



成功 源自信赖

Winner, needs a trusted partner.



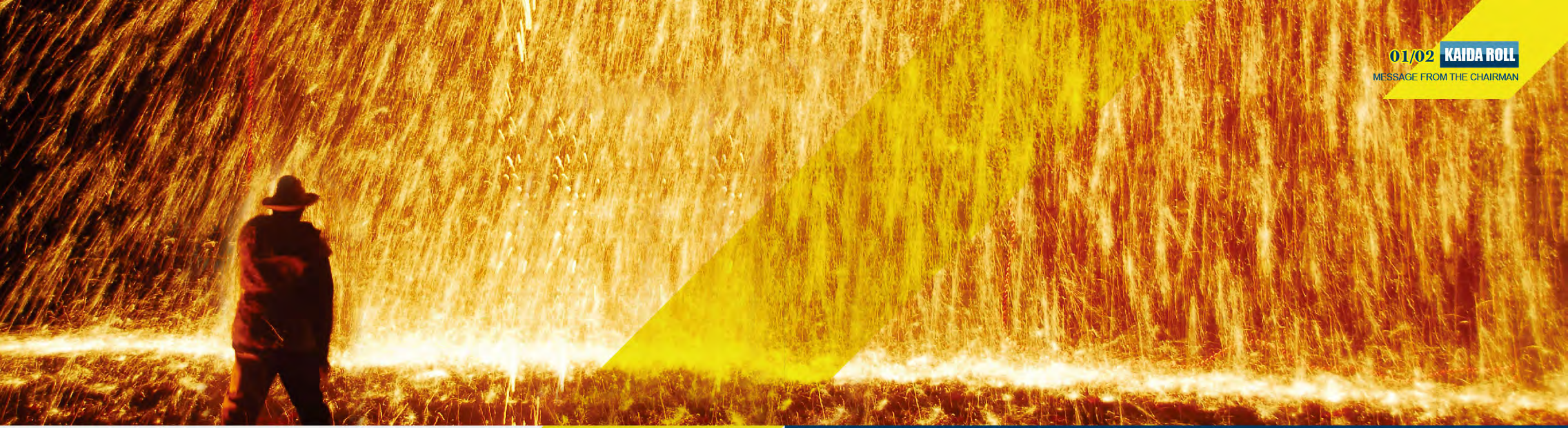
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MESSAGE FROM THE CHAIRMAN

The history of Changzhou Kaida Heavy Industry Technology Co.,Ltd., can be traced back to 1951 when our company was named as DongAn Iron & Wood Association. In 1972 we changed our name to DongAn Agriculture Machinery Factory. In 1979 our company started to produce rolls for hot rolling mills. In 1998, we subsequently became privately owned and changed name to Changzhou Kaida Roll Group Co.,Ltd. In 2007, we founded Changzhou Kaida Heavy Industry Technology Co.,Ltd.



Thanks to generations' industrious endeavors and persistent efforts in the last 35 years, we have successfully gained position in the industry and established our brand. Without your support and assistance, as well as the hard work from all of our staff, we can't achieve what we have. I would like to take this opportunity to extend my sincere gratitude. I am sincerely grateful to invite you visiting us at the plant and we appreciate your continuous support.

The future is full of challenges. But with our firm belief and clear objective we will continue to provide qualified products and services to customers, and to maintain our position in the industry. Adhering to the principle "Melting refined product, casting credibility and integrity", we are dedicated to making ourselves to be the production base of rolls for section mills in China and rolls for worldwide mills.

Let us join hands to create a more splendid future!

Executive Chairman: Xu Ya'nan

许亚南

COMPANY INTRODUCTION

Kaida Roll is a professional roll manufacturer who has over 35 years of experience in roll production. Our capacity now is over 50,000 ton ranking the third in Chinese roll industry. Company has a staff of 500, 60 among whom are technicians in melting, metal material, casting, heat treatment, physical & chemical inspection, processing and rolling technique. It boasts of 6 experts, professor-level senior engineers, senior engineer and Ph.D. supervisor. In addition, company invites foreign experts to offer technical instructions all year long. Company is capable of providing rolls in various material for HRM of beam-rail, section, bar, reinforced bar, wire rod, strip, and steel pipe and optimized roll scheme for all stands, as well as forged roll for pickling tandem line, cold rolling line and CGL. By years' efforts, our products have been serving in the main Chinese steel plants. We also export our products to U.S, Mexico, Spain, Canada, France, Germany, Italy, Turkey, India etc. The volume of export products is over 30%.

KAIDA GROUP

Ownership Structure Diagram

Changzhou Kaida
Heavy Industry Technology Co.,Ltd.

Manufacturing roll

Changzhou Kaida
International Trading Co.,Ltd.

Marketing for
overseas market

Changzhou Kaida
Asset Management Co.,Ltd.

Managing investment

Jiangsu Jiangnan
Rural Commercial Bank Co.,Ltd.

Exercising the rights
of shareholders



ISO9001 Quality Management System Certificate
Environmental Science Management System Certificate
Occupation Health Safety Management System Certificate



METALLURGICAL CENTRE

R&D DEVICES

Item	Equipments	Qty's	Supplier
1	Spectrum Analyzer	2	Swiss
2	Metallographic Microscope	3	Olympus
3	Ultrasonic Tester	3	Sonatest
4	Liquidus Temperature Analyzer	2	Heraeus
5	Thermal Analyzer	2	Heraeus
6	High Infrared Ray Carbon Sulphur Analyzer	1	China
7	Shore Hardness Tester	2	Hitachi
8	Portable Hardness Tester	2	Equotip
9	Universal Testing Machine	1	China
10	Impact Testing Machine	1	China



Metallurgical Microscope



ICP Spectrometer



Scan Electric Microscope

R&D

R&D is one of the most important activities in KAIDA Group. As a developing enterprise, technology and innovation keep us complying with our customers' needs. We set up our metallurgical center equipped with the most advanced facilities in the world. To follow up the latest technology, we have long partner relationship with institutes like Sichuan University and Changzhou University. We focus on studying new materials and improving the performance of rolls in customers as well as roll manufacturing technology. We have got a lot of patents and research many new products, such as compound roll, roller ring, back up roll, HSS roll. Our achievements have been applied in our customers' mills winning continuous appraisal.

COOPERATIVE

Material Improvement with Changzhou University
Heat Treatment Techniques R&D with Sichuan University





CAST ROLLS

Roll manufacturing requires various technologies, which include metallurgical techniques, heat treatment techniques, machining techniques and testing techniques. By years of development, we are capable of producing a wide range of rolls. We can produce rolls by static casting and centrifugal casting, depending on the request of customers. In order to control the core process of manufacturing, we imported 2 induction melting furnaces from INDUCTOTHERM. Quality is always our core competitiveness.



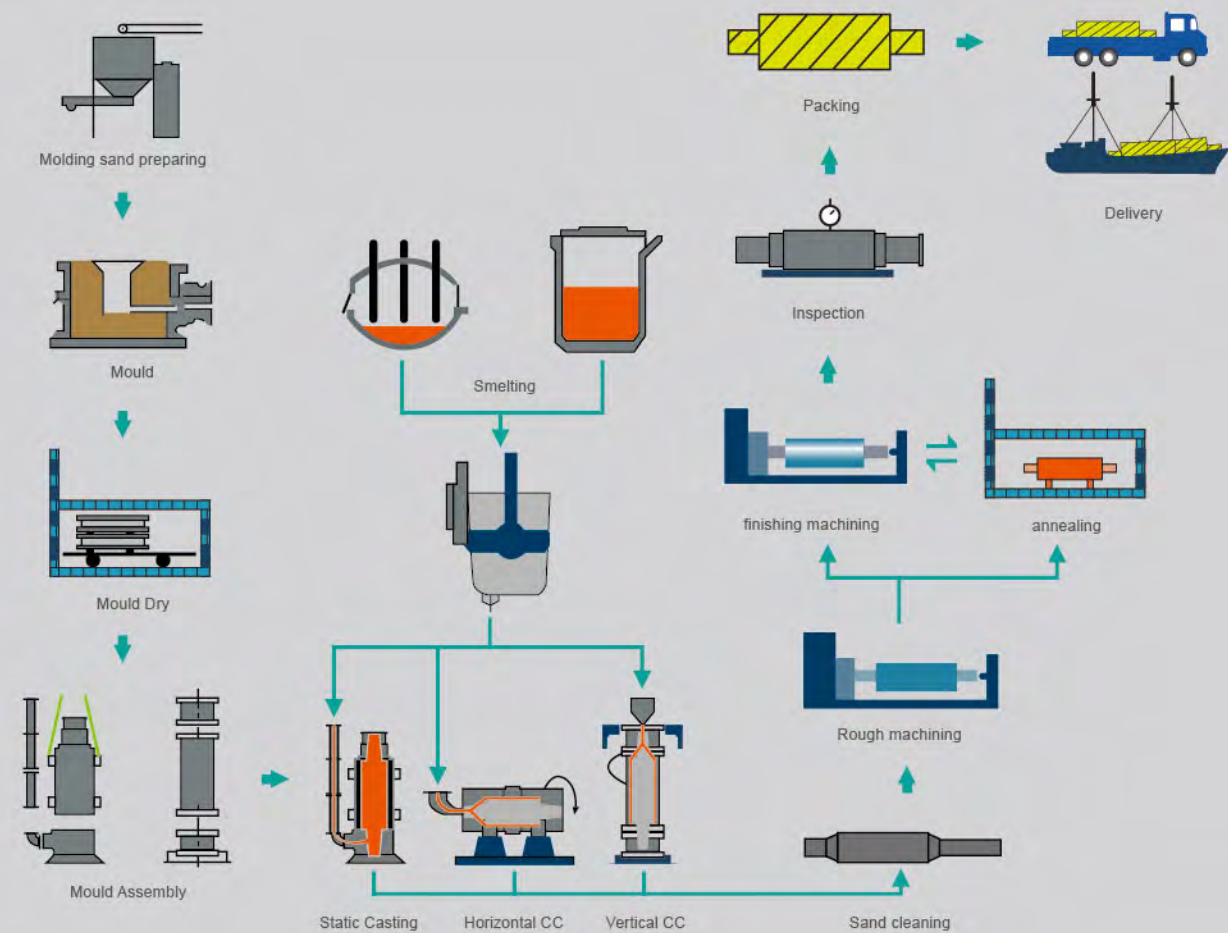
THERMAL PRODUCTION FACILITIES

No.	Facility name	Model/Specs	Qty's
1	Medium Frequency Induction Furnace	7500Kw/250Hz/25t	2
2	Medium Frequency Induction Furnace	10t	2
3	Medium Frequency Induction Furnace	3t	2
4	Medium Frequency Induction Furnace	1t	1
5	Resistor Furnace	80M³	25
6	High Temperature Tempering Furnace	50M³	10
7	Low Temperature Tempering Furnace	60M³	6
8	Centrifugal Casting Machine	Φ400~Φ1600	6

Centrifugal Casting



PRODUCTION PROCESS



MACHINING
PRODUCTION
FACILITIES

No.	Facility name	Model/Specs	Qty's
1	Sand Production Line	15t/h	1
2	Roll Lathe Machine	C8440~C84160	45
3	Heavy Lathe Machine	C61100~C61200	45
4	Vertical Lathe Machine	CK5225M/2 etc.	5
5	CNC Lathe Machine	CK8463/CK84160/CK84125 etc.	8
6	Linear Cutting Machine	DK7763	7
7	CNC Grinding Machine	MK84180	1
8	Roll Grinding Machine	M84160/M84125	3
9	Grinding Machine	M1380 etc.	4
10	Milling Machine	XQ2017 etc.	5
11	CNC Milling Machine	XK9416	2



Grinding Machine



CNC Milling Machine



Sleeve Machining



Milling Machine



Ferrite Measuring

QUALITY CONTROL

KAIDA Group assures high quality products through an extensive system of quality controls. A number of rigid inspections are carried out for each and every step in the process of our production line. Every set of inspection equipment has to go through high accuracy calibration to guarantee effectiveness of inspection data.



Spectrum Analyzer



Liquidus Temperature Testing

- Scrap and other raw materials are verified so that they meet stringent specifications.
- All melting parameters are analysed.
- Casting parameters are documented.
- Heating parameters are monitored during the heat treatment process.
- Hardness and internal soundness are checked after the heat treatment process has been carried out.
- Dimensions and final hardness results are checked before shipment.
- An examination to detect freedom of surface and internal cracks is carried out before shipment.
- All results are documented in accordance with our Quality Management system



Ultrasonic Testing



Hardness Testing

NON CONTINUOUS CARBIDE ROLLS

Rolls for rough stand mills require a combination of some properties, some of which can be counteracted by the others. These properties include wearability, resistance of fire cracking and impact, hot hardness and hot strength etc. Excessive network carbides will improve wearability and impact resistance but dramatically reduce fracture toughness. Under rough rolling process they can promote fire cracking formation and added to form Bainitic/Martensitec (acicular) matrix, which is more wearable than conventional pearlitic matrix. The Molybdenum can also improve the hot hardness of rolls.

This type of roll is manufactured from high alloy materials with special heat treatment. Carbide content in the matrix is less than 5%, which is satisfactory to the requirement of rough stand mill.

symbol
NCC



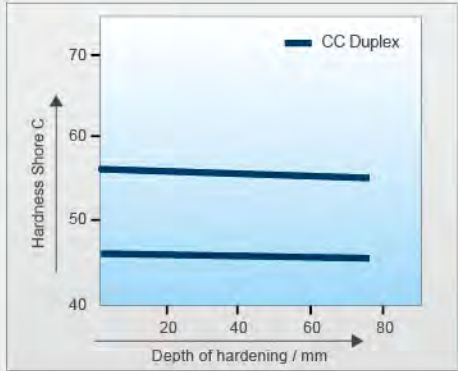
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
NCC I	3.00-3.40	2.00-2.50	0.80-1.00	≥0.15	2.00-3.00	0.40-0.70
NCC II	3.00-3.40	1.50-2.00	0.80-1.00	≥0.15	2.50-4.50	0.50-1.00

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Bending Strength MPa	Dimension MM	Unit N.W KGS	Application
NCC I	40-50	≥520	970-1380	∅ 500-1380	1000-35000	Roughing stands of bar and wire mills, BD2 rolls for large section
NCC II	50-60	≥520	970-1380			

HARDNESS CURVE



MICROSTRUCTURE



BAINITIC NODULAR CAST IRON ROLLS

Alloy elements of Ni、Mn、Cr、Mo etc. are added to bainitic nodular cast iron rolls for obtaining acicular (bainite-martensite) matrix in its microstructure of these rolls. Its strength and toughnes is higher than Pearlitic Nodular Cast Iron Rolls. Wearability is also better than the latter. These rolls can be produced by static casting or centrifugal casting.

symbol
SGA



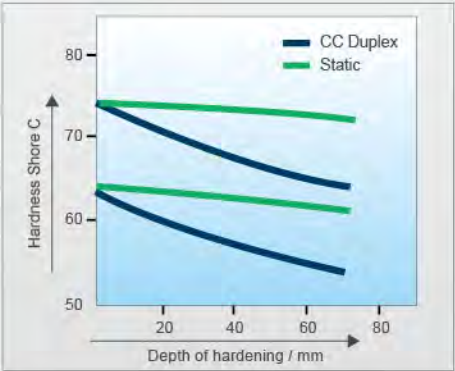
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
SGA I	2.90-3.60	1.20-2.20	0.20-0.80	0.20-1.00	3.01-3.50	0.50-1.00
SGA II	2.90-3.60	1.00-2.00	0.20-0.80	0.30-1.50	3.51-4.50	0.50-1.00

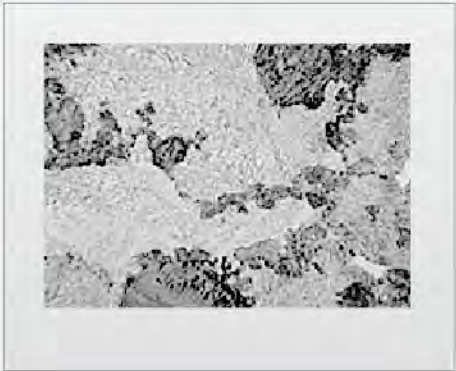
PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Bending Strength MPa	Dimension MM	Unit N.W KGS	Application
SGA I	55-78	≥350	600-800	∅ 300-1000	500-12000	Finishing stands of small section mills, bar, rod and hot narrow strip mills, finishing stands of high speed wire mills
SGA II	60-80	≥350	600-800			

HARDNESS CURVE



MICROSTRUCTURE



CLEAR CHILLED ROLLS

Alloy chilled cast iron rolls are one kind of cast iron rolls, which contain almost no free graphite in the matrix of working layer of the barrel. They have hardness and excellent wearability, suitable to finish stands of light bar and wire rolling mills and narrow strip mills. Its microstructure is fine pearlite and carbides.



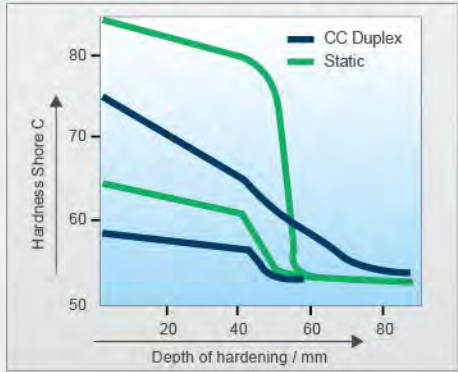
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
CC I	2.90-3.60	0.25-0.80	0.20-1.00	0.20-0.60	0.50-1.00	0.20-0.60
CC II	2.90-3.60	0.25-0.80	0.20-1.00	0.30-1.20	1.01-2.00	0.20-0.60
CC III	2.90-3.60	0.25-0.80	0.20-1.00	0.50-1.50	2.01-3.00	0.20-0.60
CC IV	2.90-3.60	0.25-0.80	0.20-1.00	0.50-1.70	3.01-4.50	0.20-0.60

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Bending Strength MPa	Dimension MM	Unit N.W KGS	Application
CC I	60-70	≥150	300-400	Ø 300-800	300-7000	Rolls for finishing stands of small section mills, bar and wire mills, hot narrow strip mills
CC II	62-75	≥150	300-400			
CC III	65-80	≥350	500-700			
CC IV	70-85	≥350	500-700			

HARDNESS CURVE



MICROSTRUCTURE



ALLOY NODULAR CAST IRON ROLLS

These rolls are characterized by spherical graphite. Its mechanical properties are similar to those of alloy indefinite chilled rolls except that its strength is higher than the latter. They can be produced by static.



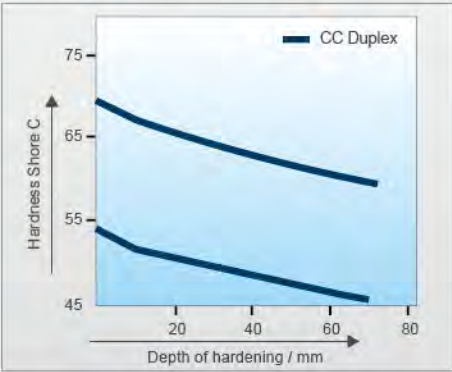
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo	Mg
SG II	2.90-3.60	0.80-2.50	0.40-1.20	0.20-0.60	-	0.20-0.60	≥0.04
SG IV	2.90-3.60	0.80-2.50	0.40-1.20	0.20-0.60	0.50-1.00	0.20-0.80	≥0.04
SG V	2.90-3.60	0.80-2.50	0.40-1.20	0.30-1.20	1.01-2.00	0.20-0.80	≥0.04

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Bending Strength MPa	Dimension MM	Unit N.W KGS	Application
SG II	50-70	≥320	500-700	Ø 300-1300	500-35000	Rolls for finish stands of light section mills, bar and wire rod mills, hot narrow strip mills and temper mill.
SG IV	55-70	≥320	500-700			
SG V	60-70	≥320	600-800			

HARDNESS CURVE



MICROSTRUCTURE



PEARLITIC NODULAR CAST IRON ROLLS



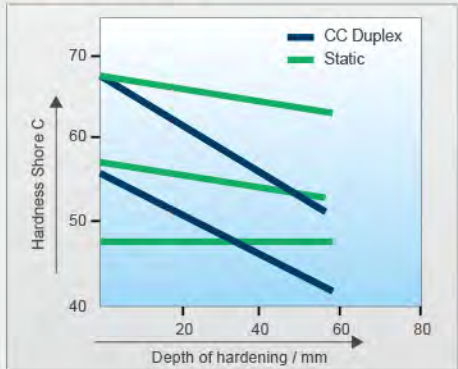
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo	Mg
SGP I	2.90-3.60	1.40-2.20	0.40-1.00	0.10-0.40	1.50-2.00	0.20-0.80	≥0.04
SGP II	2.90-3.60	1.20-2.00	0.40-1.00	0.20-1.00	2.01-2.50	0.20-0.80	≥0.04
SGP III	2.90-3.60	1.00-2.00	0.40-1.00	0.20-1.20	2.51-3.00	0.20-0.80	≥0.04

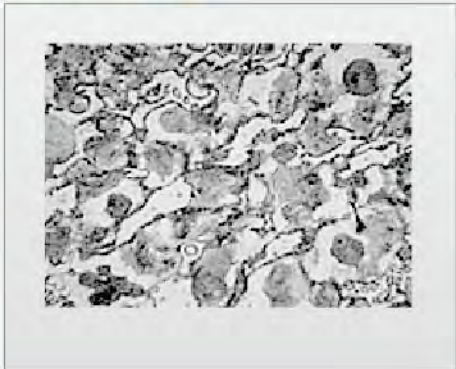
PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Dimension MM	Unit N.W KGS	Application
SGP I	40-55	≥350	Ø 300-1350	500-35000	Rolls for blooming mills, roughing and intermediate stands of bar, wire and section mills.
SGP II	50-65	≥350			
SGP III	60-72	≥350			

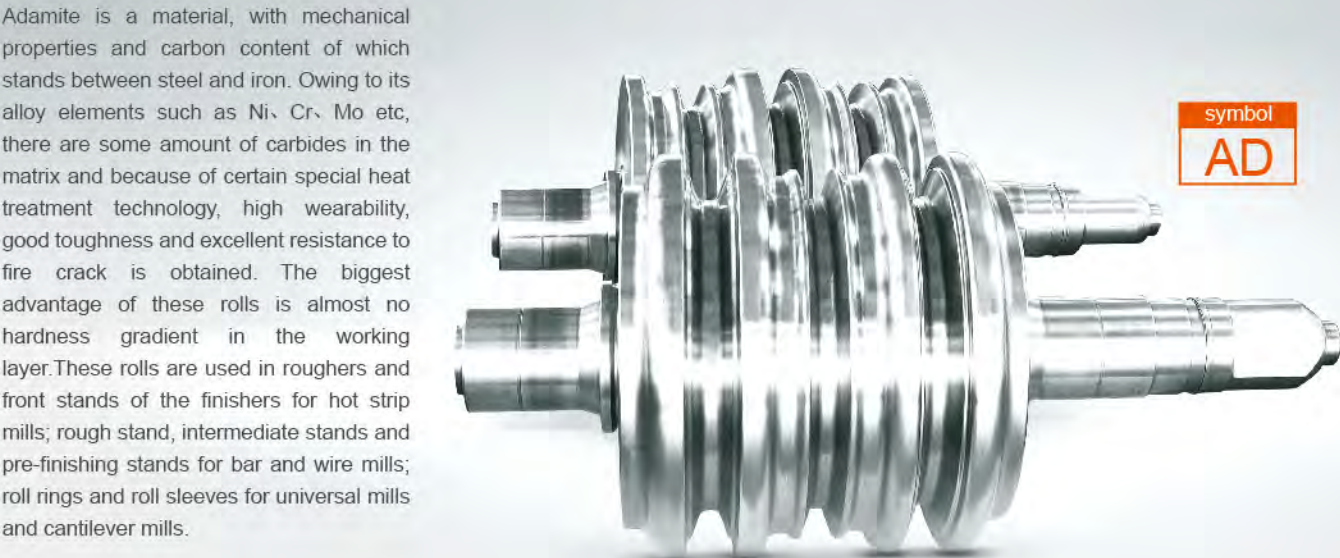
HARDNESS CURVE



MICROSTRUCTURE



ADAMITE ROLLS



CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
AD140 I	1.30-1.50	0.30-0.60	0.70-1.10	0.80-1.20	0.50-1.10	0.20-0.60
AD160 I	1.50-1.70	0.30-0.60	0.80-1.30	0.80-2.00	≥0.20	0.20-0.60
AD180-AD200	1.70-2.10	0.30-0.80	0.60-1.20	0.80-3.50	0.50-2.50	0.20-0.80
ADGT	1.40-1.60	0.30-0.80	0.70-1.50	1.00-2.00	1.00-3.00	0.40-0.80

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Elongation%	Dimension MM	Unit N.W KGS	Application
AD140 I	35-50	500-800	≥1.0	Ø 400-1400	1000-40000	Blooming and slabbing mills, roughing stands of large section mills
AD160 I	40-60	500-800	≥1.0			Roughing stands of small and medium section mills, bar and wire mills, narrow strip mills, vertical rolls.
AD180-AD200	45-65	450-700	≥0.5			Blooming and slabbing mills, rough stands, back up rolls for hot narrow strip mills, intermediate and finishing stands of large section mills
ADGT	50-60	690-850	≥0.5			



ALLOY CAST STEEL ROLLS

Alloy cast steel rolls are made of high quality steel melted with variable frequency furnace and finished with advanced foundry and heat treatment technologies. Our rolls have mechanical properties of high tensile strength, excellent resistance to fire crack, high wearability and toughness. These rolls are mainly composed of pearlite (or temper sorbite) in the microstructure.

symbol

AS



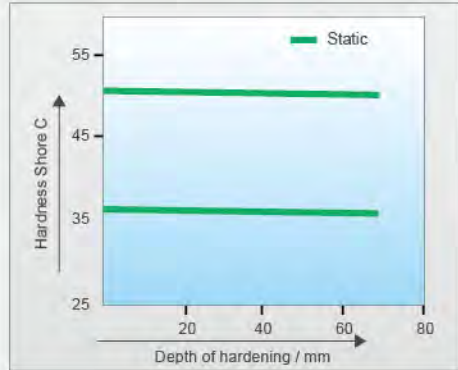
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
AS60	0.55-0.65	0.20-0.45	0.90-1.20	0.80-1.20	-	0.20-0.45
AS65I	0.60-0.70	0.20-0.60	0.50-0.80	0.80-1.20	0.20-0.50	0.20-0.45
AS70 II	0.65-0.75	0.20-0.45	1.40-1.80	-	-	0.20-0.45
AS75	0.70-0.80	0.20-0.45	0.60-0.90	0.75-1.00	-	0.20-0.45
AS75 I	0.70-0.80	0.20-0.70	0.70-1.10	0.80-1.60	≥0.20	0.20-0.60
Cr4	0.40-0.70	0.20-0.60	0.70-1.20	3.00-5.00	≥0.50	0.40-1.00

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Dimension MM	Unit N.W KGS	Application
AS60	35-50	≥650	Ø 600-1600	1000-50000	Blooming and slabbing mills, roughing stands of large section mills; Roughing stands of bar and wire mills, breakdown rolls for rail and section universal mills
AS65I	35-45	≥650			
AS70 II	35-45	≥680			
AS75	35-50	≥680			
AS75 I	35-50	≥700			
Cr4	50-65	≥700			

HARDNESS CURVE



MICROSTRUCTURE



CAST ROLLS FOR COLD ROLLING MILLS

Cast rolls for cold rolling mill are obtained by adding some special alloy elements based on HCr II and HCr III and following heat treatments many times. The rolls have better wear resistance than steel due to volume fraction of carbide. The rated tonnage rolled is one time higher than that of cold forge steel rolls.

symbol

HCrCold



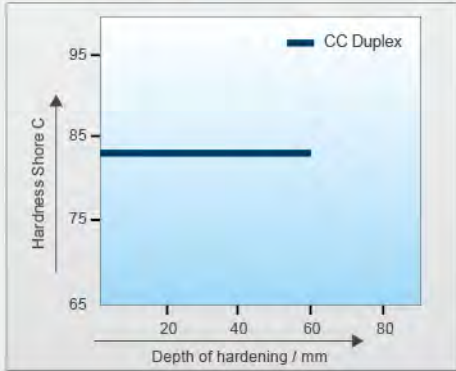
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
HCrCold	2.50-3.50	1.50-2.50	0.50-1.50	14.0-23.00	0.50-2.00	1.00-3.00

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Dimension MM	Unit Weight KGS	Application
HCrCold	75-90	≥ 380	Ø 400-650	3000~10000	Work rolls for cold rolled tin plate mills

HARDNESS CURVE



MICROSTRUCTURE



GRAPHITE STEEL ROLLS

The characteristics of graphite steel rolls are similar to those of adamite rolls. The main character is that it contains a small amount of fine graphite in its microstructure, which will increase its resistance to fire crack and prevent oxidized scales from adhering. They are suitable for blooming and roughing stands.



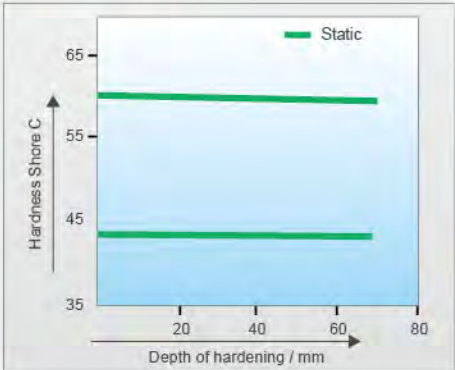
CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
GS140	1.30-1.50	1.20-1.60	0.50-1.00	0.40-1.00	-	0.20-0.50
GS160	1.50-1.70	0.80-1.50	0.60-1.00	0.50-1.50	0.20-1.00	0.20-0.80
GS190	1.80-2.00	0.80-1.50	0.60-1.00	0.50-2.00	0.60-2.20	0.20-0.80

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Elongation %	Dimension MM	Unit N.W KGS	Application
GS140	36-46	≥540	≥1.0	Ø400-1400	1000-40000	Roughing stands of small and medium section mills, bar and wire mills and hot strip mills, roll sleeves for universal mills.
GS160	40-60	≥500	≥1.0			
GS190	55-65	≥450	≥0.4			

HARDNESS CURVE



MICROSTRUCTURE

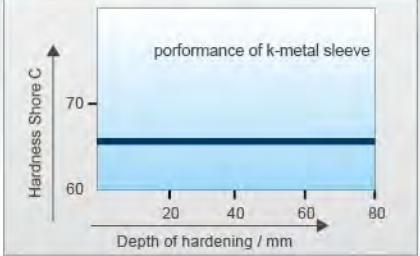


SLEEVE AND ROLL SHAFT

We produce various qualities for sleeves and roll shaft, such as SGP, SGA, Adamite, GT Adamite and K Metal..



HARDNESS CURVE



MICROSTRUCTURE



CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Ni	Mo
SGP	2.90-3.60	1.00-2.20	0.40-1.00	0.20-1.20	1.50-3.00	0.20-0.80
SGA	2.90-3.60	1.00-2.20	0.20-0.80	0.20-1.50	3.00-4.50	0.50-1.00
Adamite	1.50-2.10	0.30-0.80	0.60-1.30	0.80-3.50	0.50-2.50	0.20-0.80
GT Adamite	1.40-1.60	0.30-0.80	0.70-1.50	1.00-2.00	1.00-3.00	0.40-0.80
K Metal	2.5-3.00	0.50-0.70	0.8-1.20	10-15	≥ 0.20	0.50-0.80
GS	1.60-2.20	1.20-2.00	0.50-1.50	1.00-3.00	1.00-3.00	0.40-0.80

PROPERTIES&APPLICATION

Symbol	Hardness HS	Tensile Strength MPa	Dimension MM	Unit N.W KGS	Application
SGP	55-65	450	Ø400-1700	400-10000	Sleeve for universal mill, vertical rolling mill, roughing and intermediate stand of bar mill and rod mill.
SGA	60-70	450			
Adamite	50-60	600			
GT Adamite	55-65	700			
K Metal	60-70	700			
GS	55-65	700			



CHEMICAL COMPOSITION %

Symbol	C	Si	Mn	Cr	Mo
42CrMo	0.38-0.45	0.17-0.37	0.50-0.80	0.90-1.20	0.15-0.30

PROPERTIES&APPLICATION

Symbol	Tensite strength(Mpa)	Application
42CrMo	≥ 800	Vertical universal stands, arbor assembled with sleeves for finishing stands

OVERSEAS MARKET

CLIENT REFERENCE LIST

No.	Country	Name of Client	Material
1	U.S	Gerdau Sayerville	SGP
2	U.S	Gerdau Jackson Steel	SGA
3	U.S	Gerdau Calvert City	SGP
6	U.S	Arcekir Mittal USA Inc	SGP, GT, Admite
7	U.S	Carpenter Technology Corporation	Admite, SGP, Alloy Steel
8	U.S	Huntington Alloys Corporation	Alloy Steel
9	U.S	Severstal Dearborn Inc	Admite
10	U.S	Commercial Metals Company	SGA
11	U.S	NUCOR Corporation	Admite
12	U.S	Charter Manufacturing Company	SGA
13	U.S	North Star Bluecope Steel LC	Admite
14	U.S	Universal Stainless and Alloy Products Inc	SGP, NCC
15	Mexico	Simec Interational	Admite, SGA
16	Mexico	Deacero S.A DE C.V	SGA, SGP
17	Mexico	TA2000 S.A DE C.V	SGP
18	Mexico	Ternium Mexico S.A. DE C.V.	SGP
19	Spain	Arcelor Mittal Zaragoza S.A.	SGA
20	Spain	Megasa Siderurgica S.L.	SGP, GA
21	Spain	Arcelormittal Gipuzkoa S.L.U	SGP
22	Canada	Gerdau Whitby	SGA, Admite
23	Canada	Gerdau Ameristeel Corporation	Alloy Steel
24	Canada	Gerdau Cambridge	SGP
25	Canada	Gerdau Manitoba	Alloy Steel
26	Canada	Ivaco Rolling Mills	SGP, SGA
27	France	Tata Steel France Rail S.A	SGP
28	France	LME Trith	SGA, SGP
29	Columbia	Siderurgica Del Occidents S.A.	SGP
30	Columbia	Herragro S.A.	GT, Admite
31	Columbia	Laminammos S.A.	SGP, SGA, CC AIC
32	Columbia	Diaco S.A.	SGP
33	Peru	Empresa Siderurgica Del Peru S.A	GT, SGP
34	Peru	Corporacion Aceros Arequipa S.A.	SGA
35	Germany	Stahlwerk Thuringen Gmbh	SGP, GT
36	Korea	Korea Hyndai Steel	SGP, SGA,Admite
37	Korea	Labo Co., Ltd	SGP, SGA
38	Italy	Danieli Co.,Ltd	SGP, SGA
39	Italy	Acciaierie Valbruna SPA	CC AIC
40	Indonesia	Commonwealth Steel Company Pty Ltd	Admite
41	Indonesia	P.T Gunung Raja Paksi	SGP, SGA
42	Turkey	Ekinciler Demir Ve Celik Sanayi	SGA
43	Turkey	Izmir Demir Celik	SGP
44	Turkey	Asil Celik Sanayi Ve Ticaret A.S.	SGP, SGA
45	Brazil	V & M Do Brasil S.A.	SGP
46	Brazil	Gerdau Acominas S.A.	GT, Admite
47	Saudi Arab	Al Ittefaq Steel Products Company	SGA
48	Saudi Arab	Solb Steel Company	SGA
49	Luxemburg	Arcelormittal Belval&Differ Dange	SGP, 42CrMo
50	Romania	Arcelor Mittal Hunedoara S.A.	SGP
51	Russia	JSC Severstal	SGP, SGA, CC AIC
52	Egypt	Ezz Rolling Mills Company	SGA
53	Qatar	Qatar Steel FZE	SGP

PRODUCT APPLICATION

Steel is widely used around us every day. We use the steel to construct our buildings, bridges, roads, vehicles, etc. And most of the steel are produced by rolling mills. We are so proud to be a qualified roll manufacturer. We are making rolls and rolls make us a much prettier world!



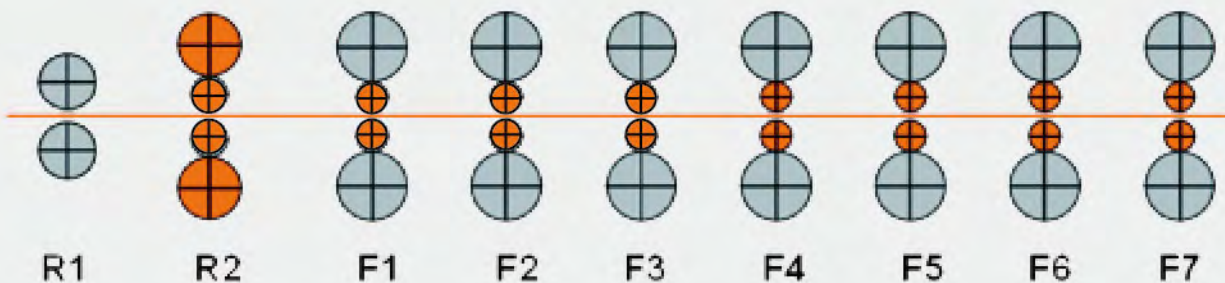
Jumeirah Beach Hotel



high-speed rail



HOT STRIP MILLS ROLLS



Typical Mode of 1700mm HSM

THE MAIN PROCESSING FACILITIES

- 20 ton Frequency Induction Furnace
- 15 ton Frequency Electric Furnace
- 46 ton Centrifugal Casting Machine
- Heat Treatment Furnace
- CNC Lathe Machine
- Grinding Machine

Stand No.	Name	Dimension	Roll Material	N.W (ton)
R1	WR	Φ1270×1700	60CrNiMo	26.0
R2	WR	Φ800×1700	HiCr	10.6
R2	BUR	Φ1400×1700	Cr5	31.6
F1-F2	WR	Φ700×1730	HiCr、HSS	8.7
F3-F6	WR	Φ665×1730	En-ICDP	8.4
F1-F6	BUR	Φ1550×1700	Cr5	38.2

HIGH CHROME CAST STEEL ROLL

High Chromium Cast steel roll is manufactured with special process of triple casting and double duplex technology. High chromium cast steel roll is characterized by high nipping capability, high thermal resistance and high wear resistance.

symbol
HiCr Steel

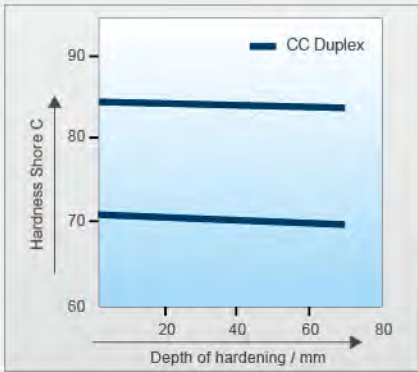
CHEMICAL COMPOSITION

Symbol	C	Si	Mn	Cr	Ni	Mo	V
HiCr Steel	1.0-2.0	0.40-1.40	0.5.-1.40	10.0-18.0	0.60-1.60	1.0-2.0	<0.5

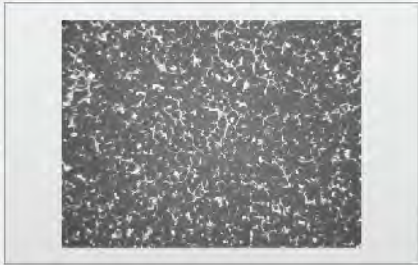
PHYSICAL PERFORMANCE

Barrel Harness (HSD)	Journal Hardness (HSD)	Tensile Strength (Mpa)	Hardness Uniformity (HSD)	Thickness Difference of Shell (mm)
70-85	35-45	>400	<3	<10

HARDNESS CURVE



MICROSTRUCTURE



ENHANCED HIGH CHROMIUM CAST IRON ROLL

Enhanced high chromium cast iron roll is widely applied as work roll of the front stand of HSM. The constitutions are characterized by 20-30% of M7C3 carbides of great hardness evenly distributed in the matrix of tempered Martensite so that the durability and anti-thermal fatigue performance are great.

symbol
En-HiCr-Iron

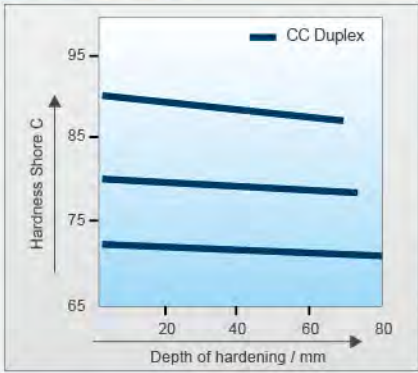
CHEMICAL COMPOSITION

Symbol	C	Si	Mn	Cr	Ni	Mo	V
En-HiCr Iron	2.6-3.2	0.40-1.20	0.3.-1.20	16.0-22.0	1.0-2.0	1.0-3.0	<1.5

PHYSICAL PERFORMANCE

Barrel Harness (HSD)	Journal Hardness (HSD)	Tensile Strength (Mpa)	Hardness Uniformity (HSD)	Thickness Difference of Shell (mm)
70-95	35-45	>400	<3	<10

HARDNESS CURVE



MICROSTRUCTURE



ENHANCED INDEFINITE CHILL CAST IRON ROLL

symbol
En-IDCP



The enhanced indefinite chilled cast iron roll is developed basing on the traditional IDCP. By adding the element of V, W, Ti, Nb, the wear resistance of the En-IDCP is improved. By the graphite formed inside the material, En-IDCP gets a better performance to prevent the heat cracking and the performance of anti thermal fatigue is improved.

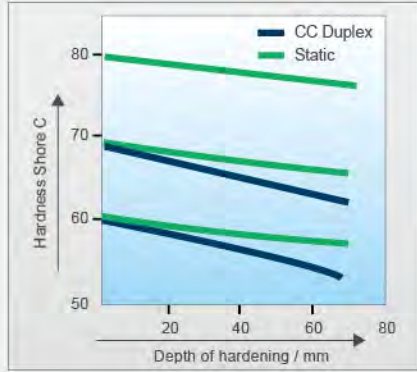
CHEMICAL COMPOSITION

Symbol	C	Si	Mn	Cr	Ni	Mo	V+W+Ti+Nb
En-IDCP	2.90-3.60	0.60-1.50	0.5.-1.50	1.00-2.50	3.50-5.00	0.20-1.00	<2.5
IDCP	2.90-3.60	0.60-1.50	0.4.-1.20	1.00-2.00	3.00-4.80	0.20-1.00	-

PHYSICAL PERFORMANCE

Symbol	Barrel Harness (HSD)	Journal Hardness (HSD)	Tensile Strength (Mpa)	Hardness Uniformity (HSD)	Thickness Difference of Shell (mm)
En-IDCP	65-85	35-45	>400	<5	<10
IDCP	65-85	35-45	>390	<5	<10

HARDNESS CURVE



MICROSTRUCTURE



HIGH SPEED STEEL ROLL



The microstructure of HSS roll shows fine and diffuse carbide of MC and M6C embedded in the Martensite. The performance of wear resistance, thermal hardness and thermal fatigue resistance of HSS roll is excellent.

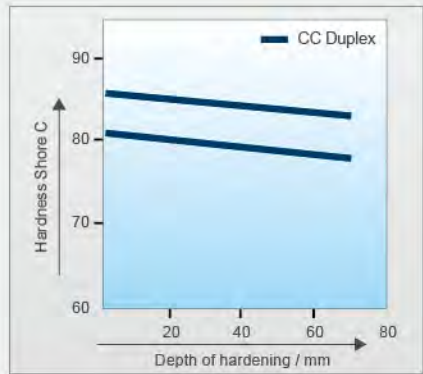
CHEMICAL COMPOSITION

Symbol	C	Si	Mn	Cr	Ni	Mo	V	W
HSS	1.5-2.2	0.3-1.0	0.4-1.20	3.0-8.0	0.5-1.5	2.0-8.0	2.0-8.0	0.0-8.0

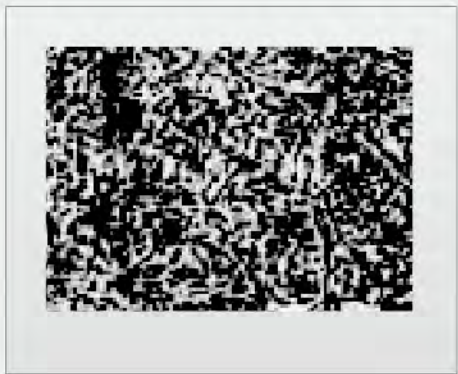
PHYSICAL PERFORMANCE

Barrel Harness (HSD)	Journal Hardness (HSD)	Tensile Strength (Mpa)	Hardness Uniformity (HSD)	Thickness Difference of Shell (mm)
60-90	35-45	>400	<3	<10

HARDNESS CURVE



MICROSTRUCTURE



OVERSEAS MARKET

Customers	Stand No.	Material	Specifications	Unit (ton)
Pakistan Steel Works	F7-12	ICDP	Φ755×1710	8.35
India SAIL Steel Works	Finishing stand	ICDP	Φ810×2000	11.453
		HiCi Iron	Φ810×2000	11.453
Ispat Karmet Works	Finishing stand	HiCi Iron	Φ710×1700	7.5
		ICDP	Φ710×1700	7.5
		ICDP	Φ1000×1700	14.975
Ispat Sidex Works	Finishing stand	ICDP	Φ950×1700	14
		HiCi Iron	Φ750×1740	8.63
		ICDP	Φ750×1740	8.63
		ICDP	Φ928×3300	24.9
		ICDP	Φ1050×3300	33.8
Thailand Steel Works	Medium Plate	ICDP	Φ750×2100	10.8
		ICDP	Φ630×2760	6.9
Ispat Polska Stal	Finishing stand	ICDP	Φ820×3430	17.62
Ispat Egypt Works	Finishing stand	ICDP	Φ685×1700	6.99
Ansteel	Finishing stand	ICDP	Φ620×1200	3.98
Jinan Iron&Steel Corp	Finishing stand	HSS	Φ700×1780	8.748
		HSS	Φ800×1700	11.702

PRODUCT APPLICATION

The products of HSM are with excellent cold forming and deep drawing properties as well as excellent weldability. The products are widely used in boilers, pressure veseels, shipbuiding, etc.



Shipbuilding



Truck



Forging Machine

FORGED STEEL ROLLS

JOINT

MELTING AND FORGING

Forged materials produced by the most famous special steel company are in line with our production requirements. We keep our continuous innovation and improvement of our products to keep us competitive. Our outstanding operational technology, advanced on site management and rigid quality control at each production step, ensure our quality assurance to our customers.



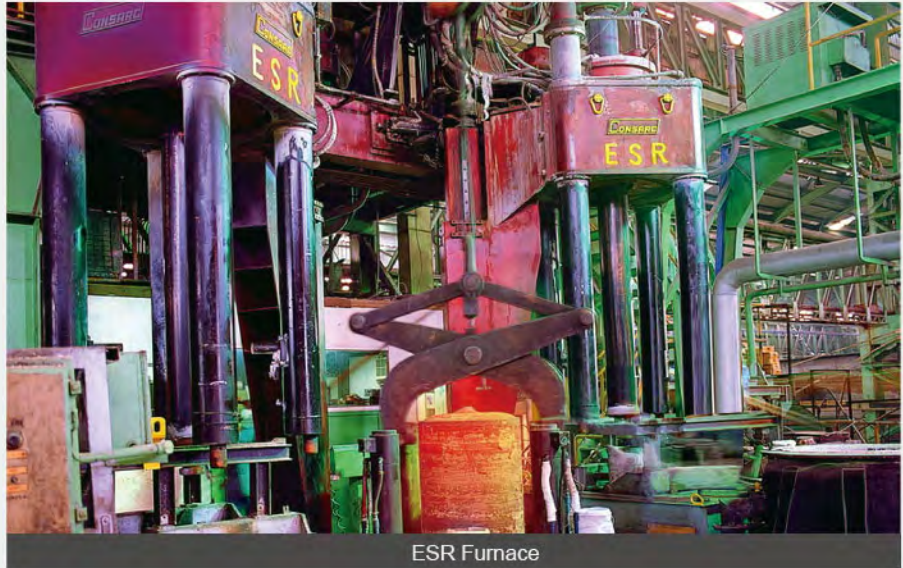
VOD

MAIN FACILITIES

- 90 ton DC Electrical Arc Furnace
- 40 ton Ladle Furnace
- 40 ton Vacuum Degas Furnace
- 26.5 ton Electro-slag Furnace
- 16MN Forging Machine
- 8000 ton Forging Machine

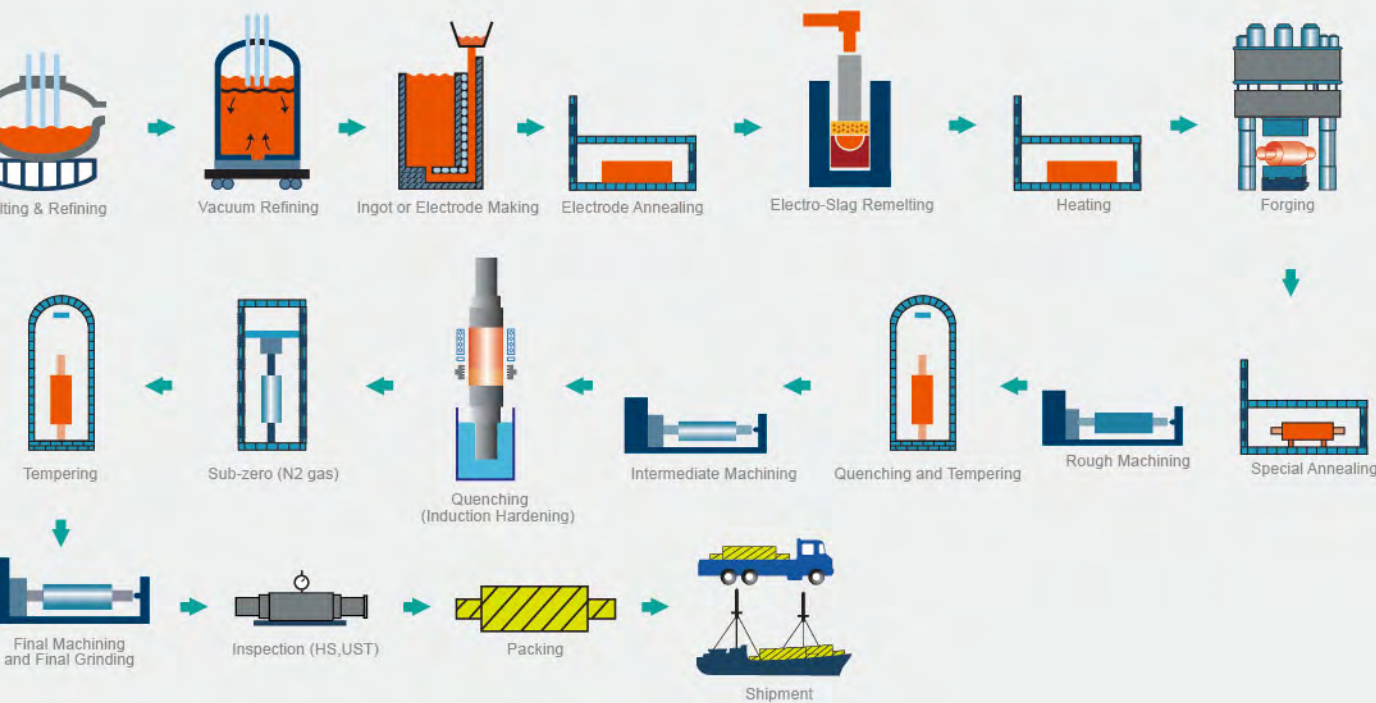
TECHNICAL CHARACTERISTICS:

- 1.Using ladle furnace and vacuum degas to control material composition and gas content to guarantee anti-fatigue lifetime.
- 2.ESR process guarantee the purity and control the inclusion to prevent premature failure.
- 3.Advanced forging machine controls the forging ratio to guarantee density of materials and keep material a high strength.



ESR Furnace

WORK ROLL & INTERMEDIATE ROLL

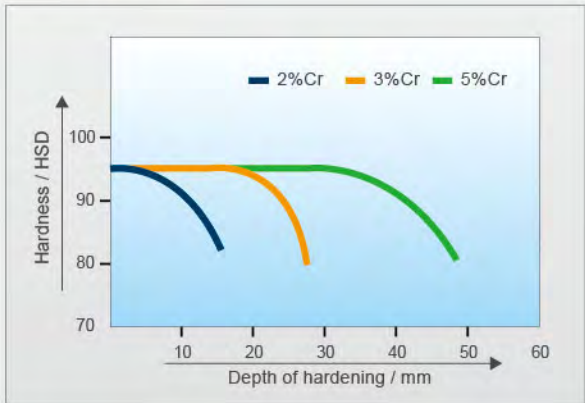


Forged steel work roll performs as a tool to transform materials under normal room temperature. It is the most wear-and-tear spare part during the rolling process. With 2%Cr, 3%Cr, 5%Cr material series, we have greatly improved our products both in terms of quality and diversification.

PROPERTIES&APPLICATION

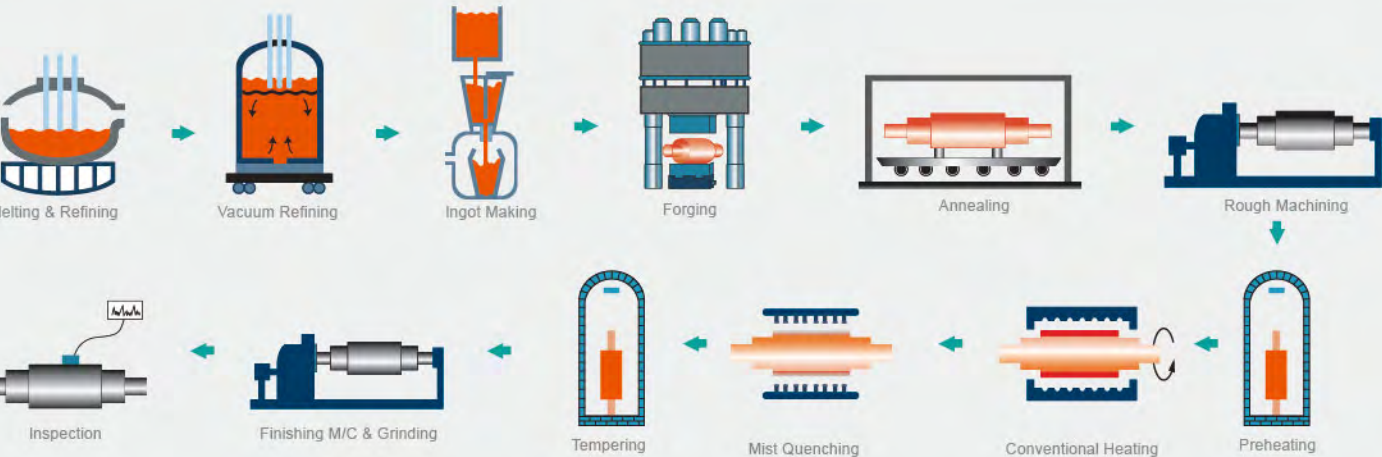
Symbol	Hardness	Hardness Uniformity	Depth of hardness	Size
9Cr2Mo	85-102HSD	3HSD	8~15mm	∅ 200-600mm
MC3	85-102HSD	3HSD	15-30mm	∅ 200-1000mm
MC5	85-102HSD	3HSD	20-40mm	∅ 300-1000mm

HARDNESS CURVE



Symbol	Type of material	Application for cold rolling mills
9Cr2Mo	2%Cr	Work rolls for general 4 HI mill
MC3	3% Cr	Work rolls and intermediate rolls for 4 HI and 6 HI reversal cold rolling mills.
MC5	5% Cr	Work rolls for tandem mill and skin pass mill

BACK UP ROLL

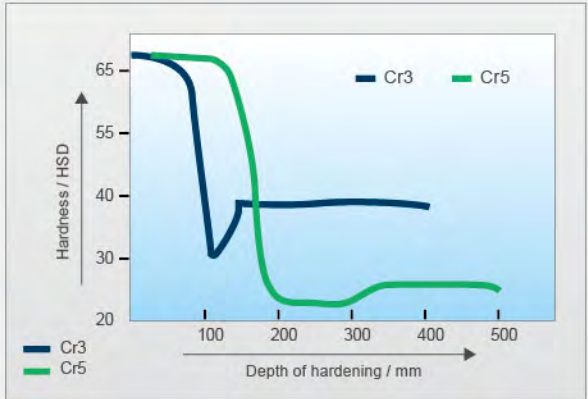


Forged steel back-up roll is mainly used in 4-Hi mill and 6-Hi mill. The diameter of roll barrel is 350~1800mm. The material of back-up roll includes 60CrMo, 9Cr2Mo, 86CrMoV7, 70Cr3Mo, 5Cr5NiMoV etc.

PROPERTIES&APPLICATION

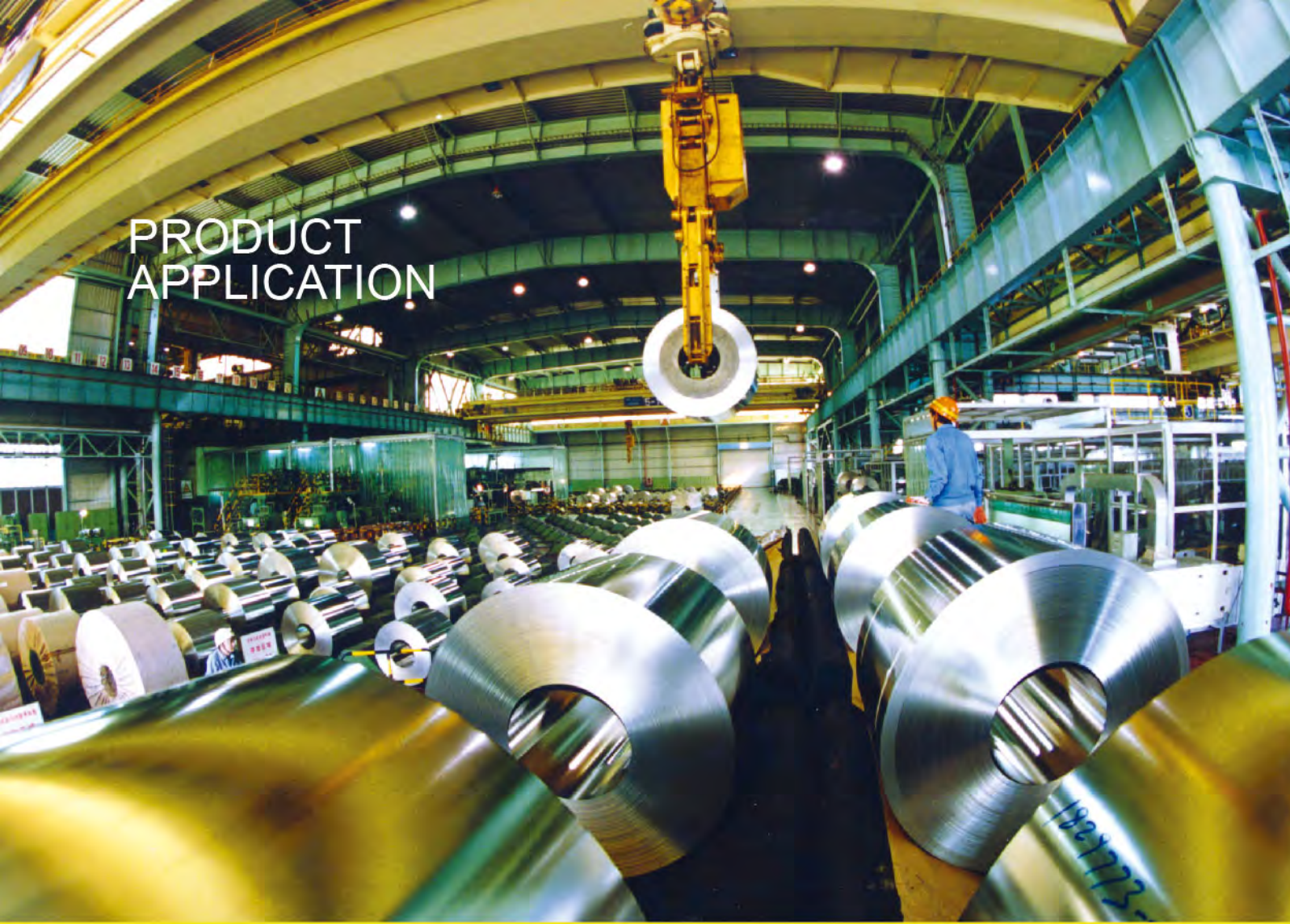
Symbol	Hardness	Hardness Uniformity	Depth of hardness	Size
70Cr3Mo	55-80 HSD	4HSD	60mm	∅ 500-1800mm
45Cr4NiMoV	55-80HSD	4HSD	75mm	∅ 1000-1800mm
YB-70	55-80HSD	3HSD	100mm	∅ 1000-1800mm

HARDNESS CURVE



Symbol	Type of material	Application
70Cr3Mo	3%Cr	Cold Rolling Mills
45Cr4NiMoV	4%Cr	Cold Rolling Mills
YB-70	5%Cr	Hot & Cold Rolling Mills

PRODUCT APPLICATION



KAIDA, YOUR TRUSTED PARTNER

BRAND

Over 35years roll manufacturing experience
Roll supplier of over 150 famous steelmakers

MANUFACTURE

Provide professional tailor-made production according to customer's requirement
Prioritize customers'interest by reasonable cost

SERVICE

Engineers with over 20years roll application service
Professional representatives with years of overseas sales experience in roll

LOGISTICS

Availability of convenient logistical service such as CIF, DDU, DDP.

PRODUCTS SERVICES

The usage and maintenance are primary for the forged steel rolls. We get a professional team who can respond to the request quickly and visit customers on site promptly.

