



IS:2062 E250 Black Round Bars Dia 16mm to 200mm

Description

IS:2062 E250 Hot Rolled Bars / Black Bars - Delivery Conditions

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|-------------------------------|---|
| Section | Round |
| Size Range | 16mm to 200mm |
| Condition | Hot Rolled |
| Tolerance offered | As per IS:2062 |
| Standard | Hot Rolled Bars to generally conform to IS:2062 |
| Straightness | As per IS:1852 where applicable |
| Ovality | Not specifically controlled, but within tolerance limits |
| Lengths offered | In full lengths up to 12000 mm / 40ft. With prior agreement, fixed/custom lengths can also be offered. |
| Straightened | No, as rolled condition. |
| Polished | No |
| End Cut Condition | Generally supplied with as-rolled ends. Special end cuts or deburred ends can be offered upon request. |
| Colour Coding | Both ends are colour coded for easy identification. Buyer's colours can also be applied. |
| Rust Preventive | Hot Rolled Bars can be supplied with rust preventive coating upon request |
| Packing | Loose or Bundled with tie strings or wire and/or packed in chosen packing material |
| Test Report | Test Certificates for Chemical, Mechanical, and Physical properties as per agreement |
| Typical Mechanical Properties | <ul style="list-style-type: none">• Tensile Strength: 410 - 540 MPa• Yield Strength: 250 MPa min• Elongation: 23% min |

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|---------------------------|---|
| Chemical Composition | <ul style="list-style-type: none"> • Carbon (C): 0.23% max • Manganese (Mn): 1.50% max • Phosphorus (P): 0.045% max • Sulfur (S): 0.045% max • Silicon (Si): 0.40% max • Iron (Fe): Balance |
| Applications | IS:2062 E250 is widely used in structural applications, general engineering, and fabrication jobs such as making frames, beams, and other load-bearing components. |
| Melting & Refining Method | IS:2062 E250 is generally produced using Basic Oxygen Furnace (BOF) or Electric Arc Furnace (EAF) methods, with secondary refining like Ladle Refining Furnace (LRF) to maintain consistent quality. |
| Rolling Route | The material is produced via the Continuous Casting route, where molten steel is cast into billets and then hot rolled into desired bar sizes. |
| Quality Control | Strict quality control processes are implemented, including chemical analysis, mechanical testing, and dimensional checks to ensure product quality. |
| Surface Condition | Hot Rolled Bars may have a scale-covered surface, which can be removed through pickling, shot blasting, or machining as per customer requirements. |
| Traceability | Each batch is fully traceable back to its heat number, ensuring documentation of all chemical and mechanical properties. |

Key Chemical Elements and Mechanical Properties

| Property | IS2062 E250 Grade A | IS2062 E250 Grade B | IS2062 E250 Grade C |
|-------------------------------|---------------------|---------------------|---------------------|
| Yield Strength (MPa) | ≥ 250 | ≥ 250 | ≥ 250 |
| Tensile Strength (MPa) | 410 - 560 | 410 - 560 | 410 - 560 |
| Elongation (%) | ≥ 23 | ≥ 23 | ≥ 23 |
| Carbon Content (%) | ≤ 0.23 | ≤ 0.22 | ≤ 0.20 |
| Sulfur Content (%) | ≤ 0.045 | ≤ 0.045 | ≤ 0.040 |
| Phosphorus Content (%) | ≤ 0.045 | ≤ 0.045 | ≤ 0.040 |
| Carbon Equivalent (CE) | 0.42 max | 0.42 max | 0.42 max |
| Impact Test (J) | Not required | 20 J @ 0°C | 27 J @ 0°C |

This table provides a quick comparison of the different grades (A, B, C) of IS2062 E250 structural steel based on key mechanical and chemical properties.

Equivalent Steel Grades to IS2062 E250

- **Indian Standard (IS):** IS2062 E250

- **American (ASTM):**

- ASTM A36
- ASTM A572 Grade 42
- ASTM A572 Grade 50
- ASTM A992
- ASTM A514 Grade 50

- **European (EN):**

- EN 10025 S275JR
- EN 10025 S275J0
- EN 10025 S275J2G3
- EN 10025 S235JR
- EN 10025 S355JR

- **Japanese (JIS):**

- JIS G3101 SS400
- JIS G3106 SM400A
- JIS G3106 SM490A

- **British (BS):**

- BS 4360 Grade 43A
- BS EN 10025 S275JR
- BS EN 10025 S355JR

- **German (DIN):**

- DIN 17100 St 44-2
- DIN EN 10025 S275JR
- DIN EN 10025 S355JR

- **Korean (KS):**

- KS D3503 SS400
- KS D3515 SM400A
- KS D3516 SM490A

- **Russian (GOST):**

- GOST 380-2005 St3sp/ps
- GOST 27772 Grade 09G2S
- GOST 19281-89 St3

- **French (AFNOR):**

- NF A35-501 A37

- NF A35-501 E24-2
- NF EN 10025 S275JR
- NF EN 10025 S355JR

• **Italian (UNI):**

- UNI 7070 Fe 430B
- UNI EN 10025 S275JR
- UNI EN 10025 S355J0

• **Canadian (CSA):**

- CSA G40.21 300W
- CSA G40.21 260W
- CSA G40.21 350W

• **Australian (AS/NZS):**

- AS/NZS 3678 Grade 250
- AS/NZS 3678 Grade 350
- AS/NZS 1594 HA250

• **Swedish (SS):**

- SS 1411
- SS 1412
- SS 1442

• **Chinese (GB):**

- GB/T 700 Q235B
- GB/T 1591 Q345B
- GB/T 3274 Q420B

• **Turkish (TS):**

- TS 7070 St 37-2
- TS 7070 St 44-2
- TS EN 10025 S275JR

• **Brazilian (NBR):**

- NBR 7007 A36
- NBR 7008 A572 Grade 42
- NBR 16271 S235JR

• **South African (SABS):**

- SABS 1431 Grade 300W
- SABS 1431 Grade 350WA

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- SABS 500/1

- **Mexican (NMX):**

- NMX-B-506-C St 42
- NMX-B-506-C Gr 50
- NMX-B-026-1997

- **Finnish (SFS):**

- SFS 2357 Fe 430B
- SFS 2371 SS13
- SFS 2414 Fe510B

- **Spanish (UNE):**

- UNE 36080 AE 235B
- UNE 36081 S275JR
- UNE 36083 S355JR

- **Czech (Ä?SN):**

- Ä?SN 41 1373 11 375
- Ä?SN 42 1381 S275JR
- Ä?SN 42 0595 S355J2

- **ISO:**

- ISO 630-2 S275JR
- ISO 4950-1 Fe430B
- ISO 898-1 8.8

- **MIL (Military Standard):**

- MIL-S-22698C Grade A
- MIL-S-22698C Grade B
- MIL-A-12560

- **Argentinian (IRAM):**

- IRAM IAS U500-259
- IRAM IAS U500-409
- IRAM 14035 Fe 430

- **Polish (PN):**

- PN EN 10025 S275JR
- PN-EN 10025-2 St3
- PN 8451 Fe360B

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- **Norwegian (NS):**

- NS 143-83 B
- NS EN 10025 S275JR
- NS 2300 S355JR

- **Romanian (STAS):**

- STAS 500/2-80 OL 37-2
- STAS 438/1 Fe360A
- STAS 1194 Fe 430

- **Belgian (NBN):**

- NBN 35-101 S235JR
- NBN 35-501 S275JR
- NBN EN 10025 S355J2

- **Dutch (NEN):**

- NEN 3850 S275JR
- NEN 1872 Fe360B
- NEN 1522 St 44-2

- **Austrian (Ã?NORM):**

- Ã?NORM B4300 FE 430 B
- Ã?NORM EN 10025 S275JR
- Ã?NORM 2250 St 37-2

- **Indonesian (SNI):**

- SNI 07-2052 SNI A36
- SNI A572 Grade 42
- SNI 7397-2008 S235JR

- **Singapore (SS):**

- SS 400
- SS S275JR
- SS 485

- **Malaysian (MS):**

- MS 1313 Grade 275
- MS 2025 Fe360B
- MS 1233 St37

- **Philippines (PNS):**

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- PNS 06-153 SS275
- PNS 49 235B
- PNS 1932 Fe430

- **Thai (TIS):**

- TIS 1227 SS400
- TIS 1340 Grade 275
- TIS 1697 Grade 300

- **Pakistani (PS):**

- PS 1610 Grade 275
- PS 2300 Fe430B
- PS 2330 St 37-2

- **UAE (UAE Standards):**

- UAE.S. 380-2010 G250

- **Vietnamese (TCVN):**

- TCVN 1650-2008
- TCVN 1557-1998
- TCVN 8490:2011

Fecha
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Autor
admin

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