

Manufacturers & Stockists of Nickel Alloy, Titanium Alloys, Special Metals & Stainless Steel Products

WASHERS

Jade Special Metals offers a comprehensive range of **metal washers** designed for **load distribution, vibration resistance, and sealing applications**. These washers are manufactured to meet **ASTM, ASME, DIN, ISO, and PN standards**, ensuring **precision engineering** and **high durability**. Available in **ferrous grades, nickel alloys** (such as **Inconel, Hastelloy, and Titanium**), and **copper alloys**, our washers are suitable for **industrial, automotive, and construction applications**. Highlighting **flat washers, lock washers, spring washers, wave washers, and Nord Lock washers**, we provide **custom solutions** for specific needs, ensuring reliability and performance.



SPECIFICATIONS

- **Washer Type:** Flat Washer, Plain Washer, Lock Washer, Spring Washer, Nord Lock Washer, Fender Washer, Belleville Washers, Dome Washer, Tab Washer, D Shape Washer, C Shape Washer.
- **Forming:** Punched, Machined
- **Metric Size:** M2 to M100
- **Inch Size:** 1/8" to 4"
- **Standards:** ASTM, ASME, BS, ISO, DIN, DIN-EN, UNI
- **Heat Treatments:** Annealing, Stress Relieving, Case Hardening, Quenching & Tempering
- **Surface Coatings:** Xylan, Xylar, PTFE, Zinc Plating, Phosphating, Galvanizing, Hot Dip Galvanizing (HDG), Nickel Plating, Zn-Ni Plating, Chrome Plating, Cadmium Plating, Zinc Flake Coating

FLAT WASHER

Flat Washers by **Jade Special Metals** are thin, circular discs with a central hole, designed to distribute load, prevent surface damage, and reduce vibration in fastening applications. Made from **ferrous metals, stainless steel, nickel alloys** (Titanium, Inconel, Hastelloy), **copper alloys**, and **cupro-nickel alloys**, they provide excellent strength, durability, and corrosion resistance. These washers are ideal for structural, industrial, and high-pressure environments. Manufactured to **ASTM, ASME, PN, and EN standards**, they ensure precision and reliability. Available in various sizes, thicknesses, and finishes, flat washers can be customized to meet specific project needs, providing superior performance and enhanced fastening security.



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LOCK WASHER

Lock Washers by Jade Special Metals are specially designed fasteners that prevent loosening, resist vibrations, and maintain assembly tension in critical applications. These washers are available in various types, including **split lock washers**, **tooth lock washers** (internal and external), and **wave washers**, offering enhanced grip and locking performance. Manufactured from **ferrous metals**, **stainless steel**, **nickel alloys** (Titanium, Inconel, Hastelloy), **copper alloys**, and **cupro-nickel alloys**, they provide excellent strength, durability, and corrosion resistance. Compliant with **ASTM**, **ASME**, **PN**, and **EN** standards, they are ideal for automotive, construction, and industrial applications. Custom sizes and finishes are available to meet specific project requirements.



SPRING WASHER

Spring Washers by Jade Special Metals are resilient, circular fasteners designed to absorb shock, maintain tension, and prevent loosening in bolted assemblies. Available in types such as **split washers**, **wave washers**, and **Belleville washers**, they provide flexibility and excellent load distribution. Manufactured from **ferrous metals**, **stainless steel**, **nickel alloys** (Titanium, Inconel, Hastelloy), **copper alloys**, and **cupro-nickel alloys**, they ensure superior strength, durability, and corrosion resistance. These washers meet **ASTM**, **ASME**, **PN**, and **EN** standards, making them suitable for heavy-duty, high-vibration, and high-temperature applications. Custom sizes, coatings, and finishes are also available for specialized requirements.



FENDER WASHER

A **Fender washer** by Jade Special Metals is a type of **large-diameter washer** used to **distribute the load** of a fastener over a **larger surface area**. Typically made of **stainless steel**, **carbon steel**, or other **durable materials**, it is designed to **prevent damage** to soft or thin surfaces. **Fender washers** are commonly used in **automotive**, **construction**, and **electrical applications**. They are available in various sizes, including **custom specifications**, and comply with industry standards like **ASTM**, **ASME**, and **ISO**. These washers are ideal for providing extra **support** and ensuring that the fastener remains **secure** under **pressure** or **heavy loads**.



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NORD LOCK WASHER

A **Nord-Lock washer** by Jade Special Metals is a specialized locking washer designed to prevent bolts and nuts from loosening due to vibrations or dynamic loads. It features two washers with **wedge-locking technology**, ensuring that the fastener remains secure even under extreme conditions. The washers are typically made of **steel, stainless steel**, or other high-strength materials, and are commonly used in industries like **construction, automotive, offshore, and heavy machinery**. **Nord-Lock washers** are available in various sizes and comply with international standards such as **ISO** and **DIN**. They offer a reliable solution for preventing loosening and maintaining the integrity of assemblies.



BELLEVILLE WASHER

A **Belleville washer** by Jade Special Metals is a type of **conical-shaped spring washer** designed to provide a **load-bearing** and **preload** function in mechanical assemblies. It is typically used to absorb shock, compensate for thermal expansion, or maintain constant tension. Made from **high-strength materials** such as **stainless steel, carbon steel**, and other alloys, **Belleville washers** are widely used in **automotive, aerospace, electrical, and industrial applications**. They are available in various sizes, including **custom specifications**, and meet industry standards like **ASTM, DIN, and ISO**. These washers are ideal for applications requiring **flexibility, durability, and resistance to fatigue**.



WAVE WASHER

A **Wave washer** by Jade Special Metals is a type of **spring washer** with a unique wave-like shape, designed to provide **load-bearing** and **preload** properties in mechanical assemblies. It is used to absorb shock, reduce vibrations, and maintain constant pressure on fasteners. Made from **stainless steel, carbon steel**, and other durable alloys, **Wave washers** are commonly used in **automotive, electrical, and industrial applications**. They are available in various sizes, including **custom specifications**, and comply with international standards like **ASTM, ISO, and DIN**. These washers are ideal for applications that require **compactness, flexibility, and resistance to wear**.



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SQUARE WASHER

A **Square washer** by Jade Special Metals is a type of washer with a **square shape**, designed to provide a **larger surface area** to distribute the load of a fastener evenly. This helps to reduce the risk of damage to soft or thin materials. Typically made from **stainless steel, carbon steel**, or other durable materials, **Square washers** are commonly used in **construction, furniture assembly**, and **electrical** applications. Available in various sizes and **custom specifications**, they comply with industry standards like **ASTM, ISO**, and **DIN**. These washers offer **reliable performance** in applications requiring **extra support** and **load distribution**.



TAB WASHER

A **Tab washer** by Jade Special Metals is a type of washer designed with a **tab** that fits into a corresponding **slot** on a fastener or surface to prevent loosening due to vibration or external forces. It is often used in applications requiring **locking** or **securing** fasteners in place. Made from **stainless steel, carbon steel**, or other robust materials, **Tab washers** are commonly used in **automotive, machinery**, and **construction** industries. Available in various sizes and **custom specifications**, they comply with international standards such as **ASTM, ISO**, and **DIN**. These washers provide a **reliable locking solution** to maintain the integrity of fastened assemblies.



DOME WASHER

A **Dome washer** by Jade Special Metals is a type of washer with a **dome-shaped** design, typically used to distribute the load of a fastener over a larger surface area. Its **curved** shape helps absorb pressure and reduces the risk of damage to soft or delicate materials. Made from materials like **stainless steel, carbon steel**, and other durable alloys, **Dome washers** are commonly used in **automotive, electrical**, and **construction** applications. Available in various sizes, including **custom specifications**, they meet industry standards such as **ASTM, ISO**, and **DIN**. These washers are ideal for providing **load distribution, shock absorption**, and **protection** in mechanical assemblies.



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C-WASHER & D-WASHER

C-Washer and **D-Washer** by **Jade Special Metals** are specialized washers designed for specific mechanical applications. A **C-Washer** features a **C-shaped** design, offering **resistance** against loosening from vibrations or dynamic loads, commonly used in **automotive**, **electrical**, and **industrial** applications. The **D-Washer**, with its **D-shaped** design, provides a **non-rotational** effect by securely fitting against a surface to prevent movement in fastened connections. Made from **high-strength materials** such as **stainless steel** and **carbon steel**, both washers are available in various sizes and **custom specifications**, meeting **ASTM**, **ISO**, and **DIN** standards for reliability and durability.



DUPLEX & SUPER DUPLEX MATERIAL GRADES

DUPLEX 31803 UNS: S31803 Werkstoff: 1.4462	DUPLEX 32205 UNS: S32205 Werkstoff: 1.4462	SUPER DUPLEX 32750 UNS: S32750 Werkstoff: 1.4410
SUPER DUPLEX 32760 UNS: S32760 Werkstoff: 1.4501	SUPER DUPLEX 2507 UNS: S25007 Werkstoff: 1.4410	

STAINLESS STEEL MATERIAL GRADES

STAINLESS STEEL 304 UNS: S30400 Werkstoff: 1.4301	STAINLESS STEEL 304L UNS: S30403 Werkstoff: 1.4306	STAINLESS STEEL 304H UNS: S30409 Werkstoff: 1.4948
STAINLESS STEEL 316 UNS: S31600 Werkstoff: 1.4401	STAINLESS STEEL 316L UNS: S31603 Werkstoff: 1.4404	STAINLESS STEEL 316H UNS: S31609 Werkstoff: 1.4919
STAINLESS STEEL 309 UNS: S30900 Werkstoff: 1.4828	STAINLESS STEEL 310 UNS: S31000 Werkstoff: 1.4840	STAINLESS STEEL 310S UNS: S31008 Werkstoff: 1.4845
STAINLESS STEEL 317L UNS: S31703 Werkstoff: 1.4438	STAINLESS STEEL 347 UNS: S34700 Werkstoff: 1.4550	STAINLESS STEEL 347H UNS: S34709 Werkstoff: 1.4961
STAINLESS STEEL 409 UNS: S40900 Werkstoff: 1.4512	STAINLESS STEEL 409M UNS: S40977 Werkstoff: 1.4513	STAINLESS STEEL 410M UNS: S41008 Werkstoff: 1.4000
STAINLESS STEEL 446 UNS: S44600 Werkstoff: 1.4749	STAINLESS STEEL 904L UNS: N08904 Werkstoff: 1.4539	

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NICKEL ALLOYS MATERIAL GRADES

HASTELLOY C22 UNS: N06022 Werkstoff: 2.4602	HASTELLOY C276 UNS: N10276 Werkstoff: 2.4819	HASTELLOY B2 UNS: N10665 Werkstoff: 2.4617
NICKEL 200 UNS: N02200 Werkstoff: 2.4060	NICKEL 201 UNS: N02201 Werkstoff: 2.4068	
MONEL 400 UNS: N04400 Werkstoff: 2.4360	MONEL K500 UNS: N05500 Werkstoff: 2.4375	
INCONEL 600 UNS: N06600 Werkstoff: 2.4816	INCONEL 601 UNS: N06601 Werkstoff: 2.4851	INCONEL 625 UNS: N06625 Werkstoff: 2.4856
INCONEL 718 UNS: N07718 Werkstoff: 2.4668	INCONEL 800 UNS: N08800 Werkstoff: 1.4876	INCONEL 800H UNS: N08810 Werkstoff: 1.4958
INCONEL 617 UNS: N06617 Werkstoff: 2.4663	INCONEL X-750 UNS: N07750 Werkstoff: 2.4669	INCONEL 800HT UNS: N08811 Werkstoff: 1.4959
INCONEL 825 UNS: N08825 Werkstoff: 2.4858	ALLOY 20 UNS: N08020 Werkstoff: 2.4660	
TITANIUM GRADE 2 UNS: R50400 Werkstoff: 3.7025	TITANIUM GRADE 5 UNS: R56400 Werkstoff: 3.7165	TITANIUM GRADE 7 UNS: R52400 Werkstoff: 3.7235



We offer a wide range of Material Grades as per SAE / EN / DIN Etc. At best Market prices in India. To know more about complete product details please feel free to contact us on sales@jadealloys.com or call us on +91 9987685906