www.mkalloys.in

MK ALLOYS

THE ROLL SOLUTIONS

- ALLOY STEEL ROLLS
- ADAMITE ROLLS
- S.G. IRON ROLLS
- SG ACCICULAR ROLLS
- CHILLED ROLLS

MK ALLOYS

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ISO 9001:2008 COMPANY

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about us

MK Alloys is the latest venture with a modest intention, to grow into one of the leading manufacturer of high quality roll casting products. Propelled by the vision, sterling leadership qualities & uncompromising pursuit of Mr. Kuljinder Singh, Mr. Mandeep Singh, Mr. Manjinder Singh (Bittu) & Mr. Manjeet Singh. It is an ultra modern venture being led by Mr. Kuljinder with an experience of more than 35 years in the roll industry.

We have shortly grown into one of the leading manufacturers producing high quality Rolls. We have our in house Megatherm 3 Ton furnace. We have built a reputation for excellent quality and customer service. With the support of our competent, efficient and trained team, we are manufacturing superior quality products. We are quality conscious organization and strongly believe that it is our impeccable quality of products that has facilitated us significant national growth. Our products have achieved demand in major service areas. We have now added one more feather in the cap by getting ISO 9001-2008 certification.

Success has always followed us, because of our constant work with determination and perfection.

We have built a business built upon strong values of transparency, partnership, ethics and fair play. Our enduring relationships with customers, associates, suppliers and employees are testimony to our growth since inception. We take pride in the fact that we have many customers to whose businesses we have been adding value ever since inception.

As Consumer satisfaction is our main motto. We continuously strive for improvisation. Our believe "QUALITY IS FOREVER" stands undaunted and it is the pursuit of excellence which continues to be our key strength.

Our endeavor to add more to the value chain each day is based on the cornerstones of unparalleled quality, fairness, ethical practices and total commitment to our customers.

Alloy Cast Steel Rolls

Carbon content in Alloy Cast Steel Rolls is in the range of 0.90% to 1.50%. These Hypo-eutectoid steel rolls are alloyed with Chromium and Molybdenum. The heat treatment of these rolls involve double annealing cycles followed by tempering. This helps to improve toughness and thermal shock resistance. The microstructure is primarily fine pearlitic with broken/spheroidized cementite. These rolls have high mechanical strength with good weldability.

These rolls are ideally suited for Blooming Mills and Roughing Stands for Light and Heavy Section Mills.

COMMON GRADES:	MECHANICAL PROPERTIES:
ACS 33 (30°-35° Sh C)	Tensile Strength : 700-800 N/mm2
ACS 37 (35°-40° Sh C)	Bending Strength: 3-6 J/cm2

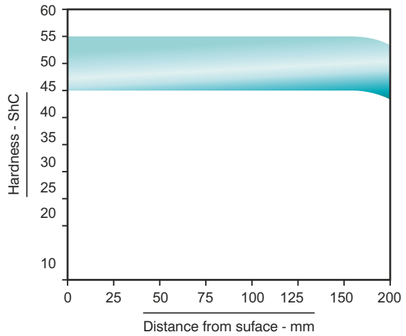
Chemical Composition

C	Mn	Si	Ni	Cr	Mo	UTS	Hardness
.90/1.35	.50/1.00	.60 max	.40/.80	.80/1.20	.25/.40	60/75	30-40
1.00/1.50	.50/1.00	.60 max	.40/.80	.80/1.20	.30/.40	60/75	40-45

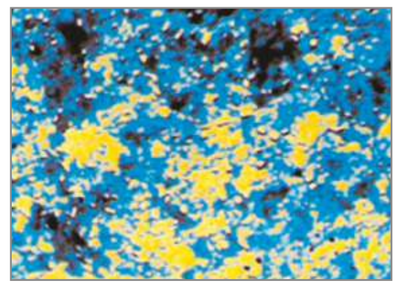
Adamite Rolls

These Rolls are special hyper-eutectoid steel rolls alloyed with Nickel, Chromium & Molybdenum. The extra Carbon and special alloys give extra wear resistance and strength.These rolls are statically cast and undergo a special high temperature heat treatment process of double annealing followed by tempering cycles to give a micro structure consisting of fine pearlitic matrix with spherodised / broken carbide.

Application : These Rolls are suitable for rolling medium and heavy sections. These rolls are also used for roughing stands of strip mill.



Alloy Cast Steel



Microstructure of Adamite roll, 45/50 ShC having spherodised pearlitic matrix.

Chemical Composition

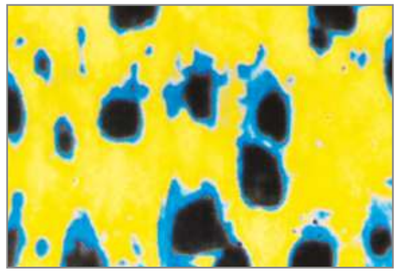
C	Mn	Si	S Max	P Max	Cr	Mo	Ni	V Max	Shore Hardness
1.35-1.45	.55-.70	.45-.60	.035	.035	.75-1.05	.25-.35	.80-1.00	.10	40°-45°
1.4-1.6	.60-.75	.50-.65	.035	.035	.90-1.20	.30-.40	.90-1.00	.10	45°-50°
1.6-1.9	.65-.85	.60-.75	.035	.035	1.1-1.4	.35-.45	1.00-1.10	.10	50°-55°

S.G. Iron Rolls

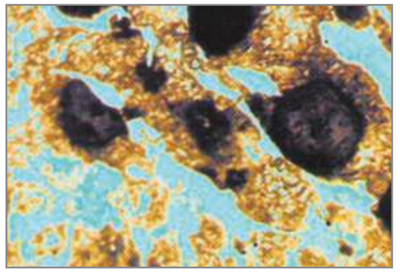
S.G. Iron or ductile iron is considered as one of the most versatile roll material now days. It is produced by a small proposition of magnesium added to the melt as nickel-magnesium or alternative alloy, or pure magnesium. In S.G. Iron Rolls, the free carbon takes the shape of spheroids or nodules, thereby eliminating the notch effect to flake graphite and improving upon the mechanical properties of cast iron.

These Rolls are available in a wide range of hardness & composition for a variety of application. The matrix structure varies from Ferrito-Pearlitic, Pearlitic to Bainitic & Martensitic together with different carbide contents and graphite in the from of spheroids/nodules. Some critical grades are heat treated for higher strength. Chemical composition and structure are chosen to suit specific application.

Application : Roughing and intermediate rolls for slabbing and blooming mills. Roughing, intermediate and finishing for rail and structural mills. Finishing for wire rod and narrow strip mills.



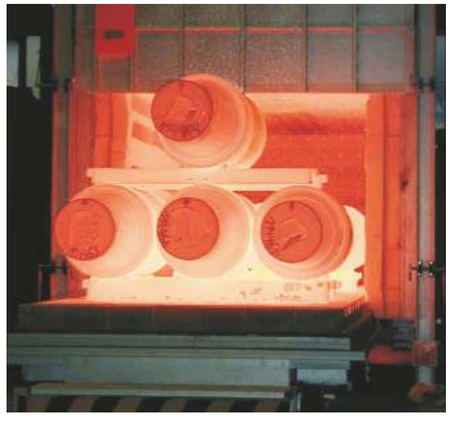
Pearlitic S.G. Iron (HS-60/65) with some carbides and graphite nodules.
Magnification : 500X



Bainitic S.G. (HS-70/75)
Magnification : 500X

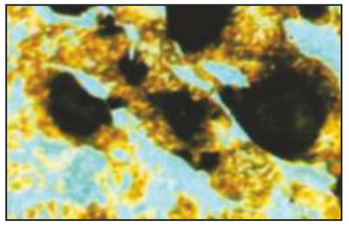
Chemical Composition

C	Mn	Si	S Max	P Max	Cr	Mo	Ni	V Max	Shore Hardness
3.00-3.30	.40-.65	1.45-1.75	.010	.040	.40-.65	.30-.45	1.6-2.0	.10	50°-60°
3.1-3.6	.40-.65	1.45-1.75	.010	.040	.40-.70	.40-.50	1.6-2.0	.10	60°-65°

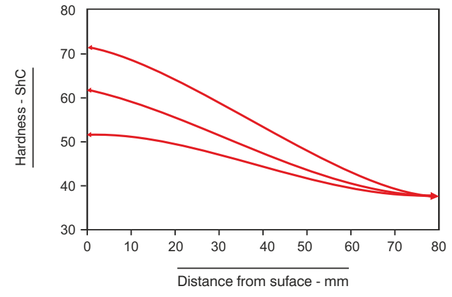


S.G. Accicular Rolls

Nodular accicular rolls are widely used for hot rolling applications in different type of intermediate, prefinishing and finishing group stands. The material consists of nodular graphite and carbides in martensitic and bainitic matrix. SGAC rolls are more wear resistant than nodular pearlitic rolls. Depending on the primary requirements there are variety of standard and also more alloyed grades used considering rolling mill operational conditions and specially wear resistance which is increasing with hardness drop if compared with standard grades considering the type of groove / caliber.



Microstructure of S.G. Acicular (HS-70/75)
Magnification : 500X



Chemical Composition

C	Mn	Si	S Max	P Max	Cr	Mo	Ni	V Max	Shore Hardness
3.1-3.6	.40-.60	1.4-1.7	.010	.035	.40-.65	.60-1.0	2.0-2.6	.10	65°-70°
3.1-3.6	.40-.60	1.4-1.7	.010	.035	.40-.65	.60-1.0	3.0-3.6	.10	70°-75°

Chilled Rolls

As the name implies, the barrel surface of these rolls does not show a clear chill layer but rather a gradual transition from a carbide rich structure containing a small amount of fine graphite at the surface to a grey core material. These Rolls ensure minimum sacrifice of clear chill while achieving maximum functional depth.

The transition from Chill to graphite being smoother, the gradual change in hardness associated with the indefinite-chill structure allows deeper grooving. Thus Indefinite Chill Rolls are superior in biting performance and have enough strength and resistance against thermal shock occurring at the time of failure in the rolling operation compared to other Chill Rolls. The presence of the graphite improves spall resistance and also enhances resistance to fire cracking. These Rolls are available in Pearlitic matrix as well as Accicular/Bainitic matrix as well depending on the requirement of rolling mill.

Applications :

- Sheet, plate and strip finishing rolling
- Section and bar intermediate and finishing rolling
- Wire rod intermediate and finishing rolling.
- Wire rod finishing rolling
- Flat products rolling in Hot strip and Plate Mills.
- Hot rolling of non-ferrous sheets.

Chemical Composition

C	Mn	Si	S Max	P Max	Cr	Mo	Ni	V Max	Shore Hardness
3.00-3.20	.60-.90	1.00-1.50	.06	.15	.80-.1.20	.25-.40	1.0-1.50	.10	50°-60°
3.00-3.30	.60-.90	1.00-1.50	.06	.15	.80-1.20	.25-.40	1.50-2.00	.10	60°-70°
3.10-3.50	.60-.90	1.00-1.50	.06	.15	.80-1.20	.25-.40	1.70-2.50	.10	70°-75°

Quality Policy

In keeping with our pursuit of exceedingly high quality manufacturing, we have infrastructure that is conducive to our growth and pace. Spread over a sprawling area of ..... meters, the constructed area of the unit is about ..... square feet. It is thoughtfully designed to deliver efficiency and maximum output. Our infrastructure boasts of the finest aids and equipment that will helps us maintain superlative outcomes, year after year.

- Spectomax Spectrometer
- Chemical testing Equipment
- Metallurgical Microscope
- Cutting & Polishing Machine
- Micro Structure Analysis
- Digital Hardness Tester
- Universal Testing Machine
- Ultrasonic Testing Machine
- Dye Penitrant Testing (D.P.)
- Magnetic Particle Inspection (MPI)

Our state-of the-art infrastructure and facilities for manufacturing, testing & quality control to deliver an uninterrupted supply of products par excellence