



## SS304 Rounds in Black and Bright Condition – Properties, Applications & Buying Guide

### Description

### Introduction

SS304 stainless steel rounds are among the most versatile and widely used stainless steel products across industries. Available in both black and bright conditions, these rounds offer superior corrosion resistance, high strength, and excellent machinability. At **Steelmet Industries**, we supply premium-quality SS304 rounds that cater to the diverse needs of industries across India and abroad.

This guide provides detailed insights into SS304 rounds in black and bright finishes – covering material properties, applications, global standards, and key buying considerations to help you make informed decisions.

### What is SS304 Stainless Steel?

SS304 belongs to the austenitic group of stainless steels, known for its excellent corrosion resistance, strength, and ability to withstand high temperatures. It is commonly used in environments exposed to moisture, chemicals, and wear, making it a popular choice for manufacturing, construction, and processing industries.

#### Key properties of SS304 include:

- High corrosion resistance
- Good weldability and formability
- Excellent mechanical properties
- Ability to withstand extreme temperatures
- Non-magnetic in the annealed condition

### Black vs Bright Condition – What's the Difference?

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### Black Rounds:

- Typically produced by hot rolling or forging
- Surface is oxidized and rougher
- Lower cost option
- Suitable for structural and industrial applications where appearance is not critical

### Bright Rounds:

- Produced by cold drawing, turning, or polishing processes
- Smooth, shiny surface finish
- Tight dimensional tolerances
- Preferred in industries where aesthetics, precision, and hygiene are critical, such as food processing and medical equipment

### Comparison at a glance:

| Feature              | Black Condition        | Bright Condition                             |
|----------------------|------------------------|--|
| Production method    | Hot rolling/forging    | Cold drawing/polishing                       |
| Surface finish       | Rough, oxidized        | Smooth, polished                             |
| Dimensional accuracy | Moderate               | High   |
| Cost                 | Lower                  | Higher                                       |
| Applications         | Structural, industrial | Food, pharmaceuticals, precision engineering |

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### Applications of SS304 Rounds in Black and Bright Conditions

#### Common sectors include:

- Food processing equipment and storage tanks
- Chemical and pharmaceutical industries
- Construction and architectural structures
- Automotive and transportation
- Heat exchangers and boilers

Water treatment plants  
Marine and coastal structures  
Industrial machinery and fabrication

Steelmet Industries supports industries across India including major hubs like Mumbai, Pune, Chennai, Bengaluru, Hyderabad, and Ahmedabad by providing tailored solutions for varied industrial requirements.

## Related Stainless Steel Products You May Also Consider

SS304 Squares for framing and structural components  
SS304 Flats used in manufacturing and fabrication  
SS316 Rounds for marine and corrosive environments  
SS310 Sheets & Plates for high-temperature applications

Contact our team to explore customized solutions for your unique industrial needs.

## Global Equivalence Table SS304 Stainless Steel

The table below provides approximate equivalences of SS304 across various global standards. Please note that these are indicative references and properties may vary by manufacturer and batch.

| Standard   | Equivalent Grade      |
|------------|-----------------------|
| ASTM       | A240 / A276 / A484    |
| UNS        | S30400                |
| EN         | 1.4301 / 1.4307       |
| DIN        | X5CrNi18-10           |
| JIS        | SUS304                |
| BS         | 304S31 / 304S15       |
| ISO        | 683-17 / 15510        |
| NACE       | MR-01-75 (compliant)  |
| GB         | 06Cr19Ni10            |
| AS/NZS     | 316 / 304L equivalent |
| SAES       | 304L                  |
| AFNOR      | Z6CN18-09             |
| UNI        | X5CrNi18-10           |
| EN 10088-1 | 1.4301                |
| AISI       | 304                   |

*Note: These equivalences are approximate and provided for reference purposes. Always consult our technical experts for precise material selection.*

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## Buying Considerations & How to Choose SS304 Rounds

When selecting SS304 rounds, it's essential to consider:

- Application environment • chemical, moisture, temperature exposure
- Required finish • black vs bright
- Dimensional tolerances and machining requirements
- Welding or fabrication methods
- Corrosion and wear resistance needs
- Regulatory compliance or certifications required

At **Steelmet Industries**, we provide technical assistance to help you choose the best material for your project. Get in touch with us to discuss your requirements in detail.

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### FAQs

#### Q1. What are the key differences between black and bright stainless steel rounds?

Black rounds are produced through hot rolling, offering cost-effective structural use, while bright rounds are cold-drawn, offering superior finish and accuracy for precision applications.

#### Q2. Is SS304 suitable for outdoor use?

Yes, SS304 offers good corrosion resistance for outdoor environments, but depending on exposure, higher-grade materials like SS316 may be preferred.

#### Q3. Can I use SS304 rounds for food processing equipment?

Yes, the bright finish option is ideal for food-grade applications due to its smooth surface and hygiene properties.

#### Q4. What standards does SS304 comply with?

SS304 has equivalents in ASTM, EN, JIS, DIN, and other global standards. These are indicative; consult Steelmet's team for specific project requirements.

#### Q5. Can I request material certifications and datasheets?

Absolutely. Steelmet Industries provides documentation and technical support upon request to ensure compliance and traceability.

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### Disclaimer

The information provided in this post, including material properties and standard equivalences, is for reference purposes only. Properties may vary by supplier, manufacturing process, or batch. Please consult Steelmet Industries' technical team for detailed specifications and advice before making material selections.

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For accurate material selection and supply of SS304 rounds in black or bright condition, reach out to Steelmet Industries. Our technical team is ready to assist you.

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## SS304 Rounds - Black & Bright Condition | Quick Facts

### What is SS304?

- Austenitic stainless steel
- High corrosion resistance
- Excellent weldability & formability

### Where is it used?

- Food processing & pharma
- Construction & architecture
- Chemical & marine environments
- Automotive & machinery

### Black vs Bright Condition



**Black** - Hot rolled, rough surface structural use



**Bright** - Cold drawn, polished, polished finish, precise applications

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## Key Properties of SS304 Rounds

### Chemical Composition (Typical)

- Cr: 18-20%
- Ni: 8-10.5%
- C: ≤ 0.08%
- Mn, Si, P, S - controlled controlled for quality

### Mechanical Properties

- Tensile Strength: ~525 MPa
- Yield Strength: ≥ 40%
- Hardness: ≤ 95 HRB


### Benefits in Use

- Strong & durable
- Resists corrosion & wear
- Easy to fabricate & weld

Values may vary depending to supplier & batch. Please consult Steelmet Industries for precise specs.

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## How you Select the Right SS304 Round for Your Project



**Need Help?**  
Contact Steelmet Industries for expert advice and customized solutions!

**Get a Quote Today**

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## Category

1. Stainless Steel

## Tags

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admin

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Steels, Free Cutting Steels, Stainless Steels*