

骏诚
JUN CHENG

Juncheng International Corporation Limited

No.2204, Building 16, Feicuiwan, Wuling, Changde, Hunan, China zip415000

Cast iron and steel mill rolls catalog



JUNCHENG is manufacture and supplier mill rolls which are used in iron and steel products making. Our rolls are mainly used by long product(bar,wire, Rail, H-beam and heavy section steel) and flat product(HSM, CSP and narrow strip steel) mills for both hot and cold rolling. Mill rolls include cast iron roll, cast steel roll and forged steel rolls(seperate catalog). Especially our HSS (high speed steel) rolls sell very good.

Our clients include many world famous steel group and Rolling Mill group, like ArcelorMittal, Gerdau Group, Celsa, Votorantim group, Qatar Steel Company FEZ, Aceros ZAPLA SA. Argentina, India Kamachi etc.

Cast iron roll

Alloy indefinite chilled cast iron rolls ;

Alloy chilled cast iron roll ;

Pearlitic nodular cast iron roll ;

Bainitic nodular cast iron roll ;

High chrome cast iron centrifugal roll ;

Cast steel roll

High speed steel roll (HSS)

Alloy cast steel roll

Adamite roller

Graphite steel roll

High Chrome steel roll

Factory introduction

Casting equipments:



We adopt the normal casting way, slot-based casting and large, medium and small horizontal centrifugal casting method to produce rolls, where the large-sized horizontal centrifugal machine is capable of producing the rolls of the maximum specifications of 1400X4600X9000, Ingot specifications 64T, steel castings casting weight 150T.



At present, the company casting plant equipment 301 EBT smelting furnace 1, the United States should reach capacity 20T/30T dual power inverter intermediate frequency electric furnace 1r 10T, 5T, 3T intermediate frequency electric furnace 6, 60T LF ladle refining furnace 1, 60TVOD VD vacuum refining furnace 1, VC vacuum casting furnace 1, high and low temperature resistance furnace 22, Block gas heat treatment furnace 2, open type differential temperature quenching furnace 2, spray quenching machine 2, centrifugal casting machine 3, 150T, 100T, 75T, 65T, 50T, 32T, 10T double girder lane 34 units.

Heat treatment equipments:



Our factory are now equipped with CNC high and low temperature heat treatment resistance furnace more than 30 units and spray quenching equipment, open type differential heat treatment furnace, heat treatment furnace gas car type. Heat treatment equipment using computer centralized control automation systems, strictly control temperature uniformity, ensure that the mechanical performance and quality requirements of various products.

Processing equipments :



Juncheng processing plant currently existing types of machine tools, vertical lathes, milling machines and other equipment nearly 65 units, including all types of roughing, finishing lathe: C84160/10/40, C84180/10/40, C84125/8/40, C63160 / 8/40, C61250/10/40, C61125, C84100 and other 41 units, CNC grinding machines: MJK84160 * 90,84125 other two, CNC horizontal lathe CK84160/10/40 1 Taiwan, CK84125 1 table, CK61125 4 units, sided milling machine CNC gantry milling, milling and other nine-sided, heavy-duty vehicles boring: C91250/8/40; boring and Milling: TPX6213 1 Taiwan; digital display heavy floor milling machine: TX6920 1 table, radial drilling machine: Z3035 2 sets, etc., annual production capacity of nearly 80,000 tons.

Test and Inspection Equipments :



Juncheng establishes the perfect quality monitoring and inspection system, covering the full process from rawmaterials to the finished rolls. With the high-quality technicians and the advanced inspection and test equipments at home Juncheng adopts the way to collect information and process feedback through computer for full process. Juncheng is established the raw material analysis centre, quick analysis centre and physical test centre to control the processquality and performance of rolls and satisfy with all quality test and inspection demand of users on products.



We provides the modern advanced measures for performance and quality control and technical research and development of rolls. Where the quick analysis centre is equipped with the Leco CS230 carbon-sulfur analyzer made in USA, LecoTCH-600 hydrogen, oxygen and nitrogen analyzer made in USA. the OBLF GS1000 direct-reading spectrometer made in Germany and etc.. Where the physical test centre is equipped with the universal material testers, impact test machines. Brinell & Rockwell hardness meter imported from England, MNV-2T metallurgical phase microscope made by SHIMADZU Japan, Leica DM2500M front-view metallurgical phase microscope and DM6000M metallographic image analyzer made in Germany, thermal dilatometer made by SHIMADZU Japan, JSM-6150A scanning electron microscope made in Japan, KK USD12 ultrasonic flaw detector made in Germany and etc. Where the raw material analysis centre is equipped with the chemical analysis lab. molding sand tester, molding sand hardness meter, coating tester and etc.

Products details

Cast iron and steel roll ring

1. Alloy indefinite chilled cast iron rolls

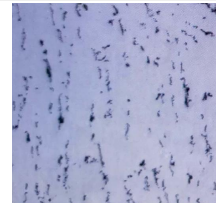
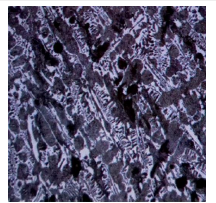
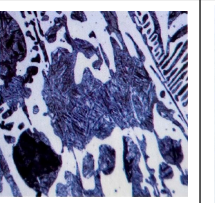

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Cast way |
|------------|---------|---------|---------|---------|---------|---------|-------------|
| AIC I | 3.1-3.4 | 0.6-0.9 | 0.5-1.0 | 0.8-2.0 | 0.7-1.3 | 0.2-0.6 | Centrifugal |
| AIC II | 3.1-3.4 | 0.6-1.0 | 0.5-1.0 | 2.1-3.0 | 0.7-1.5 | 0.2-0.6 | |
| AIC III | 3.1-3.4 | 0.6-1.0 | 0.5-1.0 | 3.1-4.5 | 0.8-1.3 | 0.2-1.0 | |
| AIC IV | 3.1-3.4 | 0.6-1.3 | 0.5-1.0 | 3.5-4.5 | 1.2-2.0 | 0.3-1.0 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|--|
| AIC I | 55-72 | 35-55 | >160 | Intermediate and finish stands of section mill, bar, wire rod, hot strip mill. |
| AIC II | 55-72 | 35-55 | >160 | |
| AIC III | 65-78 | 35-55 | >350 | |
| AIC IV | 73-83 | 35-55 | >350 | Wire rod finishing, hot rolled sheet, strip finishing mill |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

2. Alloy chilled cast iron roll

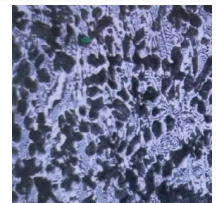
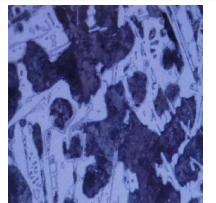
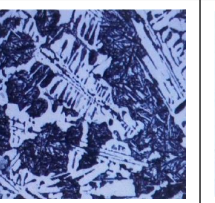

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Cast way |
|------------|---------|---------|---------|---------|---------|---------|-------------|
| ACC I | 3.0-3.4 | 0.3-0.8 | 0.2-1.0 | 0.5-1.0 | 0.2-0.6 | 0.2-0.6 | Centrifugal |
| ACC II | 3.0-3.4 | 0.3-0.8 | 0.2-1.0 | 1.1-2.0 | 0.3-1.2 | 0.2-0.6 | |
| ACC III | 3.0-3.4 | 0.6-1.0 | 0.2-1.0 | 2.1-3.0 | 0.5-1.5 | 0.2-0.6 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|---|
| ACC I | 55-70 | 32-50 | >150 | Wire rod finishing, narrow band finishing, strip finishing stands |
| ACC II | 60-75 | 35-52 | >150 | |
| ACC III | 65-80 | 32-45 | >350 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

3. Alloy graphite roll

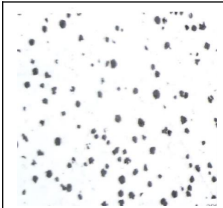
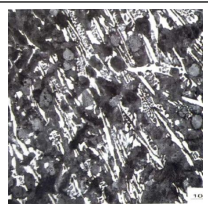
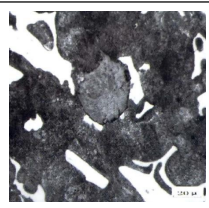
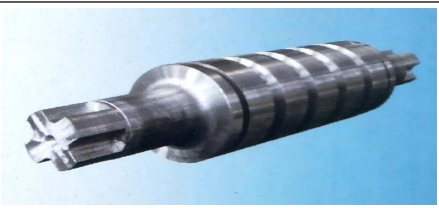
Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Mg | Cast way |
|------------|---------|---------|---------|---------|---------|---------|-------------|------------------------|
| ASG I | 3.0-3.4 | 1.4-1.9 | 0.2-0.8 | 0.5-1.0 | 0.2-0.6 | 0.2-0.6 | ≥ 0.04 | Static and centrifugal |
| ASG II | 3.0-3.4 | 1.5-1.9 | 0.2-0.8 | 1.1-2.0 | 0.3-0.8 | 0.2-0.6 | ≥ 0.04 | |
| ASG III | 3.0-3.4 | 1.6-1.9 | 0.2-0.8 | 2.1-2.8 | 0.5-1.0 | 0.2-0.6 | ≥ 0.04 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|---|
| ASG I | 45-65 | 35-55 | >320 | Structural steel, rough and intermediate stands of wire rod |
| ASG II | 50-70 | 35-55 | >320 | |
| ASG III | 60-70 | 35-55 | >320 | |

Metallographic structure

| | | | |
|--|--|--|---|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

4 .Pearlitic nodular cast iron roll


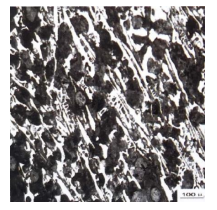
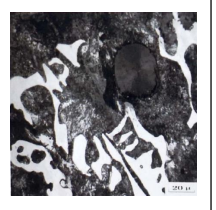

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Mg | Cast way |
|------------|---------|---------|---------|---------|---------|---------|-------------|------------------------|
| SGP I | 3.0-3.4 | 1.5-1.9 | 0.4-0.8 | 1.5-2.0 | 0.2-0.6 | 0.2-0.6 | ≥ 0.04 | Static and centrifugal |
| SGP II | 3.0-3.4 | 1.3-1.9 | 0.4-0.8 | 2.0-2.5 | 0.2-0.8 | 0.2-0.6 | ≥ 0.04 | |
| SGP III | 3.0-3.4 | 1.2-1.9 | 0.4-0.8 | 2.5-3.0 | 0.2-1.2 | 0.2-0.6 | ≥ 0.04 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|---|
| SGP I | 45-55 | 35-55 | >450 | Structural steel, rough and intermediate stands of wire rod |
| SGP II | 55-65 | 35-55 | >450 | |
| SGP III | 62-72 | 35-55 | >450 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

5. Bainitic nodular cast iron roll


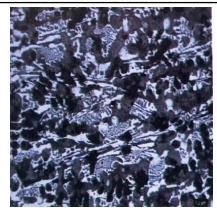
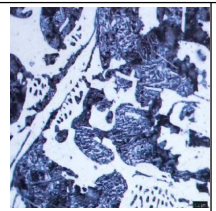

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Mg | Cast way |
|------------|---------|---------|---------|---------|---------|---------|-------|------------------------|
| SGA I | 3.0-3.4 | 1.2-1.9 | 0.4-0.8 | 3.0-3.5 | 0.2-0.8 | 0.5-1.0 | ≥0.04 | Static and centrifugal |
| SGA II | 3.0-3.4 | 1.2-1.9 | 0.4-0.8 | 3.0-4.5 | 0.2-1.0 | 0.5-1.0 | ≥0.04 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|--|
| SGA I | 55-78 | 32-45 | >350 | Structural steel, wire rod, seamless intermediate and finish |
| SGA II | 60-80 | 32-45 | >350 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

6. High chrome cast iron centrifugal roll

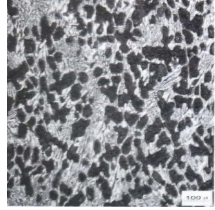
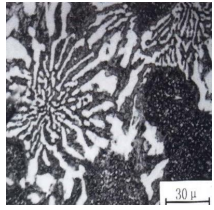
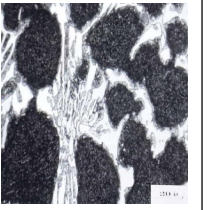

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | V | Cast way |
|------------|---------|---------|---------|---------|-----------|---------|---------|-------------|
| HCrI I | 3.0-3.3 | 0.3-1.0 | 0.5-1.2 | 0.7-1.7 | 12.0-15.0 | 0.7-1.5 | 0.1-0.4 | centrifugal |
| HCrI II | 3.0-3.3 | 0.3-1.0 | 0.5-1.2 | 0.7-1.7 | 15.0-18.0 | 0.7-1.5 | 0.2-0.4 | |
| HCrI III | 3.0-3.3 | 0.3-1.0 | 0.5-1.2 | 0.7-1.7 | 18.0-22.0 | 1.5-3.0 | 0.2-0.4 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|--|
| HCrl I | 60-70 | 32-45 | >350 | Wire rod finishing, rough and finishing stands for plate hot rolling |
| HCrl II | 65-80 | 32-45 | >350 | |
| HCrl III | 70-90 | 32-45 | >350 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

7. Alloy cast steel roll

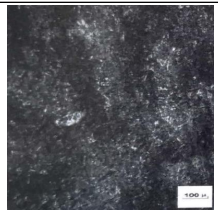
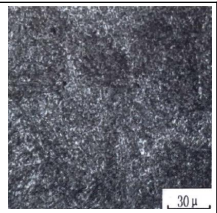
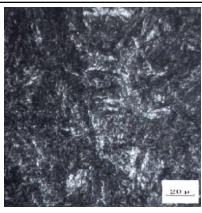

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Cast way |
|--------------|-----------|----------|---------|---------|----------|----------|-----------------------------------|
| Zu60CMoMn | 0.55-0.65 | 0.2-0.45 | 0.9-1.2 | | 0.8-1.2 | 0.2-0.45 | Static,static cast slot, casement |
| Zu60CrMoMnNi | 0.55-0.65 | 0.2-0.6 | 0.5-1.0 | 0.2-1.5 | 0.8-1.2 | 0.2-0.6 | |
| Zu65CrNiMo | 0.6-0.7 | 0.2-0.6 | 0.5-0.8 | 0.2-0.5 | 0.8-1.2 | 0.2-0.45 | |
| Zu70Mn | 0.65-0.75 | 0.2-0.45 | 0.8-1.4 | | | | |
| Zu70Mn2 | 0.65-0.75 | 0.2-0.45 | 1.4-1.8 | | | | |
| Zu70Mn2Mo | 0.65-0.75 | 0.2-0.45 | 1.4-1.8 | | | 0.2-0.45 | |
| Zu75CrMo | 0.7-0.8 | 0.2-0.45 | 0.6-0.9 | | 0.75-1.0 | 0.2-0.45 | |
| Zu75CrNiMnMo | 0.7-0.8 | 0.2-0.7 | 0.7-1.1 | >=0.2 | 0.8-1.5 | 0.2-0.6 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|--------------|---------------------|-------------------|----------------------|---|
| Zu60CMoMn | 35-50 | <=45 | >650 | Section steel,wire rod rough stands, strip broken scales, cogging |
| Zu60CrMoMnNi | 35-45 | <=45 | >750 | |
| Zu65CrNiMo | 35-45 | <=45 | >750 | |
| Zu70Mn | 32-42 | <=45 | >650 | |
| Zu70Mn2 | 35-45 | <=45 | >680 | |
| Zu70Mn2Mo | 35-45 | <=45 | >700 | |
| Zu75CrMo | 35-50 | <=45 | >700 | |
| Zu75CrNiMnMo | 35-50 | <=45 | >800 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

8. Adamite roll

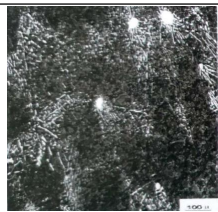
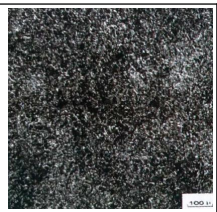
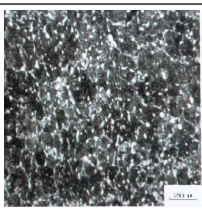

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Cast way |
|--------------|---------|---------|---------|---------|---------|---------|--|
| ZuB140CrNiMo | 1.3-1.5 | 0.3-0.6 | 0.7-1.1 | 0.5-1.2 | 0.8-1.2 | 0.2-0.6 | Static,static cast slot,a cobination of casement |
| ZuB160CrNiMo | 1.5-1.7 | 0.3-0.6 | 0.8-1.3 | >=0.2 | 0.8-2.0 | 0.2-0.6 | |
| ZuB180CrNiMo | 1.7-1.9 | 0.3-0.8 | 0.6-1.1 | 0.2-2.0 | 0.8-1.5 | 0.2-0.6 | |
| ZuB200CrNiMo | 1.9-2.1 | 0.3-0.8 | 0.8-1.2 | 0.6-2.5 | 0.6-2.0 | 0.2-0.8 | |
| ZuB220CrNiMo | 2.0-2.2 | 0.3-0.8 | 0.8-1.2 | 0.6-2.5 | 0.8-2.0 | 0.2-0.8 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|--------------|---------------------|-------------------|----------------------|---|
| Zu60CMoMn | 35-50 | <=60 | 500-800 | Large section steel,H-shaped steel,wire rod,finishing BD roll,vertical roll,roll ring |
| Zu60CrMoMnNi | 40-60 | <=50 | 500-800 | |
| Zu65CrNiMo | 45-60 | <=50 | 450-700 | |
| Zu70Mn | 50-65 | <=50 | 450-700 | |
| Zu70Mn2 | 50-65 | <=50 | 450-700 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

9. Graphite steel roll

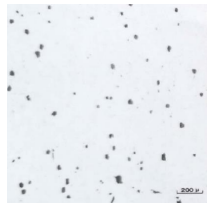
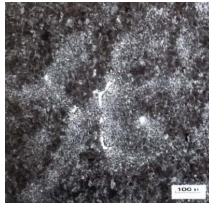
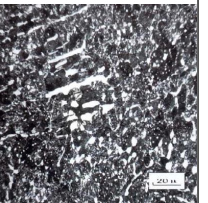

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | Cast way |
|------------|---------|---------|---------|---------|---------|---------|--|
| G140CrNiMo | 1.3-1.5 | 1.3-1.6 | 0.5-0.8 | | 0.4-0.7 | 0.2-0.5 | Static,static cast slot,a cobination of casement |
| G160CrNiMo | 1.5-1.7 | 0.8-1.5 | 0.6-1.0 | 0.2-1.0 | 0.5-1.5 | 0.2-0.8 | |
| G180CrNiMo | 1.7-1.9 | 0.8-2.0 | 0.6-1.5 | 0.8-1.5 | 0.5-1.5 | 0.2-0.8 | |
| G200CrNiMo | 1.9-2.1 | 0.8-2.0 | 0.6-1.5 | 0.8-1.5 | 0.5-2.0 | 0.2-0.8 | |
| G220CrNiMo | 2.1-2.3 | 0.8-2.0 | 0.6-1.5 | 0.8-1.5 | 0.5-2.0 | 0.2-0.8 | |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|------------|---------------------|-------------------|----------------------|---|
| G140CrNiMo | 36-46 | <=46 | >=540 | Large section steel,H-shaped steel,wire rod,finishing BD roll,vertical roll,roll ring |
| G160CrNiMo | 45-55 | <=50 | >=500 | |
| G180CrNiMo | 50-60 | <=50 | >=500 | |
| G200CrNiMo | 50-60 | <=50 | >=500 | |
| G220CrNiMo | 50-65 | <=50 | >=500 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

10. High speed steel roll

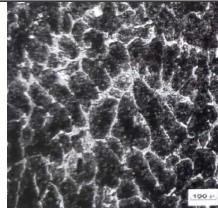
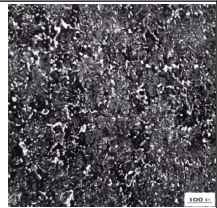
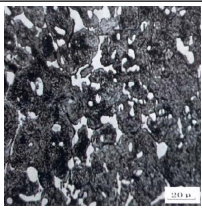

Chemical component

| Grade code | C | Si | Mn | Ni | Cr | Mo | V.Nb.W |
|-------------------|---------|---------|---------|---------|-----------|---------|--------------|
| High-chromium HSS | 0.8-1.8 | 0.4-1.0 | 0.5-1.0 | 0.5-1.5 | 8.0-15.0 | 1.5-4.5 | 0.2-0.4 |
| Semi-HSS | 0.6-1.2 | 0.8-1.5 | 0.5-1.0 | 0.2-1.2 | 3.0-9.0 | 2.5-5.0 | 0.5-2.0 |
| High-boron HSS | 2.5-3.0 | 0.3-1.0 | 0.5-1.2 | 0.7-1.7 | 15.0-18.0 | 0.7-1.5 | Nb0.5-3.0 |
| High-vanadium HSS | 1.5-2.0 | 0.3-1.0 | 0.4-1.0 | 0.5-1.5 | 3.0-8.0 | 2.0-8.0 | V3.0-8.0 |
| High-niobium HSS | 1.5-2.0 | 0.3-1.0 | 0.4-1.0 | 0.5-1.5 | 3.0-8.0 | 2.0-8.0 | V+Nb 3.0-8.0 |

Physical properties

| Grade code | Barrel hardness HSD | Neck hardness HSD | Tensile strength Mpa | Application |
|-------------------|---------------------|-------------------|----------------------|--|
| High-chromium HSS | 70-85 | 35-45 | >=450 | Rough hot rolled plate, vertical roll wire bar rough stands, wire rods intermediate and finishing, pre-finishing |
| Semi-HSS | 70-85 | 35-45 | >=450 | |
| High-boron HSS | 70-85 | 35-45 | >=450 | |
| High-vanadium HSS | 70-95 | 35-45 | >=450 | |
| High-niobium HSS | 70-95 | 35-45 | >=450 | |

Metallographic structure

| | | | |
|---|---|---|--|
|  |  |  |  |
| 50X graphite | 100X carbide | 500X bainite | Typical roll photo |

11. Casting roll ring

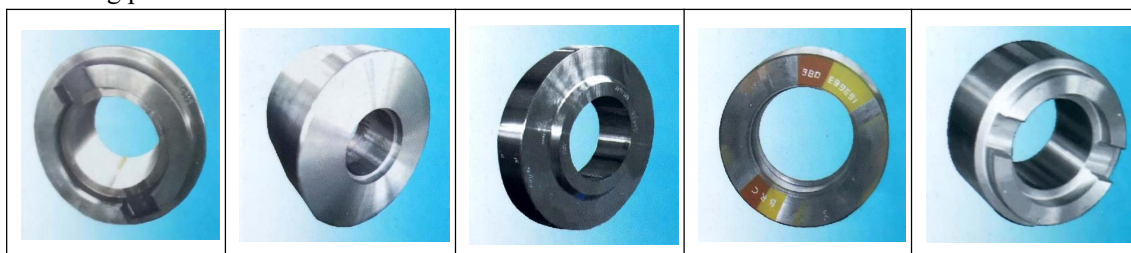
Chemical component

| Material | Grade code | C | Si | Mn | Ni | Cr | Mo |
|---------------------------------|------------|---------|---------|---------|---------|----------|---------|
| Pearlite class cast iron | SGP | 2.9-3.6 | 1.0-2.0 | 0.4-1.0 | 1.0-3.0 | 0.2-1.0 | 0.2-0.6 |
| Bainitic cast iron | SGA | 2.9-3.6 | 1.0-2.0 | 0.4-1.0 | 3.0-4.0 | 0.3-1.0 | 0.2-0.8 |
| Semi-steel alloy steel | AD | 1.2-2.2 | 0.3-0.8 | 0.7-1.3 | 0.5-2.2 | 0.8-3.0 | 0.2-0.8 |
| Class cast alloy graphite steel | GS | 1.3-2.0 | 0.8-1.7 | 0.5-1.0 | 0.2-2.2 | 0.4-2.0 | 0.2-0.8 |
| High chromium cast roll ring | HCr | 0.8-2.8 | 0.3-1.0 | 0.5-1.2 | 0.5-1.7 | 8.0-22.0 | 0.7-2.5 |

Physical properties

| Grade code | Grade code | Barrel hardness HSD | Tensile strength Mpa | Application |
|---------------------------------|------------|---------------------|----------------------|---|
| Pearlite class cast iron | SGP | 45-70 | ≥ 450 | Steel straightening, vertical roll, wire rod intermediate, reducing for seamless, universal level |
| Bainitic cast iron | SGA | 50-75 | ≥ 350 | Universal finishing, wire rod pre-finishing, seamless sizing, straightening steel |
| Semi-steel alloy steel | AD | 40-65 | ≥ 490 | Universal finishing, edger, seamless sizing |
| Class cast alloy graphite steel | GS | 40-65 | ≥ 500 | Universal rough mill, sealess rough stands |
| High chormium cast roll ring | HCr | 65-85 | ≥ 350 | Eger, wire rod finishing, H steel straightening |

Roll ring photos



3 layers package

Third package: The outer package is hard and strong plastic board, it can prevent any impact and scuffing damage.

Finally we use strip to fix the packages.

We make those steel frame by ourselves, and they are painted and have very strong structure.

Second package : Then packed with thick plastic paper to prevent water in it.



Contact Information

Juncheng International Corporation Limited

No.2204, Building 16, Feicuiwan, Wuling, Changde, Hunan, China zip 415000

Mr. Jack Huang

Overseas Sales Director

Email: jack@junchengcorp.com

Skype: jackkingtal

Tel: 0086-736-7796053

Mobile and wechat no. : 0086-18973613740

Website: www.junchengcorp.com