

National Rolls Corporation

Since 1971





Precision in Every Turn. Trust in Every Roll. Established in 1971, National Rolls Corporation has grown into a globally recognized manufacturer and exporter of high-quality industrial rolls. With a strong foundation built on expertise, innovation, and uncompromising quality, we serve industries across the world—delivering rolls that power production lines, enhance performance, and stand the test of time. From steel and aluminum mills to paper, textile, and other heavy-duty industries, our rolls are engineered for precision, durability, and efficiency. Every product is a result of meticulous craftsmanship, advanced manufacturing technology, and rigorous quality testing to meet the demanding standards of our clients worldwide.

What Sets Us Apart?

- Decades of Experience: 50 years of roll manufacturing expertise.
- Global Reach: Supplying high-performance rolls to clients across the Globe.
- Quality First: Stringent quality control and testing protocols ensure flawless performance.
- Skilled Workforce: A dedicated team of professionals committed to excellence and innovation.

Our Mission To be a trusted partner in industrial progress by providing world-class roll solutions that enable efficiency, reliability, and performance across industries.

Whether you need a standard roll or a specialized solution, you can count on **National Rolls Corporation** for products that deliver consistent results and long-lasting value.

Excellence is not just a goal—it's how we roll.

Our Founder



In 1971, National Rolls Corporation was founded with a simple yet powerful vision: to deliver world-class roll manufacturing solutions that meet the highest standards of quality and durability. At the heart of this vision was our founder, Sirdar Gurbir Singh Butalia, a passionate entrepreneur and an industry expert with decades of hands-on experience in metallurgy and manufacturing. Driven by a relentless pursuit of excellence and having worked as an Operating partner in other Roll manufacturing units for over a decade, Mr. Gurbir Singh Butalia established National Rolls Corporation with the goal of serving not just local markets but industries across the globe. Under his leadership, the company grew from a modest unit into a globally recognised name in roll manufacturing—known for precision, innovation, and unwavering commitment to customer satisfaction.

With a deep understanding of the critical role that rolls play in industrial production, Mr. Gurbir Singh Butalia laid the foundation for a company built on trust, integrity, and technological advancement. His dedication to continuous improvement and his strong belief in quality over compromise continue to inspire every aspect of our operations.

Today, National Rolls Corporation proudly exports its products worldwide, delivering high-performance rolls to customers across Europe, Middle East, Asia, the Americas, and beyond. As we move forward, we honor our founder's legacy by maintaining the same high standards and forward-thinking spirit that shaped our journey from day one.

Our founder's vision remains the cornerstone of everything we do—manufacturing excellence that powers industries around the world.



Mild Steel Forged Rolls

Mild Steel : Forged Rolls :- Mild Steel Forged Rolls are precision-engineered for superior performance in light to medium-duty rolling applications. Manufactured from high-quality low carbon steel, these rolls offer excellent toughness, uniform hardness, and enhanced machinability. They are forged under controlled conditions to ensure refined grain structure and improved mechanical strength, minimizing internal defects. Ideal for applications requiring consistent surface finish and dimensional accuracy, these rolls exhibit good weldability and ductility, making them suitable for various forming and rolling processes. Mild Steel Forged Rolls are commonly used in roughing and intermediate stands in section mills, strip mills, and bar mills.



Grades :

EN-8 : Medium carbon steel rolls offering good strength and machinability for general-purpose industrial use.

EN-9 : High carbon steel rolls with superior surface hardness, ideal for wear-resistant applications.

EN-42 : High carbon steel rolls known for excellent edge retention and hardness after heat treatment.

EN-31 : Alloy steel rolls with high wear resistance and strength, commonly used in high-load and precision applications.

Key Features:

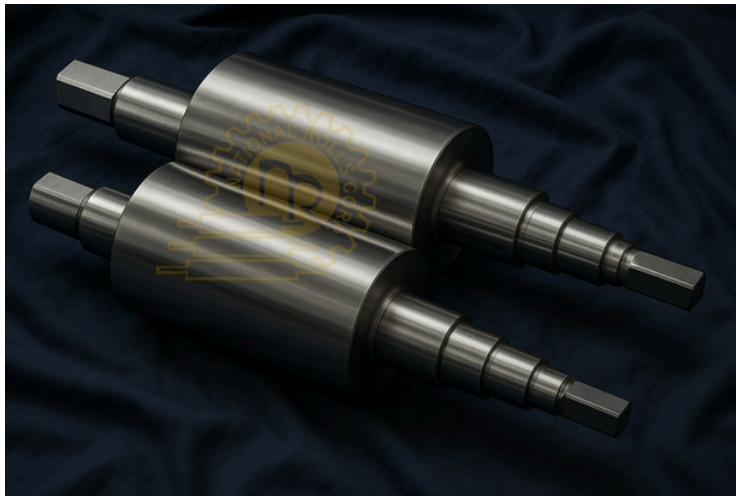
- Material: Low carbon steel (mild steel)
- High impact resistance with uniform hardness distribution
- Superior surface finish and dimensional stability
- Excellent machinability and weldability
- Customizable sizes and hardness range on request



Spheroidal Graphite Iron Rolls

SG Iron Pearlitic Rolls (Nodular Iron) : are precision-engineered rolls fabricated from spheroidal graphite cast iron with a bainitic microstructure, combining exceptional toughness and wear resistance. The bainitic matrix enhances mechanical strength and impact absorption, making these rolls ideal for heavy-duty rolling applications. These rolls exhibit superior thermal stability, excellent resistance to thermal shock, and uniform hardness distribution, ensuring extended service life and consistent dimensional accuracy. SG Iron Bainitic Rolls are commonly used in wire rod, TMT bar, and section mills where high strength and durability under cyclic loading are essential.

SG Iron Bainitic Rolls (Acicular) : are manufactured from spheroidal graphite cast iron featuring an acicular (needle-like) microstructure, delivering an optimal balance of hardness, toughness, and wear resistance. The acicular matrix enhances the roll's ability to withstand high rolling pressures and cyclic stresses while maintaining superior surface integrity. These rolls are designed for demanding rolling mill applications such as wire rod, TMT bars, and section mills, where high abrasion resistance and impact strength are critical. The acicular structure ensures excellent thermal shock resistance and uniform hardness, contributing to longer roll life and consistent product quality.



Key Features:

- **High Strength & Toughness:** The nodular graphite structure enhances tensile strength and impact resistance.
- **Excellent Wear Resistance:** Ideal for prolonged rolling operations with minimal surface degradation.
- **Thermal Shock Resistance:** Withstands sudden changes in temperature, making it suitable for both hot and cold rolling.
- **Good Machinability:** Easier to machine compared to other hard materials.
- **Longer Service Life:** Lower maintenance and reduced downtime in mills.

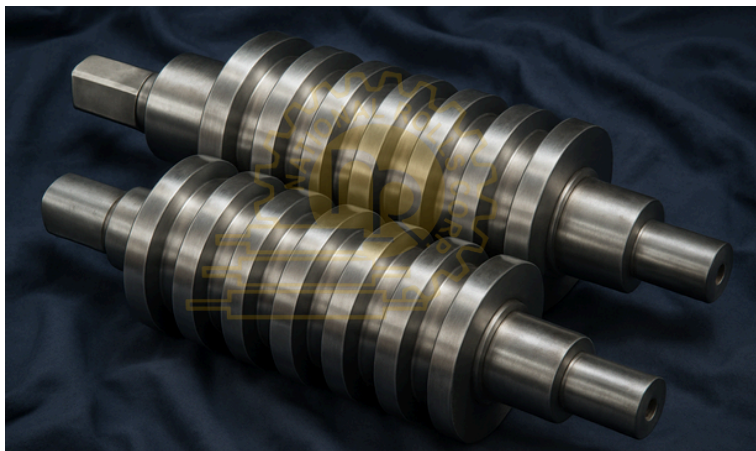


Alloy Steel Base Rolls

Alloy Steel Base : Adamite Rolls are high-performance rolls engineered for heavy-duty rolling applications requiring exceptional strength, wear resistance, and thermal stability. These rolls are manufactured from specially formulated alloy steels combined with adamite (a proprietary alloyed surface treatment) resulting in a hardened outer layer with superior toughness and durability. The alloy steel core provides excellent mechanical strength and impact resistance, while the adamite surface ensures enhanced wear resistance, reduced friction, and prolonged roll life under extreme mill conditions. These rolls are ideally suited for finishing and intermediate stands in TMT, wire rod, and section mills where precision and reliability are critical.

Key Features

- Excellent wear resistance with good toughness
- High thermal shock resistance
- Uniform hardness through the working layer
- No clear boundary between shell and core (semi-steel structure)
- Suitable for both hot and cold rolling
- Long roll life with minimal surface cracking



Graphitic Steel Rolls : are a specialised type of alloy steel base rolls that feature a fine dispersion of graphite particles within a pearlitic or bainitic steel matrix. These rolls are designed to deliver a unique combination of toughness, wear resistance, and thermal conductivity, making them ideal for demanding rolling mill environments where both strength and heat management are critical.

Key Features

- Improved thermal conductivity due to graphite presence
- Good resistance to fire cracking and thermal fatigue
- Superior surface finish for rolled products
- Excellent machinability
- Reduced friction and sticking with hot materials
- Ideal for mills operating with high thermal cycling



High Speed Steel (HSS) Rolls : are advanced rolls made from alloyed tool steels that contain high amounts of carbon, chromium, molybdenum, vanadium, and sometimes tungsten. Originally developed for cutting tools, these steels are now used for rolls due to their exceptional hardness, wear resistance, and high-temperature performance. HSS rolls are ideal for finishing stands in hot strip and bar mills, where surface quality and dimensional precision are critical.

Key Features

- Hardness up to 80–88 HSD (65–72 HRC), maintained even at elevated rolling temperatures.
- Ideal for rolling hard steels with excellent surface finish.
- Outstanding Wear Resistance:
 - Superior resistance to abrasive and adhesive wear.
 - Minimizes roll wear and extends service life significantly.
- High Thermal Fatigue Resistance:
 - Excellent performance under rapid heating and cooling cycles.
 - Resists surface cracking and spalling in high-speed, high-load operations.
- Excellent Surface Finish:
 - Produces clean, smooth surfaces on rolled products (especially bars, rods, and strips).
- Edge Wear Resistance:
 - Maintains precise roll profiles, reducing edge cracking and improving rolling accuracy.
- Good Oxidation Resistance:
 - Stable performance even under oxidizing mill environments.



**Alloyed Cast Iron Rolls
(Chilled Rolls)**

Double Pour Definite Chill Rolls (Shafted) are advanced casting rolls used primarily in the hot and cold rolling of various metal products such as steel bars, angles, rods, and sections. These rolls are centrifugally or statically cast using a double pour technique, where two different molten metal compositions are poured in sequence to create distinct working and core layers, ensuring an optimal balance of hardness, toughness, and wear resistance.

Shafted Design:

- A forged or integrated shaft is fitted into the core, either through shrink fitting, keying, or casting-in-place. This allows easy mounting and alignment in mill stands.
- Provides mechanical strength and torque transmission during rolling.



Double Pour Indefinite Chill Rolls : are precision-engineered cast rolls designed specifically for rubber and plastic calendering applications. These rolls are cast in a single pour, resulting in a homogeneous structure with a chilled working layer that gradually transitions into a tougher core. The hollow design facilitates efficient internal cooling, critical for temperature-sensitive rubber processing.

Indefinite Chill Structure:

- Unlike definite chill, indefinite chill contains small graphite flakes within the shell.
- This gives a combination of hardness and toughness, with a self-lubricating effect that reduces friction and wear.
- Typical surface hardness ranges from 45–65 Shore C, adjustable based on customer requirements.

Hollow (Bored) Design:

- Precision-machined bore allows for internal water or oil circulation to maintain roll surface temperature during calendering.

Single Pour Chill Rolls (Solid) : are robust, monolithic rolls used extensively in metal rolling applications such as section mills, bar mills, and re-rolling mills. These rolls are cast in a single pour using high-quality cast iron with a controlled chilling process to produce a hard, wear-resistant outer shell and a relatively softer, tougher core — all within one homogeneous casting.

Solid Design:

- The roll is not bored or cored; it is a solid single-piece roll that offers maximum rigidity and mechanical strength.
- Ideal for high-load conditions where internal cooling is not required.



Key Features

Hard, Wear-Resistant Surface

- The rapid cooling creates a white iron layer, which is extremely hard due to the presence of cementite (Fe_3C).
- Ideal for applications requiring resistance to abrasion, such as rolling mill rolls, crushers, and dies.

Tougher Core

- Beneath the chilled layer, the structure is typically grey iron or nodular iron, which is softer and more ductile.
- This combination provides both durability and resistance to cracking under stress.

High Carbon Content

- Chilled iron usually contains 2.5–3.5% carbon, promoting the formation of carbides in the chilled layer.
- Enhances hardness and wear resistance, though it can reduce machinability.

Good Thermal Conductivity

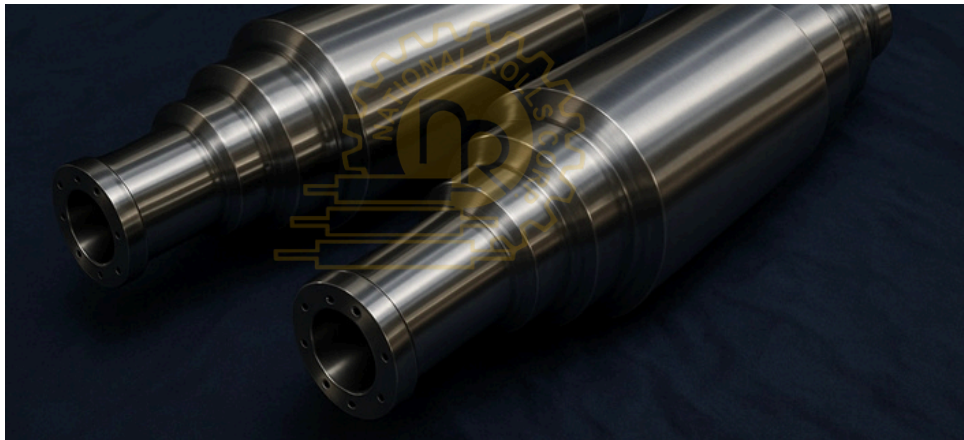
- Especially important in rolling mill applications, where quick heat dissipation helps maintain dimensional stability and performance..

Machinability

- The core is machinable, but the chilled layer is very hard and difficult to machine.
- Often used in applications where only the surface needs to remain unmachined and hard.

Corrosion Resistance

- Chilled cast iron has moderate corrosion resistance, but this is not its primary feature—it's more about mechanical wear resistance.



Hollow Chilled Cast Iron Rolls: are specialized rolls made from cast iron with a hard, wear-resistant outer layer (called the "chill") and a softer, tougher core. These rolls are cored (hollow inside) to allow internal cooling, which is essential for temperature control during high-friction processing like rubber mixing, plastic calendaring, and light-duty metal rolling.

Key Features:

- Excellent wear resistance due to the hard chilled outer layer
- High thermal conductivity helps dissipate frictional heat
- Improved product consistency due to uniform temperature control
- Durable and cost-effective for long-term industrial use



**Tungsten Carbide Rolls
(Imported)**

Tungsten Carbide Composite Rolls : are high-performance rolls made from tungsten carbide powder bonded with cobalt (or other binders) through a powder metallurgy (PM) process. These rolls are renowned for their exceptional hardness, wear resistance, and strength, making them ideal for high-speed wire rod and rebar mills, where precision, durability, and surface finish are critical.

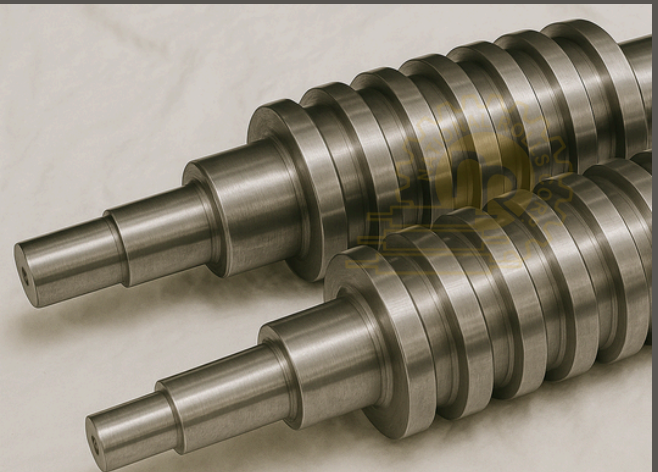
Tungsten Carbide Rings : are precision-engineered components known for their exceptional hardness, superior wear resistance, and high-temperature stability. Made from a composite of tungsten and carbon atoms, these rings deliver outstanding performance under extreme conditions, making them ideal for applications in rolling mills, metal forming, and high-speed processing.



These rolls have different grades specified by cobalt content, hardness and density. Some common grades according to ISO standards are K10, K20 and K30. Other common grades are YG6, YG8, YG 13 and YG15.

Key Features

- Hardness typically ranges from 78 to 85 HRC, far exceeding traditional cast iron or steel rolls.
- Maintains sharp edges and dimensional stability over prolonged use.
- Excellent resistance to abrasion, especially in high-speed rolling operations.
- Reduces roll wear, increasing roll life and minimizing downtime.
- Performs well under elevated temperatures without losing hardness.
- Ideal for applications with intense heat and rapid cooling cycles.
- Produces high-quality, smooth surfaces on rolled products, especially wire rods and rebars.
- Can withstand extreme rolling forces without deformation or breakage.
- Reduces frequency of roll changes, leading to lower operating costs and higher productivity.



Global Industries Powered by
Our Rolls

Powering Productivity in Metal Processing

In the demanding environments of steel and non-ferrous metal production, our rolls deliver unmatched durability, precision, and heat resistance. We supply a complete range of engineered rolls tailored to various stages of rolling, shaping, and processing – from hot strip mills to wire rod finishing.



Applications in the Steel & Metal Sector

- Hot & Cold Rolling Mills
- Structural & Section Mills
- Bar & Wire Rod Mills
- Strip Mills
- Tube
- Billet & Bloom Rolling

Precision, Performance & Process Stability in Rubber and plastic processing

Rubber and Plastic Industry demands rolls that can withstand high temperatures, high pressures, and continuous friction – all while maintaining surface integrity and dimensional stability. Our engineered rolls are designed for mixing, calendering, coating, and laminating operations in rubber compounding and plastic film production.





Applications in Rubber & Plastic Plants

Rubber mixing & compounding mills
 Sheet calendering & finishing lines
 Artificial leather production
 Rubber Reclaim Industry

Rolling Reliability in Food Production

Our rolls are manufactured with food-grade materials, precision-machined surfaces, and sanitary finishes to meet the highest standards of hygiene and performance. Designed for crushing, flaking, milling, and grinding applications, these rolls deliver consistent output and long service life in demanding food production lines.

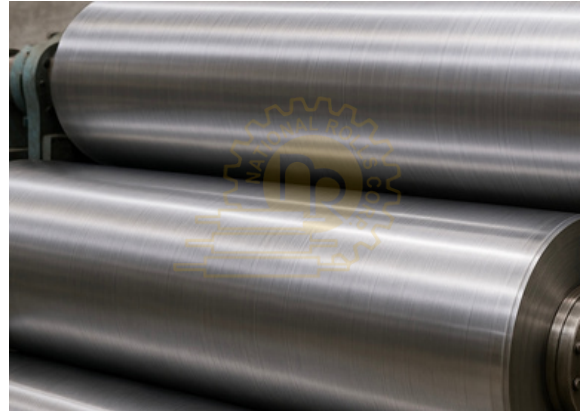


Applications in Food Processing

Oilseed crushing and flaking
 (soybean, sunflower, canola)
 Flour milling and spice grinding
 Biscuit and bakery sheet forming
 Feed and pellet production

High-Speed Paper Production with Precision Rolls

Paper and pulp manufacturing demands rolls that ensure uniform pressure, dimensional stability, and excellent surface finish. Our rolls are engineered to meet the rigorous demands of modern paper machines — delivering smooth operation, extended service life, and consistent product quality across all stages of the process.



Applications in Paper & Pulp Plants

Kraft and newsprint paper mills
Wet press and calendaring sections
Board and corrugated paper production



Rolling Precision into Every Yard & Sheet

From delicate fabrics to synthetic leather and heavy-duty industrial textiles, the right roll makes all the difference. Our rolls are engineered for uniform surface pressure, precise alignment, and flawless finishes, ensuring consistent results across dyeing, embossing, calendaring, and laminating processes.





Applications in Textile & Leather Plants

Fabric calendaring and soft finishing
Lamination of textile composites
Wrinkle-free processing & alignment

Heavy-Duty Performance for Harsh Environments like Cement & Chemical Industry

Rolls used in cement and chemical processing must withstand abrasion, high pressure, corrosion, and continuous thermal cycling. Our specially engineered rolls are built for these challenging conditions – delivering reliable performance, long service life, and resistance to aggressive materials.



Applications in Cement & Chemical Plants

Clinker grinding and pre-crushing systems
Material feeding and roller press lines
Slurry mixing and drying units
Acidic/alkaline chemical sheet transport
Bulk handling and powder processing systems

Our Managing Director



At the heart of our company's continued growth and innovation is our Managing Director, Sardar Prabhdeep Singh Butalia, a visionary leader with decades of hands-on experience in the roll manufacturing industry. Under his leadership, our organisation has transformed from a domestic supplier to a trusted name in the global milling operations.

With a deep understanding of metallurgy, foundry technology, and customer-centric service, our MD has championed a culture of quality, consistency, and continuous improvement. His technical acumen, combined with a sharp business sense, has guided the company through market changes, technological advancements, and evolving customer needs.

A firm believer in "engineering excellence with integrity", our MD ensures that every roll meets the highest standards of durability, precision, and performance. He has invested in advanced casting techniques, stringent quality control systems, and skilled talent to make sure that our products deliver value in the harshest mill environments.

Beyond the workshop floor, our MD is committed to building lasting relationships with clients. He believes that the foundation of every successful partnership is trust, transparency, and quality service. His approachable leadership style fosters a collaborative spirit within the team, enabling innovation and responsiveness at every level of the organization.

As we continue to scale new heights, our MD remains dedicated to technological advancement, sustainable manufacturing, and customer success—ensuring that our rolls roll forward with excellence.



Founded in 1971 by Sardar Gurbir Singh Butalia, National Rolls Corporation began as a bold vision—one rooted in craftsmanship, innovation, and a commitment to excellence in roll manufacturing. From humble beginnings to becoming a trusted name in the global roll manufacturing industry, our legacy has been shaped by our founder's relentless pursuit of quality and integrity.

Our Mission

To design and manufacture world-class industrial rolls that exceed our customers' expectations in performance, reliability, and value. We aim to be a trusted partner in the progress of industries by delivering precision-engineered solutions that power production lines around the world.

We are committed to:

- Upholding the highest standards in metallurgy and machining.
- Continuously innovating our processes and technology.
- Building lasting relationships with clients through trust and service.
- Supporting sustainable practices in industrial manufacturing.

Our Vision

To be recognized globally as a leading manufacturer of high-performance rolls—synonymous with quality, durability, and engineering excellence.

We envision a future where:

- National Rolls Corporation is a partner of choice for industries ranging from steel and aluminum to paper and food processing.
- Our name reflects not just a product, but a promise—of reliability, technical superiority, and lasting value.
- We continue to grow as a family-owned business, rooted in our founder's principles, while adapting to the ever-changing needs of a global market.

As we look ahead, we honor the legacy of Sardar Gurbir Singh Butalia by carrying forward his entrepreneurial spirit, dedication to craftsmanship, and unwavering focus on customer satisfaction. With each roll we manufacture, we turn precision into performance—delivering solutions that keep industries rolling forward.



Prabhdeep Singh Butalia
+91-9417826433

Gurfarman Singh Butalia
+91-8427158500

www.nationalrollscorp.com

Gurniwaz Singh Butalia
+91-6239379650

Mohinder Kinger
+91-9878412483

info@nationalrollscorp.com

National Rolls Corporation, Sherpur Road, Malerkotla - 148023, Punjab India