NAKODA GROUP

Inception of Core.
Core of Inception.

Shree Nakoda Ispat Ltd.

Shree Nakoda Industries Ltd. ■ Shree Nakoda Global (P) Ltd. ■ Goel Zenith Agro Pvt. Ltd. ■ Goel Polymers.

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NAKODA GROUP

Inception of Core,
Core of Inception.

Nakoda Group always believes in “Inception of core, Core of Inception”. It believes to form something that is useful for some other formation. It helps to carve the bigger picture of the nation.

The group approaches the raw materials to build something substantial for the world. They put the efforts to make the world better place.

The group not only think advance and moves towards for the betterment but also sees to it to save the environment in every way.

Vision

Our Vision is to become a respected national entrepreneur, through the power of positive action and continuous improvement in performance and quality with innovations in system and processes. This vision gives us the ability and strength to stick to the positive action.

Mission

Our mission is to reach to the level of innovative growth, the passion filled plan will help us gain and attain the professional mind-set.

Our Corporate Logo

Hand Shake: It is a gesture of welcoming and greeting someone. The gesture is so powerful that it makes the person come at ease and calms due to the warmth of the other person. It steadies the mind to think evidently. The logo denotes the new beginning for the corporates.

Nakoda group's logo highly inspired by this gesture. The colours that are amalgamated in the logo are orange and green. Where Orange stands for the creativity, success and happiness. On the other side Green talks about the growth & freshness for the group.

Corporate Social Responsibility

As a part of society, Nakoda Group has a strong focus on the enrichment of communities around its operational sites by aiming to meet their developmental needs and aspirations. The vision we have is to become a catalyst of positive change in society, improving the social and economic life of our neighbourhood communities and making a positive contribution to the lives of all those who are directly or indirectly impacted by our business, products and services.

Our Approach

To gain the vision, Nakoda Group is walking according to the mission statement. The core philosophy of the group is to produce *safe, sustainable steel* and become the world's safest steel producing company. In doing so, their priority is safety. The group also believes in good governance in terms of ethical and transparent corporate behaviour. They desire to maintain a reputation for honesty and integrity in all their management practices and business transactions. They have a code of business conduct that applies to all employees of NAKODA GROUP.

Our Infrastructure

Nakoda Group with its superior approach, positive & planned attitude and committed motto of service has grown from pillar to pillar in strength and quality, having its operations spread across the country.

An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018, certified Integrated Steel Industry established and operational since the year 2004. Nakoda Group a diversified infrastructure focused, industrial conglomerate with commitment to quality & environment and high ethical standards.

Coal Crushing Plant

This is the main equipment used for crushing the input coal of sizes from 1000 MM boulders to 100 MM crushed pieces and further it is fed into secondary crusher that will reduce further to 5 MM size for DRI Kilns and -5 MM size. The capacity of crushing is 100 Tonnes per hour and fines generated are used in the other divisions of the plant.

Iron Ore Crushing Plant

This circuit division was established to crush the input Iron Ore from size 400 MM to 100 MM from jaw crusher and 100 MM to -20 MM size in cone crusher and will be used into DRI Kilns. The capacity of circuit is 100 TPH. It is further crushed into 5-18 MM to be used in the Sponge Iron division.

Coal Washery Plant

This is the dry jigging system in which the coal is segregated from shell stones. The operation method is as explained below.

Input coal of size from +5 mm to -20 mm into Dry Jig Equipment in which air plays a major role to separate out the shell stones. The forced air is fed into the jig through a star gate system which is operated by nuclear device. The shell particles are separated out and the good coal is separated and fed on the conveyor which carries out the coal to DRI Kilns.

This entire process is carried out in a close loop with good collection of bag filters which will suck the dust at the emission levels.

The separated coal which has a high GCV, because of lack of shell stones is very useful to DRI Kilns and gives a good campaign life of Kiln and also acts as gradient of high quality DRI production.

Sponge Iron Plant

Nakoda Group produces premium quality Sponge Iron through Direct Reduction Iron (DRI) Process. Sponge Iron is formed through the reduction of Iron Ore through reaction with carbon in the form of coal at approx 1100°C. It is also referred to as direct reduced iron, metelized iron or hot briquetted iron.

It is highly used in the iron and steel industry as a substitute for scrap in induction and electrical arc furnaces. Over the years, the shortage of expensive melting scrap has made sponge iron a significant raw material for manufacturing high quality steel.

Nakoda Group ventured into this segment in the year 2004 and over the years has perfected the technology. Total capacity produced in this plant is 171000 Tons / Annum. Quality of sponge iron is maintained as per following.

CHARACTERISTIC	REQUIREMENT
% Non-magnetic	1.0 Max.
% Metallic Fe	80 Min.
% Total Fe	91 Min.
Metallisation	88 Min.
% Phosphorous	0.032 Max.
% Sulphur	0.025%
% Carbon	0.3 Max.
% Si02+ Al203	5 Max.
Size	A-grade lumps 4-20mm(-4mm5%Max.) A-grade fines0-4mm.

Power Plant

Nakoda Group has established an in-house power generation facility in order to cater the growing demand of power. It's a captive power facility using waste heat from Rotary Kiln Boilers and by Biomass products like Rice Husk etc.

How does the group generates power?

Waste Heat Recovery based 6 MW and 8 MW Power Plant:

In this plant the waste flue gases generated from 200 TDP & 350 TDP Sponge Iron Plant fed into the Waste Heat Boiler through after burning chamber. In the waste heat boiler flue gases generates the steam. The steam rotates the turbine, which generates power. The above 6 MW & 8 MW power plant is successfully operational since December 2005 and September 2012 consecutively.

Biomass based Power Plant 12 MW

Towards forward integration promoters decided to set-up another Biomass based Power Plant to fulfill complete requirement of Power from captive sources. In this project the By-product of Sponge Iron i.e., Dolachar used as a mix with coal or rice husk as raw materials. The above mix fed into the boiler to get the steam. The steam rotates the turbine, which generates power. The above power plant is successfully operational since Jan 2009.

Steel Melting & Ladle Refining Furnace (LRF)

Nakoda Group also has its division that produces high quality Steel Billets in the Steel Melting Shop with an overall capacity of 120000 tons per annum. LRF is a furnace where ladle contains liquid metal and is provided with heat source which heats the liquid metal & compensate thermal losses. It helps in improving the quality of steel, desulphurization, removal of oxide inclusion, homogenization of the temperature, improving grain refinement, increase in the productivity etc. Nakoda Group has commissioned LRF make - Electrotherm (India) Ltd.,Capacity - 400 mt per day.

Steel Bar Plant

Tempcore® - TMT Technology, Belgium

With growing demands of TMT Bars due to substantial increase in construction and infrastructure projects in the country, Nakoda Group has also set up a TEMPCORE, Belgium — TMT mill with most advanced equipment to manufacture high quality "Green" TMT Bars to further enhance its product range with an annual capacity of 120000 Tons. The Tempcore Process imparts high strength to the bar using the latest technique of Thermo Mechanical Treatment (TMT) as against cold twisting, which is used to manufacture traditional reinforcement bars.

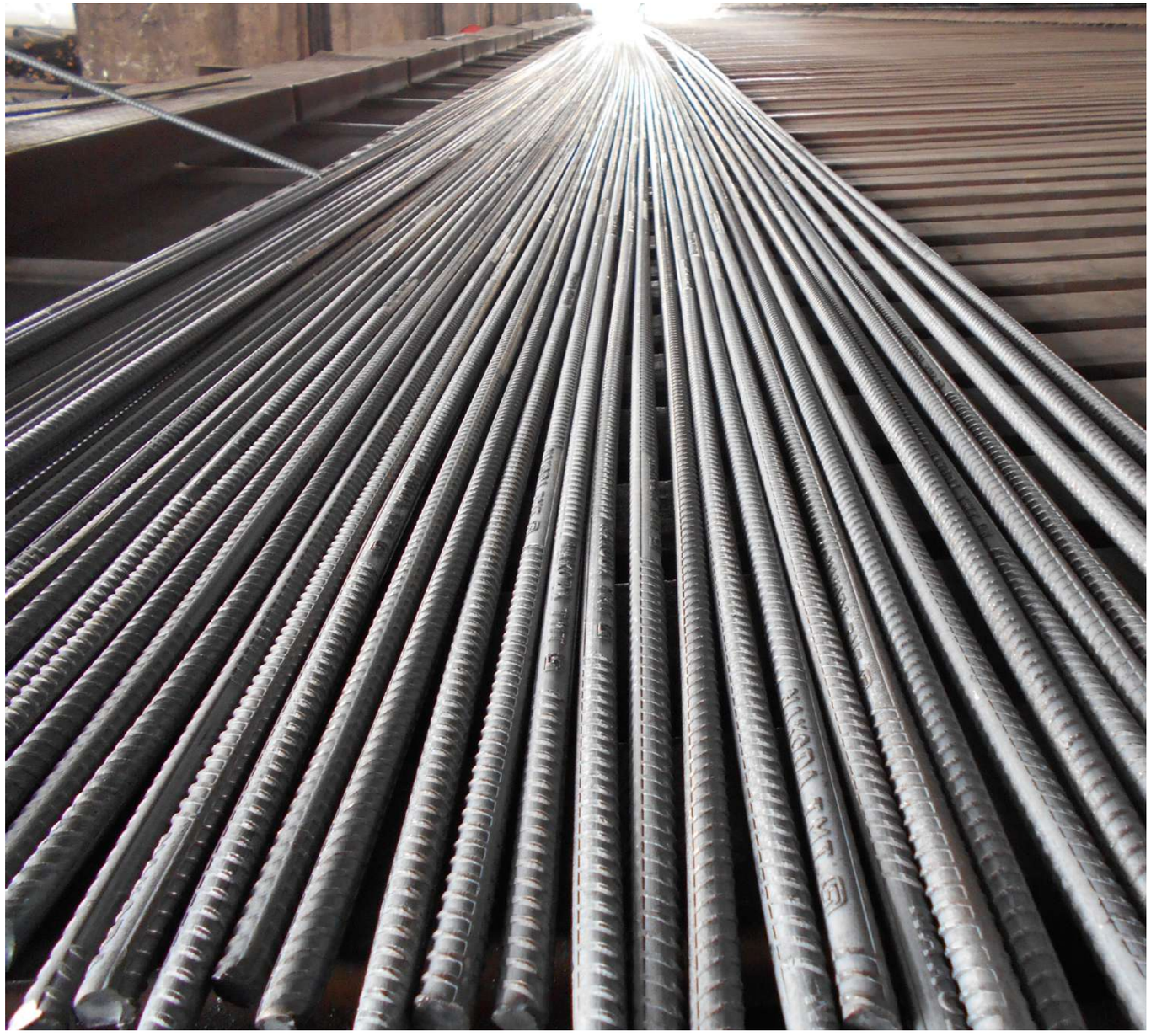
Why NAKODA TMT superior to traditional re-bars in the market?

The answer is Tempcore Technology, Belgium superior steel quality and the hi-tech TMT Mill where this process has been installed. The steel used to produce

Nakoda TMT is of superior quality. As the group owns its captive raw material sources and has the perfect combination of facilities like induction furnace and continuous billet casting. The steel that is been produced is of superior quality containing no harmful residuals. As a result, properties of Nakoda TMT are consistent and predictable.

Hot Rolling of Billets without using reheating furnace enhances Strength & Mechanical Properties of TMT.

- Established TMT Rolling Mill with latest technology equipments at Raipur.
- Manufacturing TMT bars of sizes **8 mm to 32 mm.**
- In the conventional method billet is reheated whereas in this mechanism billet is directly rolled to produce TMT bars avoiding reheating which strengthens the chemical and mechanical properties of NakodaTMT.



Products Specification:

Nakoda TMT bars are produced as per IS 1786 : 2008 grade. However, carbon levels are restricted to much lower than the specification, which results in excellent ductility, high bend ability and superior weld ability.

Physical Properties

PARTICULARS	IS 1786:2008	NAKODA TMT	IS 1786:2008	NAKODA TMT
GRADE	**Fe-500**	**Fe-500**	**Fe-500 D**	**Fe-500 D**
Yield stress N/mm2 Min.	500	520	500	520
Tensile strength N/mm2 Min.	545	575	565	585
TS/YS. Ratio. Min.	1.08	1.10	1.10	1.12
Elongation % Min.	12	17	16	18
Mandrel dia. Min. for bend.	4D	4D	3D	3D

Chemical Properties

PARTICULARS	IS 1786:2008	NAKODA TMT		IS 1786:2008
GRADE	**Fe-500**	**Fe-500**	**F-500 D**	**FE-500 D**
% Carbon (Max.)	0.30 Max	0.18 to 0.25	0.17 to 0.23	0.25
% Sulphur (Max.)	0.055	0.055	0.040	0.040
% Phosphorus (Max.)	0.055	0.055	0.040	0.040
% Sulphur + % Phosphorus (Max.)	0.105	0.105	0.075	0.075

Nakoda TMT V/s Others

	CTD BAR / TOR	NAKODA TMT
Elongation	Approx 16%	High: 18-25% in all grades
Strength	Fe 500-D Grade	High grade Fe 500 to Fe 500-D is easily available
Weld ability	%	Better & More Strength
Technology	Belguim	Tempcore - Technology
Corrosion Resistance	High Corrosion	Resistant
Formability	Average	Excellent
Durability & Fatigue Strength	Average	Most Appropriate For earthquake prone areas
Savings	Nil	Saving due to Superior strength & reasonable pricing

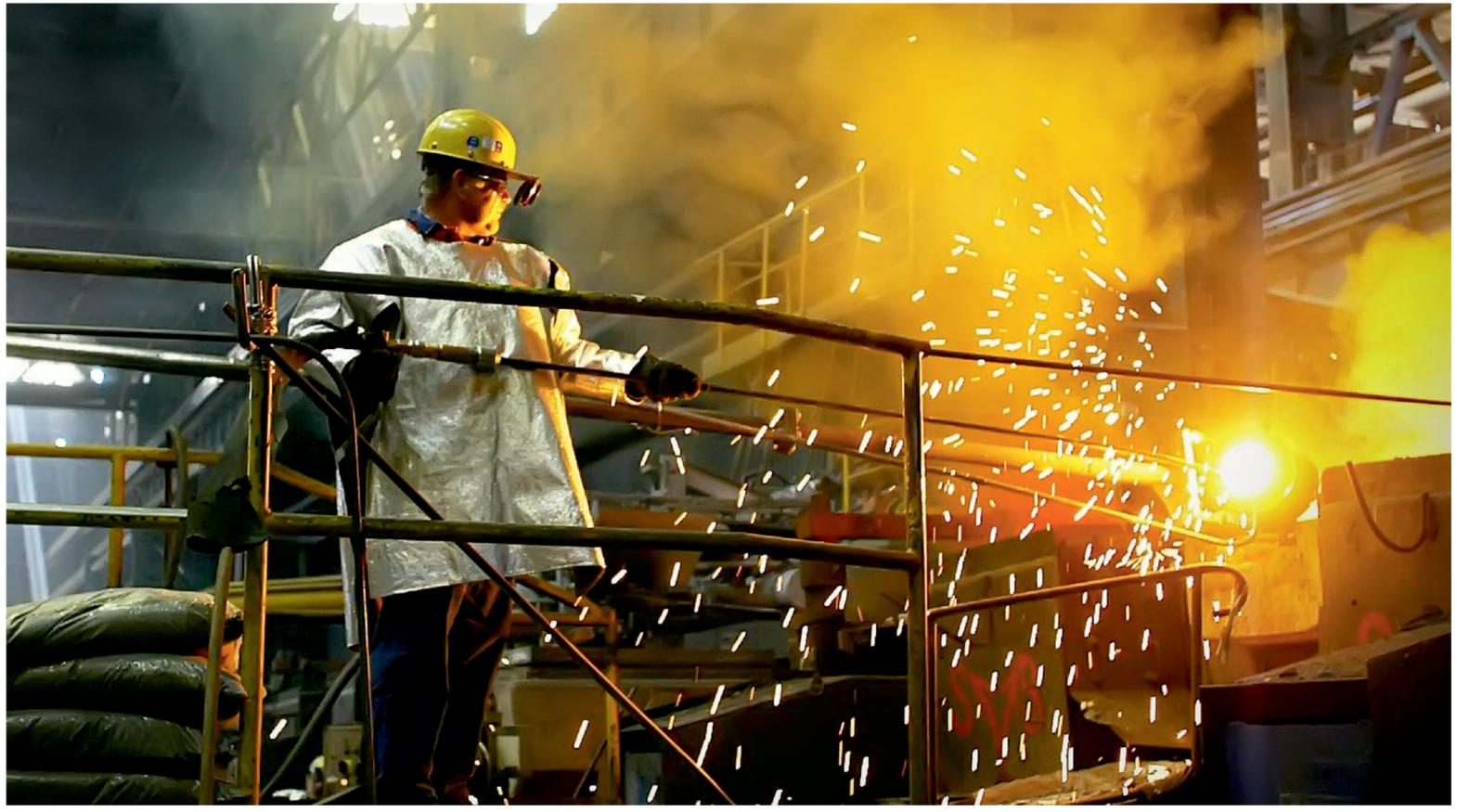
Physical Properties Nakoda TMT

Nominal size	ISI Standards Nominal Weight (in kg./mtr)	Tolerance Limit as per ISI (in kg./mtr)	NAKODA TMT Nominal Weight (in kg./mtr)	Tolerance Limit as per NAKODA TMT (in kg./mtr.)	No. of Piece Bundle (Length 12 mtr)	Weight of per Bundle (in kgs.)
8mm	0.395	0.367-0.423	0.375	0.370-0.385	20	90
10mm	0.617	0.574-0.660	0.580	0.575-0.585	15	105
12mm	0.888	0.844-0.932	0.855	0.845-0.860	10	103
16mm	1.580	1.500-1.659	1.530	1.510-1.550	5	92
20mm	2.470	2.395-2.544	2.430	2.400-2.450	3	88
25mm	3.850	3.730-3.965	3.800	3.730-3.850	1	46
28mm	4.830	4.685-4.975	4.800	4.700-4.830	1	58
32mm	6.310	6.121-6.499	6.280	6.190-6.310	1	75

Approvals & Accreditions :

NHAI · MILITARY ENGINEERING SERVICE (MES) · RDSO · IRCON INTERNATIONAL LIMITED (A Government of India Undertaking) · RITES · TATA PROJECTS LIMITED · RAIPUR DEVELOPMENT AUTHORITY

दिल्ली मेट्रो रेल कॉरपोरेशन लिमिटेड DELHI METRO RAIL CORPORATION LTD. · JNPT · BHARAT PETROLEUM CORP. LTD. · NAGPUR METRO · MoRTH · BHOPAL SMART CITY DEVELOPMENT CORPORATION LIMITED · South East Central Railway



Ferro Alloys Plant

The Group introduces themselves as an integrated manufacturer of Silico Manganese, Ferro Manganese, Ferro Chrome and Ferro Silicon. We have also established ourselves as a Captive Green Power producer.

We have also established a Submerged Electric Arc Furnace at our plant in Siltara in Raipur (C.G.) with its enhanced product range having manufacturing annual capacity of 13200 MT of Silico Manganese in sizes ranging from 10-150 MM with quality matching the best in the industry.

PRODUCT	SPECIFICATION					SIZE (90%min)	PACKING
	Si	Al	C	S	P		
Ferro Silicon (70-75%)	75%min	1.0%max	0.15%max	0.02%max	0.04%max	10-100mm	1MT big bag
Ferro Silicon (65-70%)	70%min	1.5%max	0.2%max	0.02%max	0.04%max	10-100mm	1MT big bag
Ferro Silicon (60-65%)	65%min	2.0%max	0.2%max	0.02%max	0.04%max	10-100mm	1MT big bag

Silico Manganese

Specifications of Silico Manganese (SiMn)

CHARACTERISTIC	REQUIREMENT
% Manganese	60 % min.
% Silicon	15 % min.
% Carbon	2 % max.
% Iron	22 % min.
% Phosphorous	0.35 % max.
% Sulphur	0.025 % max.
Size	10-150 mm (± 10 %)

Energy Saving & Non Polluting Plant

Nakoda Group after adopting this type of rolling saves a huge quantity of Furnace Oil, Coal and other resources. In reheating furnace approximately 35-40 Liters/Ton of fuel is fired to increase the temperature of Ingots & Billets. And nearby 250 to 300 KW of power is consumed in furnace accessories like Blower, Burners Ejector, Pusher, Heating Pump Unit. This Consumption of fuel and power is totally deducted in Hot Rolling of Billets.

This Concept of hot rolling is totally non - polluting and cost effective. Nakoda group is trying to reduce the consumption of fossil fuels so as to decrease the pollution and to keep our atmosphere neat and clean.

Nakoda Group: The Quality Policy

Nakoda Group's SHREE NAKODA ISPAT LIMITED is committed to achieve excellence in its entirety. The company has been certified with ISO 9001 : 2015 & ISI mark for its TMT, Ingots & Billets at par with global standards. Besides, there is a well-established quality system to ensure the international quality standards on continuous basis for entire intermediate as well as finished products.

There is an in-house quality testing section equipped with highly advanced quality testing equipment . Experienced professionals from the in- house Quality Assurance and Control (QA & C) department conduct testing for each product on different parameters.

Nakoda Group: The Future

A Group always aspires to have a company that is self-reliant in order to follow the ‘backward integration policy’. Nakoda Group has always insisted on being self-reliant to strengthen itself. This indirectly ensures an uninterrupted supply of quality raw materials to its Integrated Steel Plant at Raipur.

The Company has been allotted Iron Ore Mines in the state of Chhattisgarh, which will ensure consistent availability of quality Iron Ore for the Integrated Steel Plant. The Mining Lease of Iron Ore in the allotted area is in the process and it is expected to complete within short period.

Nakoda Group is on its way to achieve the future with the personal passion that they endure in themselves. Their steps are towards the brighter future not only for the company but also for the nation.