

visit us: www.chilledrollsindia.com



Manufacturer & Exporter of

DPIC Chill Rolls, Adamite Rolls, Definite Shafted Rolls,
S.G Iron Rolls, Indefinite Chill Rolls, Forged Rolls,
Alloy Steel Rolls for TMT Plants & All Type of Rolling Mills
& Rolling Mill Machineries

*"Save your time, Save your Plant
By using our
QUALITY ROLLS!"*





Company Profile

About us

Reliable Steel Udyog is a leading manufacturer and exporter of industrial supplies and products which include Rolling Mill Rolls, Definite Chilled Rolls , Indefinite Chilled Rolls, Highly Alloyed Rolls & Double Poured Rolls. We have gained tremendous success in satisfying the needs of industry with our products. Being have "20 years" of experience, we have hardly build up icon Reliable Steel Udyog .

Manufacturer & Exporters of : C.I. Chilled Rolls, Barrel and Sold for Steel Re-Rolling Mills, TMT Type Roll Mills (Semi & Fully Automatic), Roller Flour Mills, Biscuit Plant, Hydraulic Press Plywood & Pneumatics, Rubber Mixer Plant, Oil Mill & Solvent, Extraction Plants with Grinding & Blowing.

We would like to introduce our self as pioneer manufacturers of Chilled Roll engaged in Steel Rolling Mills, Roller Flour Mills and Chemical Industries etc. We have to our credit an experience of four decades to the promoters in manufacturing Chill rolls for different industries and we have achieved the art of manufacturing special cast iron by centrifugal casting technology, Solid rolls casting & others too which are widely used in the world.

We have surpassed the expectations of our clients. Our Company has been dedicating all its efforts to the casting and machining activities of chilled rolls for steel rolling mills, flour mills etc. The company is located at historical Malerkotla, the City of Rolls.

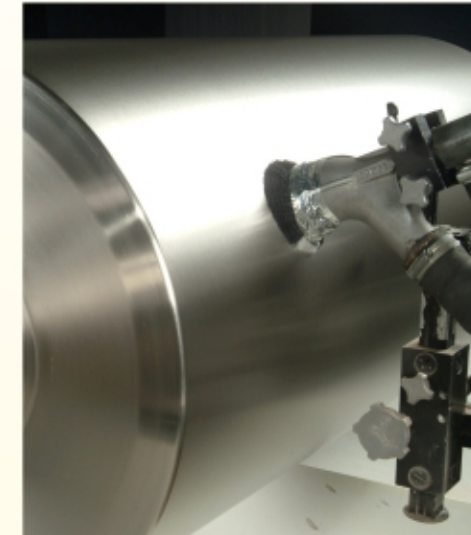
Reliable Steel Udyog has established itself as a trustworthy name in the manufacturing of chilled cast iron rolls (mill rolls) by the centrifugal spin casting process using the double pour technique. The process has been innovated by professionals having immense experience in developing rolls of highest quality standards, at its own manufacturing facilities & by satisfying customers from all over the world.

for more information contact:
visit us: www.chilledrollsindia.com
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Quality Assurance

We are driven by excellence and quality, and focus on total customer satisfaction. Quality Assurance comprises of Chemical Analysis, Physical Testing, Metallograph and Metrology. The department is equipped with facilities for both Wet Chemical Analysis as well as spectroscopic Analysis, Ultrasonic Testing Machine, Microscope with accessories, Micrometers, Verniers, Dial Gauges, Etc. for necessary controls of quality in all respects.

Regular quality checks, through testing of rolls during each stage of manufacturing - casting, machining or finishing is carried out. Microprocessor based equipment is installed for testing of the composition, hardness and dynamic balancing of rolls. The data generated is stored and analyzed regularly. These steps ensure that all rolls are uniform in hardness, chill depth, adequate ductility, high wear resistance and consistency of the hardened layer, ensuring that the rolls we supply meet the stringent quality requirements of our valued customers.



Customer Satisfaction

We are committed towards achieving total customer satisfaction through our policies that revolve around the benefit of the customer. Our personnel ensure that each of our customers is given due importance and their suggestions are heeded to. Through our confidence building programs, we promote a healthy relationship between the company and the customer. Such measures also increase the level of trust on our company and increase our credibility. We also make efforts to understand the requirements of the clients so as to deliver products that are in accordance with their specifications.

Infrastructure

At we choose to run the Organization in well Organized way which provide us way to move far ahead of our Competitors. We had a highly supportive in house infrastructure of all necessary equipments and products required for quality manufacturing. With help of this we provide the best products to our precious clients. The machine shop is well equipped with precision machine tools for dimensional accuracy to cover a wide range of products. The casting Plant is having all the modern facilities for the production of High Graded Chill Roll. The company utilizes latest measuring instruments, approved by quality management and process of continuous improvement. The company endeavors to deliver best to the market.

During manufacturing process of Rolls, we are using very high standards of chemicals like Nickel, Copper, Chromium, Silicon Manganese, Molybdenum, Vanadium and Tungsten Etc.

We are specialized in centrifugal casting of all grades in grey cast iron, spheroidal iron, chilled cast iron & Ni-Hard. All castings & cylinder liners are produced as per specific requirements that suit particular applications of the end users. Our Rolls are manufacturing with the use of modern machinery and advanced working methods have increased the productivity of the company which has motivated us to work in a better ways. A strong commitment to preserve the environment.



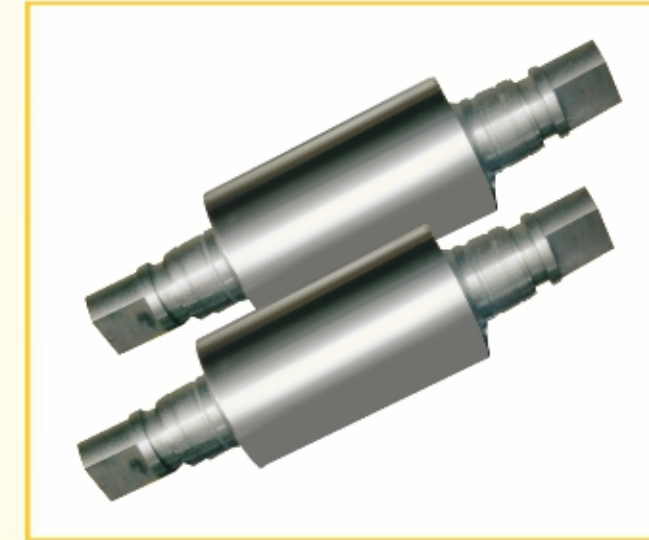
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Our Product Range

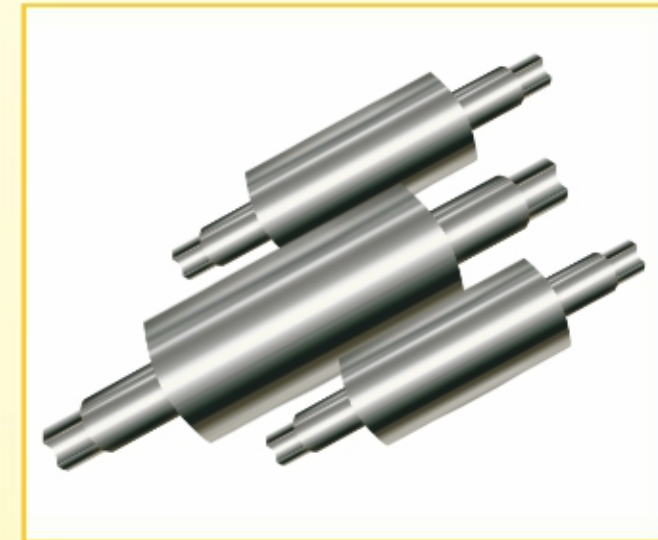
DEFINITE / INDEFINITE CHILLED ROLLS

The working surface of Reliable Steel Udyog shows the white graphite free structure consisting of eutectic carbide and transformed austenite. This gives a hard layer which confers good resistance to wear. The core and neck are made upon steel shaft in specialized double poured centrifugally cast chill Rollers barrels. Compared to grey iron, white Reliable Steel Udyog is less soft, strong and incapable of withstanding high dynamic stresses, but owing to its greater hardness, has better wear-resistance, and has high compressive strength. It retains a fair proportion of its strength at elevated temperature, for example, in hot rolling. These make excellent works in Flour Mills, Chemical Industries, Steel Re-rolling Mills, Semi-Automatic or Automatic Plants, Wire Roll Plants, TMT Plants, Roughing Mill Rollers, Intermediate Mill Rollers for two, three and four-high mills, turning out of high grade ferrous and non-ferrous sheet and strip or section. High Alloy Reliable Steel Udyog have proved well.



Chemical Composition

Hs. Range Shor C	C	Mn	Si	Impact	U.T.S.	Ni	Cr	Mo
55-75	3.00-3.50	0.55-1.20	0.80-1.50	kg.m/cm ² 20-0.25	kg/mm ² 20-30	1.45-2.50	0.80-1.40	0.25-0.45



ADAMITE ROLLS

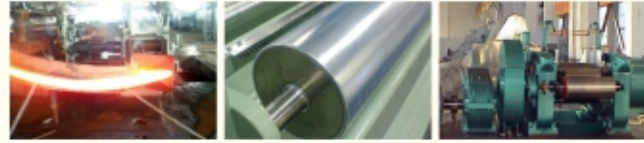
Adamite Rolls are widely used for hot rolling applications in different type of pre roughing and roughing group stands and also different positions in section mills as well.

The material consists of carbides in pearlitic matrix and range in carbon contents between 1.0 and 2.2%.

Depending on the primary requirements there are variety of grades with a series of carbon content and alloying elements used considering the rolling mill operational conditions such as wear, strength, thermal cracks etc. Steel base rolls are heat treated in various ways and have no hardness drop.

Chemical Composition

Hardness	C	Mn	Si	Cr	Ni	Mo	S	P	UTS kgf/mm.sq
45-50	1.40-1.60	0.60-0.90	0.30-0.60	1.00-1.20	0.80-1.20	0.20-0.30	0.06 Max	0.06 Max	55-75
50-55	1.50-1.90	0.60-0.90	0.30-0.60	1.00-1.30	1.00-1.40	0.25-0.45	0.06 Max	0.06 Max	60-75



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Our Product Range

S.G. ROLLS

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

In these rolls the graphite is in the form of spheroids produced by suitable inoculation. Most nodular iron rolls are chill cast resulting with a hard working layer. The alloy content is accurately controlled to give fine and well distributed graphite nodules and refined carbide in generally pearlitic or bainitic / martensitic matrix. The Higher alloy content Cr-Ni-Mo makes the rolls more tougher & wear resistant.



Chemical Composition

C	Mn	Si	Ni	Cr	Mo
3.00-3.40	0.50-0.55	1.30-1.50	1.50-2.70	0.50-.080	0.40-0.50



DOUBLE Poured INDEFINITE CHILL ROLLS (DPIC)

We produce double pour indefinite chill roll by centrifugal casting. Which is an innovated casting method. With this casting roll remain free from Pin holes and cracks. The surface of these roll give uniform hardness and deep hardness, which is indispensable for/the high quality chill roll.

Chemical Composition

Cr	Si	Mn	C	Ni	Mo	UTS kgf/mm	Impact kg.m/cm	Hardness Shore°C
3.00-3.40	0.20-0.90	0.25-0.60	0.20-0.50	1.00-2.00	0.25-0.35	20-27	0.20-0.25	55-70
3.20-3.60	0.20-0.80	0.25-0.60	0.20-0.50	1.70-2.50	0.25-0.40	20-27	0.20-0.25	70-75

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Our Product Range

ALLOY CAST STEEL ROLLS

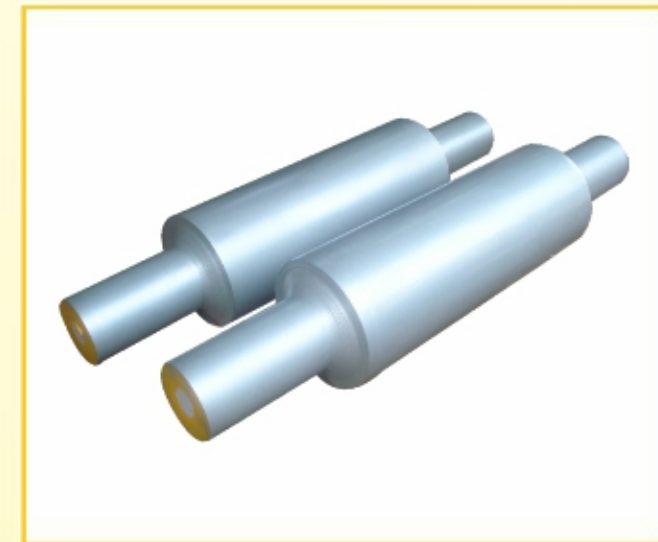
Cast steel Rolls are available in wide of chemical compositions varying from Hypo Eutectoid to Hyper Eutectoid steels. Alloying combinations of different element like Cr, Ni & Mo are normally used to achieve the desired physical and mechanical properties.

In view of the demanding end use requirements these rolls can not be used in an as cast condition. When a coarse grain pearlitic structure with cementite and ferrite in a continuous network is normally obtained. The rolls are subject to specially designed heat treatment cycles to arrive at the optimum micro structure configuration with finepearlite and uniformly distributed suitable for the final application.



Chemical Composition

Hardness	C	Mn	Si	P	S	Ni	Cr	Mo
40-45	1.20/1.60	0.40/0.80	0.65 MAX	0.050 MAX	0.050 MAX	0.70 MAX	1.00/1.20	0.20/0.30



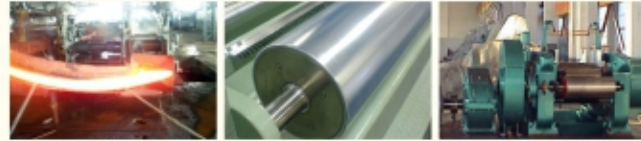
S.G. PEARLITIC

Nodular pearlitic rolls are widely used for hot rolling applications in different type of Roughing, Intermediate & Finishing Stands. The material consists of nodular graphite and carbides in pearlitic matrix.

Depending on the primary requirements (Whether thermal shocks/cracks, crack penetrations or wear resistance etc.) there are variety of Cr, Ni, Mo alloyed grades used considering the rolling mill operational conditions and groove / caliber design. The carbide is relatively higher in alloyed compared with standard grades.

Chemical Composition

Hardness	C	Mn	Si	P	S	Ni	Cr	Mo
50-55	3.00/3.50	0.40/0.70	1.50/2.20	0.050 MAX	0.020 MAX	1.30/1.80	0.50 MAX	0.40 MAX
55-60	3.20/3.50	0.50/0.70	1.50/2.00	0.050 MAX	0.020 MAX	1.60/2.20	0.60 MAX	0.50 MAX
60-65	3.30/3.50	0.60/0.80	1.20/1.80	0.050 MAX	0.020 MAX	2.00/2.50	0.80 MAX	0.70 MAX

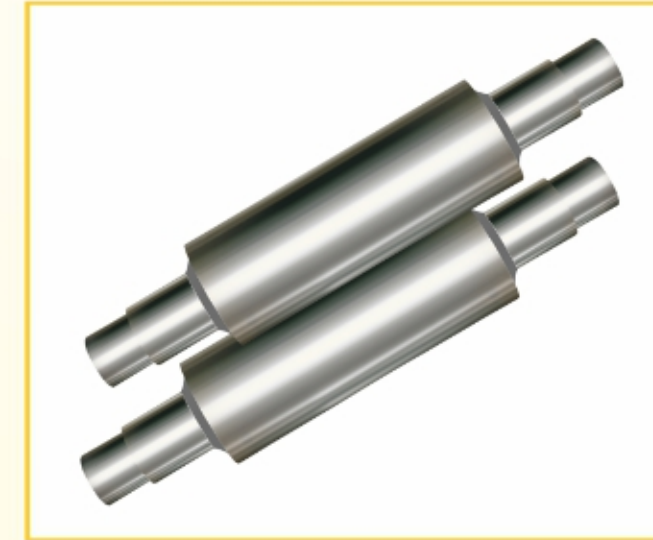


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Our Product Range

FORGED ROLLS

Forging where in the material is hammered according to the customers sizes & requirements is a process in which the ingot is heated in the furnace & then forged. the forging process help in cohesiveness and strength by elongation of the grain structure, which results in material having much higher load bearing capacities as compare to cast material heat treatment is done in normalizing / annealing furnace and forgings are ultrasonically tested thereafter. we have the capacity to forge a single piece up to 7000 kg. in plain carbon steel such as m. s., class-2, class-3, en-8, en-9 & en-42, en-31, en-19, en-24, en-41b, en-353, en-25, en-18, etc. These forged rolls are basically used for rolling purpose in industries where grinders, channels, angles are manufactured.



Chemical Composition

Grade	C	Mn	Si	S	P	Cr	Ni	Mo	V
Carbon Steel						-	-	-	-
En8	0.35/0.45	0.6/1.00	0.05/0.35	0.06	0.06	-	-	-	-
En9	0.5/0.6	0.6/1.00	0.6/0.35	0.06	0.06	-	-	-	-
En42	0.70/0.85	0.55/0.75	0.10/0.4	0.05	0.05	-	-	-	-
Class 1	0.1/0.18	0.40/0.70	0.10 Max	0.05	0.05	-	-	-	-
Class 2	0.15/0.25	0.60/0.90	0.10 Max	0.05	0.05	-	-	-	-
Class 3	0.25/0.35	0.60/0.9	0.10 Max	0.04	0.04	-	-	-	-
Class 4	0.4/0.5	0.4/0.9	0.10 Max	0.04	0.04	-	-	-	-
Spring Steel						-	-	-	-
En 45	0.05/0.6	0.7/1.0	1.5/2.0	0.05	0.05	-	-	-	-
En 45 A	0.55/0.65	0.7/1.0	1.7/2.0	0.05	0.05	-	-	-	-
Alloy Steel						-	-	-	-
En 18	0.35/0.45	0.62/0.95	0.1/0.35	0.05	0.05	0.85/1.15	-	-	-
En 19	0.35/0.45	0.5/0.8	0.1/0.35	0.05	0.05	0.9/1.5	-	0.2/0.4	-
En 31	0.9/1.2	0.3/0.75	0.1/0.35	0.05	0.05	1.0/1.6	-	-	-
En 24	0.35/0.45	0.45/0.70	0.1/0.35	0.05	0.05	0.9/1.4	1.3/1.8	0.2/0.35	-
En 25	0.27/0.35	0.5/0.7	0.1/0.35	0.05	0.05	0.5/0.8	2.3/2.8	0.4/0.7	-
En 36C	0.12/0.18	0.3/0.6	0.1/0.35	0.05	0.05	0.6/1.1	3.0/3.75	0.1/0.25	-
En 353	0.2 Max	0.5/1.0	0.35 Max	0.05	0.05	0.75/1.25	1.0/1.5	0.08/0.15	-
Sae 8630	0.18/.23	0.7/0.9	0.2/0.35	0.35	0.35	0.4/0.6	0.4/0.7	0.15/0.25	-
16 Mn Cr 5	0.14/0.19	1.0/0.3	0.15/0.35	0.04	0.04	0.8/1.1	-	-	-
2 Mn Cr 5	0.18/0.22	1.1/1.4	0.15/0.35	0.04	0.04	1.0/1.3	-	-	-
31 Cr V3	0.28/0.35	0.4/0.6	0.2/0.4	0.04	0.04	0.5/0.7	-	-	0.07/0.12
Cold Working Steel						-	-	-	-
D2	1.4/1.6	0.3/0.5	0.3/0.5	0.03	0.03	11.0/13.0	-	0.7/1.20	-
D3	2.0/2.35	0.25/0.45	0.25/0.45	0.03	0.03	11.0/13.0	-	-	-
Hot Working Steel						-	-	-	-
H 11	0.30/0.40	0.20/0.40	0.80/1.20	-	-	4.75/5.5	-	1.25/1.75	0.30/0.50
H 13	0.35 Max	-	-	-	-	5.0	-	1.5	1.0



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