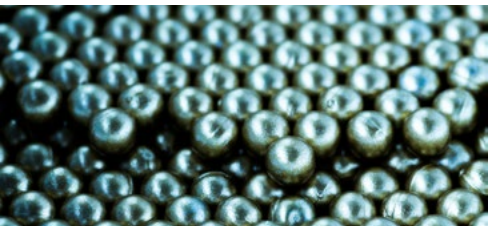
- **Carbon steel.** The durability and low cost of carbon steel balls make them a great choice for sliding, welding applications, furniture items, and more.



- **Tool steel.** Tool steel balls are hard, abrasion resistant, and can preserve their shape at high temperatures. Common uses include tool fabrication and bearing components in high-temperature applications.



- **Other metal alloys.** In addition to steel, precision industrial balls can be constructed from metal alloys such as aluminum, brass, copper, and bronze. Aluminum offers excellent hard-wearing characteristics, corrosion resistance, and strength. Brass, copper, and bronze provide good durability, workability, and corrosion resistance.



- **Plastic balls.** Plastic industrial balls provide high durability, excellent corrosion resistance, low density, and resistance to high temperatures and abrasion. We work with a variety of quality plastic feedstocks, including ABS, PEEK, acrylic, PVC, polypropylene, HDPE, LDPE, and many more.



- **Ceramic balls.** Ceramic balls are resistant to wear and corrosion and require little lubrication to operate efficiently and smoothly. They can also withstand exposure to high-temperature, alkaline, and acidic conditions. Common applications include special bearings, water treatment systems, and pumps.



- **Glass balls.** Glass balls provide electrical insulating properties and corrosion resistance. They also come in transparent varieties for optical applications. Other uses include treatment bearings, gauges, pumps, and medical devices.

Surface Finishing

Surface finishing is largely a cosmetic feature. This applies to industrial balls used in cosmetics, home decor, toys, and the interior of vehicles. However, surface finishing can also have a functional purpose. For example, a smooth finish can be advantageous for the needs of lubrication or motion, such as automotive parts, transfer units, or bearing balls.



Sizes

The size of industrial balls is a critical factor to consider. In many applications, balls need to fit perfectly for proper operation. Accurate sizing is especially critical for bearing balls and valve balls. When considering size, make sure to choose the proper diameter and sphericity for your application to ensure optimal performance.

Density

The material density should be taken into consideration when balls are selected for a particular application.



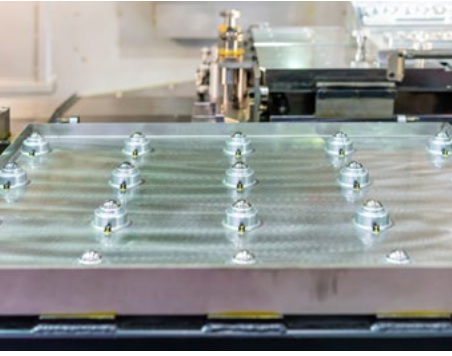
Use of Industrial Balls

Industrial balls have a variety of uses, including:

Bearing Balls

Bearing balls are often used as rolling mechanisms within rotary motion devices within bearings. Bearing balls help reduce rotational friction while also supporting radial and axial loads. Bearing balls are constructed from a wide range of materials, including aluminum, brass, ceramic, glass, plastic, and a variety of steels.

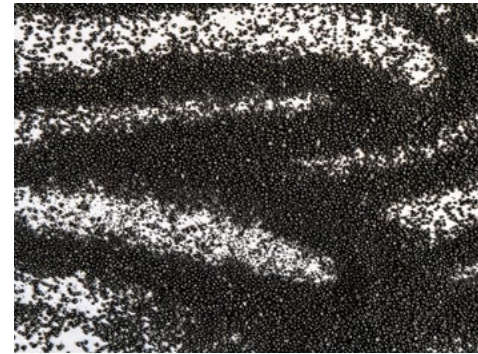
Ball Transfer Units



Ball transfer units are used in a multitude of industries. They allow for a quick and simple omnidirectional solution, making them ubiquitous in manufacturing. Ball transfer units are used to connect different conveyor belts or machines, allowing simple movement of goods during the production phase. The use of ball transfer units extends to loading docks, assembly lines, and conveyor systems. Ball transfer units are also widely found in air cargo handling and several other industries that require the movement of goods.

Grinding and Polishing Media

Grinding media are objects used to reduce particle size and refine media for industries such as mining, paint and ink, food, cosmetics, pharmaceutical, and automotive. Balls or other shapes are widely used as grinding or polishing media, and they come in a wide variety of materials and sizes to suit the intended application. Grinding media beads or balls are capable of purifying, dispersing, crushing, and mixing variable materials and are commonly made from ceramic, glass, alumina, steel, and more. Polishing media, also known as burnishing media, has evolved in a range of finishings and shapes, so getting the right type is critical.



Consumer Products

The average home is full of industrial balls in consumer products. While the balls themselves may be hidden beneath the surface, they can be found throughout the household. Common examples include toys, pumps for cleaning products, inside soap dispensers, roll-on moisturizers, pens, locks, sports equipment, and more.

Military and Defense Parts

Industrial balls can be found throughout the military and defense industry. In many cases, they serve the same purpose as they would in civilian applications. This includes ball transfer units, automotive applications, and bearings. Of course, there are also applications that are more unique to the defense industry. Examples of this include firearms, bullets, and specific weapons.





Selecting a Ball Supplier

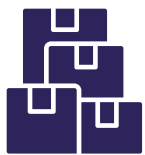
When selecting an industrial ball supplier, we recommend evaluating the following criteria:



Customer Service: When you select an industrial ball supplier, there is a reasonable chance that you will be working with them for years to come. Before making such a commitment, it is worth verifying that they have high-quality customer service.



Variety: Industrial balls come in all sizes, materials, hardness, and surface finishings. When selecting an industrial ball supplier, they should be able to provide a variety of solutions for specific applications.



Inventory Stock: Most industrial balls are sold in bulk, given their wide usage in consumer products and industrial applications. A good vendor should keep large inventories in stock, ready to ship on short notice.



Short Lead Times: As industrial balls are often a component within a larger product, they need to be sourced quickly to avoid any slowdowns. Short lead times help ensure that the entire production process runs smoothly.



Customization Variety: While most balls are bought as standard items, they are also needed for OEM applications such as custom equipment or repairs. In these scenarios, it is worth finding a ball vendor that can provide custom solutions for your business.

Work with STR industries

At STR Industries, we provide superior industrial balls at competitive prices. With a commitment to customer service and 50 years of experience, we can provide you with customized products to fit your particular needs. Constructed from quality steel, glass, plastic, and ceramic materials, our product(s) can be used for a variety of applications, including decor, grinding media, toys, jewelry, ball transfer units, and much more.

We offer a huge range of products and maintain millions of SKUs in stock for fast turnaround times.



For more information about our industrial ball capabilities, or for help determining the best ball for your needs, **contact STR Industries** today.

About Us

Welcome to STR Industries where you will find high quality steel ball products and services at competitive prices. We are TS 16949, which is the auto industry standard, and higher than ISO 9001 certified. STR Industries is committed to customer service with real hands-on experience. No job is too small or too big. Product is shipped only after 100% inspection and all deliveries are on time. Long term relationships are our goal.

STR and its partners have more than 50 years' experience in steel ball production and can customize products to meet customer needs. Each year more than 500 million steel balls are produced and sold worldwide. While STR always stays on the cutting-edge of technology, all processes and policies are designed for maximum quality.

STR also manufactures balls made of glass, plastic, and ceramic for use in everything from decor to grinding and burnishing media for metal polishing and mass finishing.

Locations Worldwide

STRindustries.com



"We've Got Your Balls"

Contact Us