



UNITED CASTINGS (INDIA)

AN ISO 9001-2008 Certified Co.

Manufacturers & Exporters of :

Chill Rolls, DPIC Rolls, S.G. Rolls, Adamite Rolls, Alloy Steel Rolls for
High Speed Rolling Mills

About Company

United Castings (India) has established itself as a trustworthy name in the World with manufacturing of highly Alloyed Chilled Rolls (Definite & indefinite) and supplying Forging Rolls, Adamite Rolls & S G Rolls to Automatic, Semi Automatic & Heavy Section Rolling Mills and leading manufactures of Steel Rolling Mills Machinery. With the growth in industry and the ever-increasing demand for quality Machinery, United Castings (India) is now amongst the well-known name in the industry, with the reputation for providing quality product as per the requirements of the customers.

United Castings (India) is located in the green, unpolluted environs in the heart of Malerkotla - the beautiful & lush green city, which is one of the growing Indian city. Malerkotla is situated in heart of Punjab.

For further information, please get in touch with us.

Experience of

30 years



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Research & Development

The R & D team is the best strength of United Castings (India), because of them: Our Company is able to serve perfectly. We have 12 people in R & D. All are best with their duties and giving the satisfactory result to Industries. With the help of them we serve a Brand to Industry.

Distribution Network

Our company is serving throughout the India and Foreign Countries Also. Our distributors are pounding to be the part of United Castings (India) they are serving with their best services to our customers.

Quality Assurance

Quality Management forms the core focus of the company. Thus, keeping this as the prime we manufacture all the products in unity to the ISO Certified standards. Our well-integrated quality management mechanism begins from the purchasing of quality supply, assembly, production, inspection and testing functions till the final products are dispatched in the market.

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.

Infrastructure

At United Castings (India) we choose to run the Organisation in well Organised way which provide us way to move far ahead of our Competitors. we had a highly supportive inhouse infrastructure of all necessary equipments and products required for quality manufacturing. With hepl of this we provide the best products to our pricious clients. The machine shop is well equipped with precision machine tools for dimensional accuracy to cover a vide 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.



Infrastructure



Our Premises



Certification



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 casted 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	0.18/0.23	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

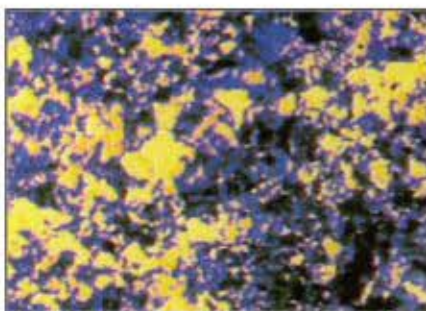


Product Range

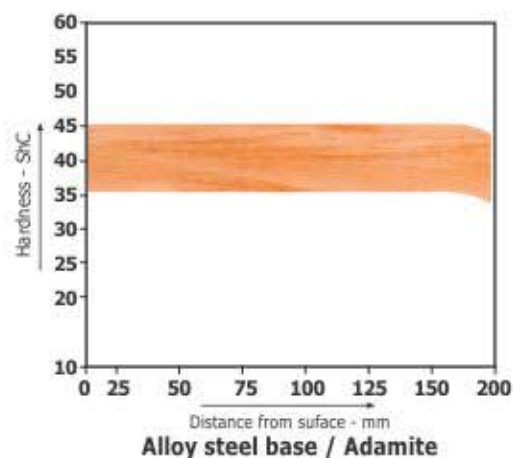
Alloy Cast Steel Rolls

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 microstructure configuration with fine pearlite and uniformly distributed suitable for the final application.



Microstructure of alloy cast steel roll, 35/45 ShC having pearlitic matrix & carbides.



Chemical Composition

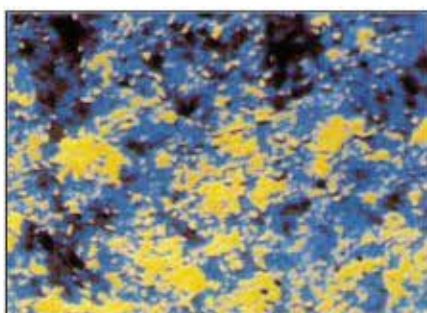
Material	Symobl	Hardness (SH-D)	C%	Mn%	Si%	S%	P%	Cr%	Ni%	Mo%	UTS kgf/mm.sq
Alloys Cast Steel Rolls	ASB-40	40-50	1.20 1.40	0.60 0.90	0.30 0.60	0.06 Max	0.06 Max	0.80 1.10	0.60 Max	0.20 0.30	55-75

Adamite Rolls

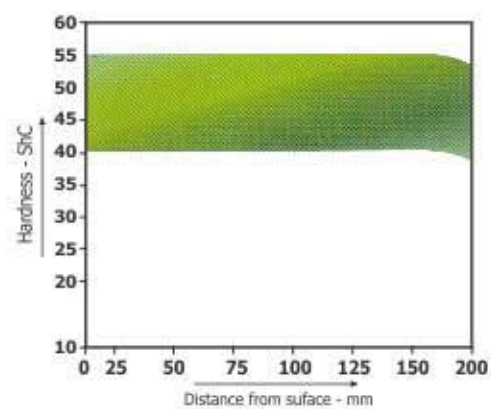
Adamite Rolls are widely used for hot rolling applications in different type of preroughing and roughing group stands and also different positions in section mills as well.

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.



Microstructure of Adamite roll, 45/50 Sh
Chavering spheroidised pearlitic matrix.



Adamite Rolls

Chemical Composition

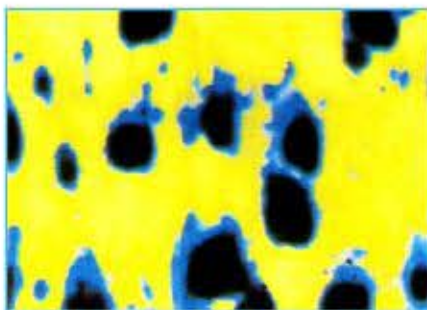
Hardness	C	Mn	Si	Cr	Ni	Mo	S	P	UTS kgf/mm.sq
45-50	1.40-1.60	0.60-0.90	0.30-0.60	1.00-1.20	0.80-1.20	0.20-0.30	0.06 Max	0.06 Max	55-75
50-55	1.50-1.90	0.60-0.90	0.30-0.60	1.00-1.30	1.00-1.40	0.25-0.45	0.06 Max	0.06 Max	60-75

Product Range

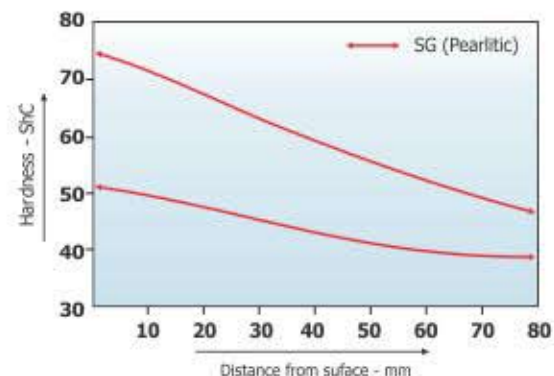
S.G. Pearlitic

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. Heat treatment improves the resistance to thermal cracks as well.



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



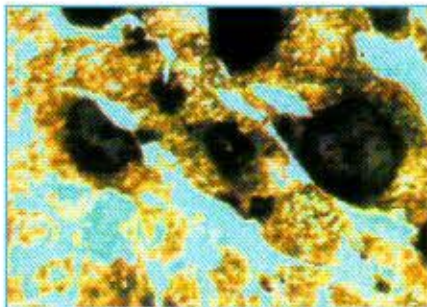
S.G. Pearlitic (Nodular)

Chemical Composition

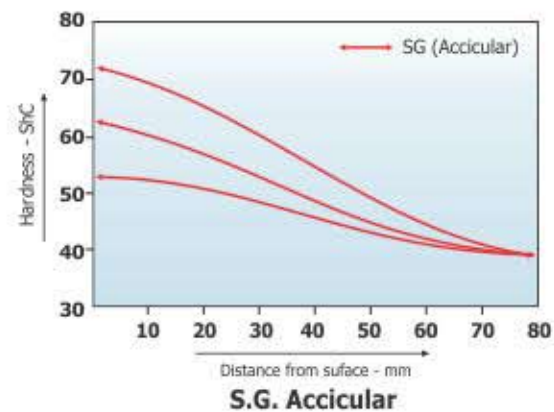
Material	Symobl	Hardness (SH-D)	C%	Mn%	Si%	S%	P%	Cr%	Ni%	Mo%	UTS kgf/mm.sq
S.G.(Pearlitic)	SGP-40	40-50	3.00 3.30	0.30 0.60	1.50 2.30	0.015 Max	0.10 Max	0.30 Max	1.25 1.75	0.25 0.40	50-65
S.G.(Pearlitic)	SGP-50	50-60	3.00 3.30	0.30 0.60	1.50 2.30	0.015 Max	0.10 Max	0.40 Max	1.50 2.00	0.25 0.50	50-60
S.G.(Pearlitic)	SGP-60	60-70	3.10 3.50	0.50 1.00	1.30 1.80	0.015 Max	0.10 Max	0.30 0.80	1.50 2.00	0.30 0.60	50-60
S.G.(Pearlitic)	SGP-70	70-75	3.10 3.50	0.50 1.00	1.30 1.80	0.015 Max	0.10 Max	0.30 0.80	1.50 2.00	0.30 1.60	40-60

S.G. Acicular

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 modular pearlitic rolls. Depending on the primary requirements there are variety of standard and also more alloyed 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.



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



Chemical Composition

Material	Symobl	Hardness (SH-D)	C%	Mn%	Si%	S%	P%	Cr%	Ni%	Mo%	UTS kgf/mm.sq
S.G.(Acicular)	SGP-40	40-50	3.00 3.30	0.30 0.50	1.80 2.30	0.015 Max	0.080 Max	0.20 Max	2.00 3.00	0.60 0.90	60-70
S.G.(Acicular)	SGP-50	50-60	3.00 3.30	0.30 0.50	1.80 2.30	0.015 Max	0.080 Max	0.50 Max	2.00 3.00	0.70 1.00	55-70
S.G.(Acicular)	SGP-60	60-70	3.10 3.50	0.50 0.80	1.30 2.00	0.015 Max	0.080 Max	0.30 0.80	2.00 3.50	0.80 1.20	50-70
S.G.(Acicular)	SGP-70	70-80	3.10 3.50	0.50 0.80	1.30 2.00	0.015 Max	0.080 Max	0.30 0.80	2.5 4.50	0.80 1.20	50-70

Product Range

Definite / Indefinite Chilled Rolls

The working surface of United Castings (India) 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 cost chill Rollers barrels. Compared to grey iron, white United Castings (India) 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 United Castings (India) have proved well



Chemical Composition

Hs. Range Shor C	C	Mn	Si	Impact	U.T.S.	Ni	Cr	Mo
60-70	3.00-3.30	0.55-1.20	0.80-1.50	kg.m/cm ² 20-0.25	kg/mm ² 20-30	1.30-1.80	0.80-1.20	0.20-0.40
70-75	3.10-3.50	0.55-1.20	0.80-1.50	kg.m/cm ² 20-0.25	kg/mm ² 20-30	1.50-2.50	1.00-1.40	0.30-0.50



Double Poured Indefinite Chill Roll (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 ²	Impact kg.m/cm ²	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	70-75
3.20-3.60	0.20-0.80	0.25-0.60	0.20-0.50	1.70-2.50	0.25-0.45	20-27	0.20-0.25	75-80

Exports Around the World

United Castings (India) currently operates in over 100 countries. Based on expanding business activity around the world, our business philosophy has allowed the group to consolidate its leading position in the countries where it already has a long experience and promote its expansion in the developing countries, which has greater needs for technology and mechanization.

Why us

Some of the salient features that distinguishes us apart from the rest are:

- » Efficient After Sales Services.
- » Design and Development Facilities.
- » Providing Effective Consultancy.
- » Better productivity through proper manpower development.
- » Continuous analysis of market trends.
- » Regular planning and implementation to improve the functional efficiency.
- » Use of superior raw-materials in the manufacturing process.
- » Proper Testings Facilities of machinery parts.

Delivery on Time

Most Rolls in catalogue are normally available ex-stock and can be loaded same day from our factory at Malerkotla. On the other hand, special Rolls can be made and delivered with-in 7-10 days on confirmation of order .





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