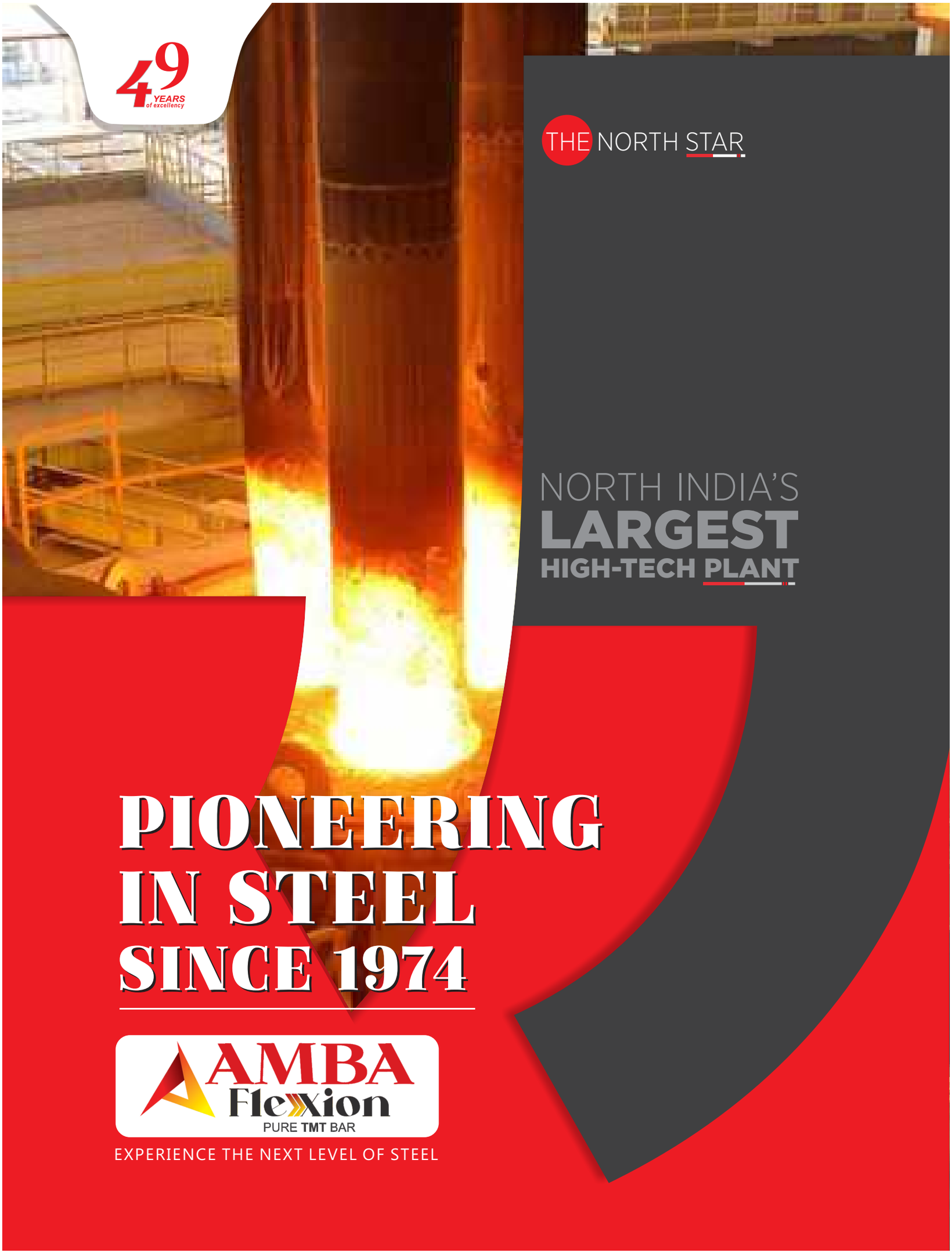

49 YEARS of excellency
THE NORTH STAR
NORTH INDIA'S
LARGEST
HIGH-TECH PLANT
PIONEERING
IN STEEL
SINCE 1974
AMBA
Flexion
PURE TMT BAR
EXPERIENCE THE NEXT LEVEL OF STEEL

THE NORTH STAR

CONTENT

OUR MISSION AND VISION..... 00-01

THE VISIONARY MAN..... 02-03

THE UNSTOPPABLE..... 04-05

AMBA GROUP..... 06-07

OUR JOURNEY..... 08-09

WORLD-RENOWNED TECHNOLOGY..... 10-11

LRF TECHNOLOGY 12-13

STRICT QUALITY CONTROL..... 14-15

THE NORTH STAR MOST HI-TECH PLANT.... 16-17

OUR PROCESS..... 18-00

SLITTING GUIDE..... 19-00

AUTOMATED BAR HANDLING..... 20-21

AMBA AND INNOVATION..... 22-23

SETTING A TREND IN MANUFACTURING ... 24-25

PROMINENT FEATURES..... 26-27

CSR..... 28-29

MORE ELONGATION
SUPER **DUCTILITY**

THE NORTH STAR

OUR MISSION AND VISION

THE BIGGER PICTURE

Amba Group believes in excellence through superior customer service and low operating costs. We aspire to become an exemplary manufacturer, service, and solutions provider in the steel industry. Amba Group is always ready to take on challenges and satisfy all customer needs and expectations, creating a fearless and participative environment and endless opportunities for its employees while fostering innovation and growth.

"STEEL IS LIKE A THERMOMETER TO MEASURE A NATION'S INFRASTRUCTURAL DEVELOPMENT"

MR. S.K. GOEL
(GROUP CHAIRMAN)

THE VISIONARY MAN
A SAGA OF EXCELLENCE

The heritage of Amba Group spans almost 50 years, beginning in 1974.
The key values of quality and productivity are the foundation of the group's business, while excellence and integrity are key to the group's success.

The visionary, Shri S.K. Goel, with an experience of more than 50 years in the steel sector, has been leading the group to the utmost heights of success.
In addition to the highly qualified and expert technocrats at the top levels, the Amba Group has a consistently hardworking and dedicated team. It is the collective diligence, dedication, and professionalism of each and every person working for the group that has enabled us to achieve tremendous growth.

"SOME ARE LOST
IN THE FIRE
SOME ARE BUILT FROM IT"

MR. KAMAL GOEL
(Managing Director)

THE UNSTOPPABLE

A brave leader, a magnetic and dynamic personality, who always has a clear idea of what the future should look like. He consistently sets out concrete steps to turn vision into reality and guides the group in the desired direction toward the utmost heights. He never settles for just 'good enough'. He never gives up, even when things get difficult, and always emerges as a true winner. His persistence and dedication always aim for one goal: the best.

AMBA GROUP
INNOVATION FOR A SUSTAINABLE FUTURE

Trust and transparency are the two most important pillars of Amba Group.

We are honest in our commitment to developing leading-edge solutions in technology, processes, and products. We are always dedicated to producing unmatched quality products, focusing on timely delivery, and extending services based on global standards and expertise. Revolutionary and innovative decisions of the group have always motivated the entire steel industry. We use the latest technologies available across the world, which together help us deliver the best rebars. Our plants, advanced technology, and team of highly experienced technocrats are the reason behind our meritorious products that are second to none.

Our transparent business ethics and direct relations with our clients make us the most trustworthy steel producer in the nation.

North India
High-tech Plant

OUR JOURNEY

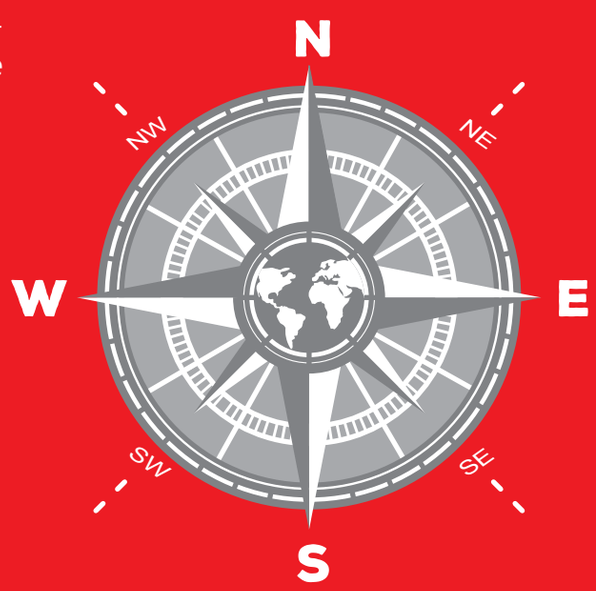
Amba Shakti has always been committed to delivering the best quality products. The story of Amba Shakti started in 1974 with its first plant in Muzaffarnagar, Uttar Pradesh. In no time, the company spread its wings and set up plants in:

Goa – A pioneer plant in the south, catering to the southern regions of the country. It was the very first plant of its kind when it was set up, and it remains one of the most recognized names even today.

Kala Amb (H.P.) – An epitome of innovation, this plant was one of the first in the country to test new technologies, paving the way for future plants. It caters to the northwestern region of India and also supplies to areas like Leh and Kargil.

Gwalior (M.P.) – A truly refined plant built from the ground up using revolutionary direct charging technology (first tested in Kala Amb). It showed the world what a next-generation plant looks like. It caters to the central and western regions of the country.

The group has now set up its latest plant in **Sikandrabad (U.P.)** — a masterpiece and a sight to behold. It is the largest plant in Northern India, featuring a world-class half-a-million-ton rolling mill that is second to none, along with a steel melting shop that employs the latest global technologies. Combined, these give rise to the finest rebars.



MUZAFFAR NAGAR : TMT Bar, Angle, Channel
GOA : TMT Bar, Sponge Iron, Angle, Channel, Billets
KALA AMB: TMT Bar, Angle, Channel, Billets
GWALIOR: TMT Bar, Angle, Channel, Billets, Wire Rods
SIKANDRABAD : TMT Bar, Angle, Channel, Billets, Wire Rods

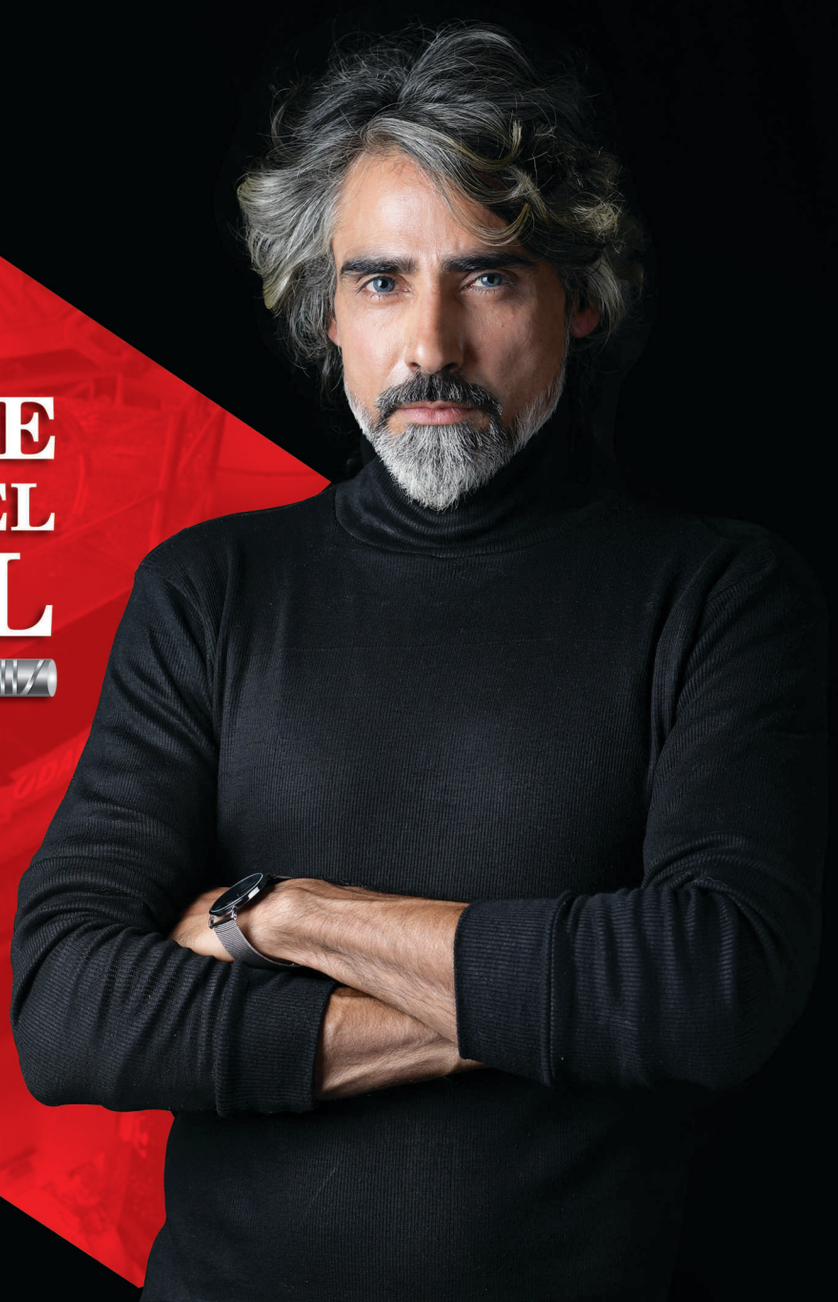
WORLD RENOWNED TECHNOLOGY

Its **Horizontal-Vertical Technology** provides perfect and uniform ribs, as well as consistent girth and length at every point on our TMT bars. It also ensures constant diameter, consistent weight, and higher grades of steel. This precision is crucial in the construction of larger structures, as it eliminates any "weak point" in the rebar where stress could accumulate — thereby ensuring greater strength and overall durability of the construction.

Amba Shakti is the only plant in Northern India to possess this technology.

EXPERIENCE THE NEXT LEVEL OF STEEL

AMBA SHAKTI FLEXION



LRF TECHNOLOGY

At AMBA, once the steel is melted in the induction furnace, we further refine it in a Ladle Refining Furnace (LRF). This furnace improves the quality of liquid steel by adjusting its chemistry to consistently produce high-quality billets.

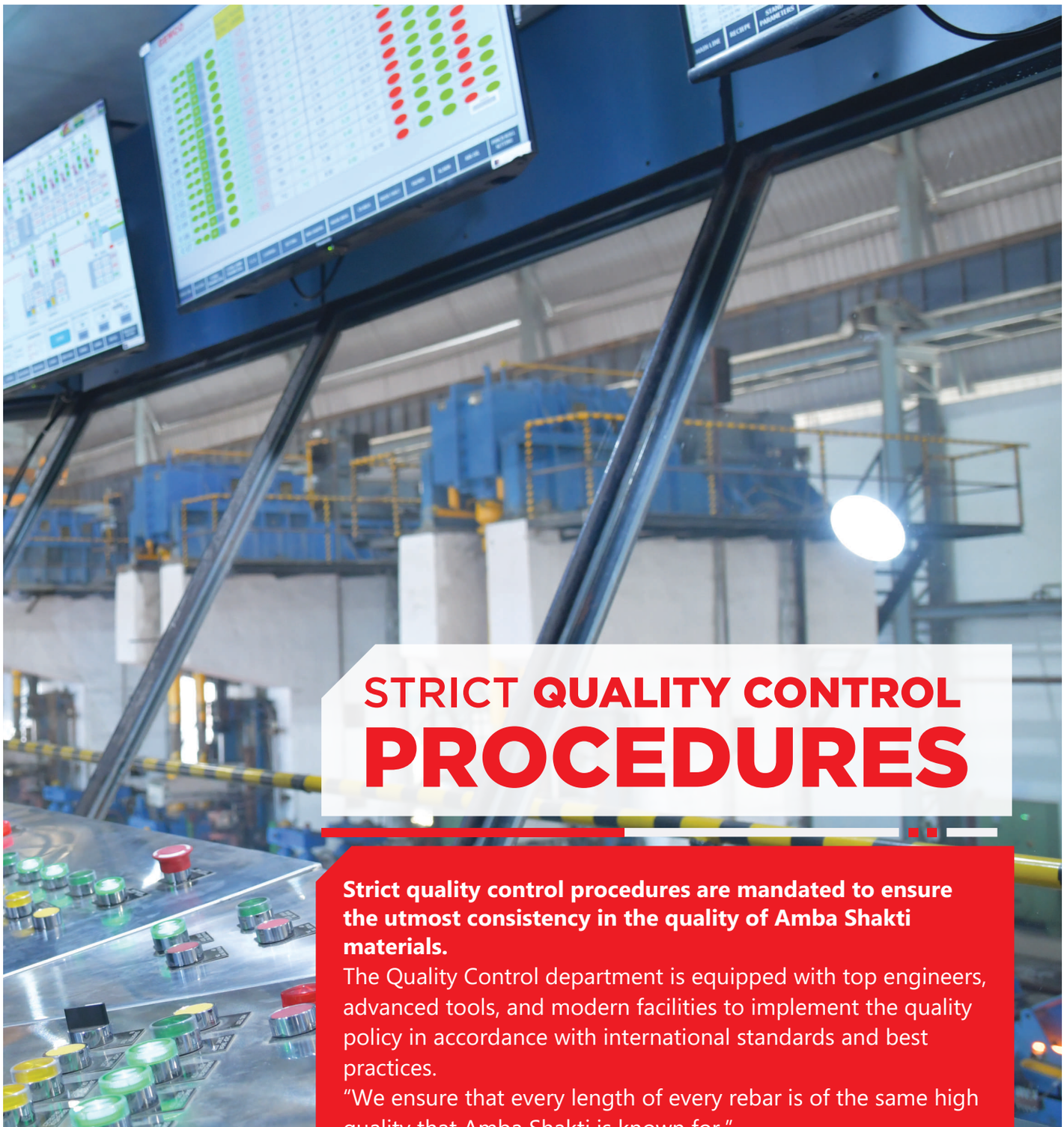
After tapping liquid steel from the furnace into a ladle, the ladle is taken to an LRF station where we adjust its chemical composition. Sulphur and phosphorus are two crucial elements in steel whose proportions must be controlled to ensure high-quality billets. If present in higher proportions, both elements reduce the ductility of steel and create inclusions. With LRF, we remove such inclusions and reduce gas content to produce "killed" steel.

At the end of the LRF treatment, the final chemistry is achieved by adding ferro-alloys, and the liquid steel is then sent to the continuous caster.

All these treatments are carried out in the ladle, and since additional heat is required during these operations, the ladle is equipped with a heat source to maintain the temperature of the liquid metal and compensate for thermal losses.

LRF Features

- Desulphurisation of steel
- Dephosphorisation of steel
- Removal of oxide inclusions to make steel purer
- Homogenisation of the temperature and composition of molten steel by gentle stirring
- Degassing of steel through inert gas purging to achieve low gas content (oxygen, nitrogen, and hydrogen)
- Saving on ferro-alloy consumption by improving recovery and maintaining composition within a narrow range
- Improved grain refinement of the microstructure
- Increased productivity as the melting furnace can be emptied earlier at lower temperatures
- Acts as a buffer by holding molten steel for sequencing on the continuous caster

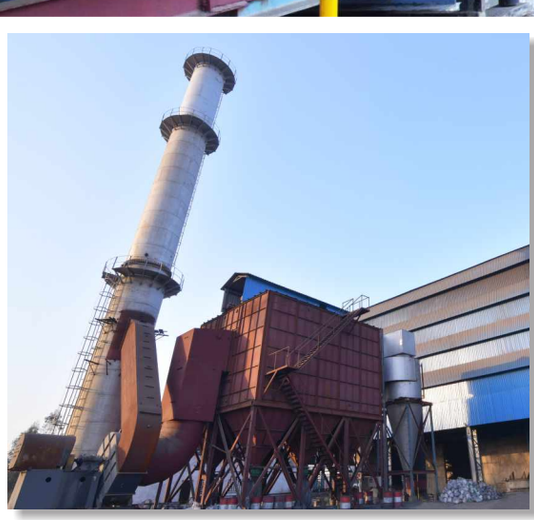


STRICT QUALITY CONTROL PROCEDURES

Strict quality control procedures are mandated to ensure the utmost consistency in the quality of Amba Shakti materials.

The Quality Control department is equipped with top engineers, advanced tools, and modern facilities to implement the quality policy in accordance with international standards and best practices.

"We ensure that every length of every rebar is of the same high quality that Amba Shakti is known for."



98%
LESS FUMES

THE NORTH STAR
MOST HI-TECH PLANT

The North Star is the brightest and closest star in the galaxy — a symbol of trust that always points in a clear direction.
Our latest plant in **Sikandrabad, Uttar Pradesh**, is the brightest and most well-equipped facility in Northern India. It is set to give a new, revolutionary direction to the entire steel industry.

With technologies that match — and even exceed — those of leading global players, this plant has the capability to manufacture the finest steel in the northern region.

It features a **Pollution Processing Unit** that reprocesses **98% of emitted fumes**, reflecting our commitment to a greener Earth. We never use furnace oil or coal, which are hazardous to the environment - **Only the best in the country.**

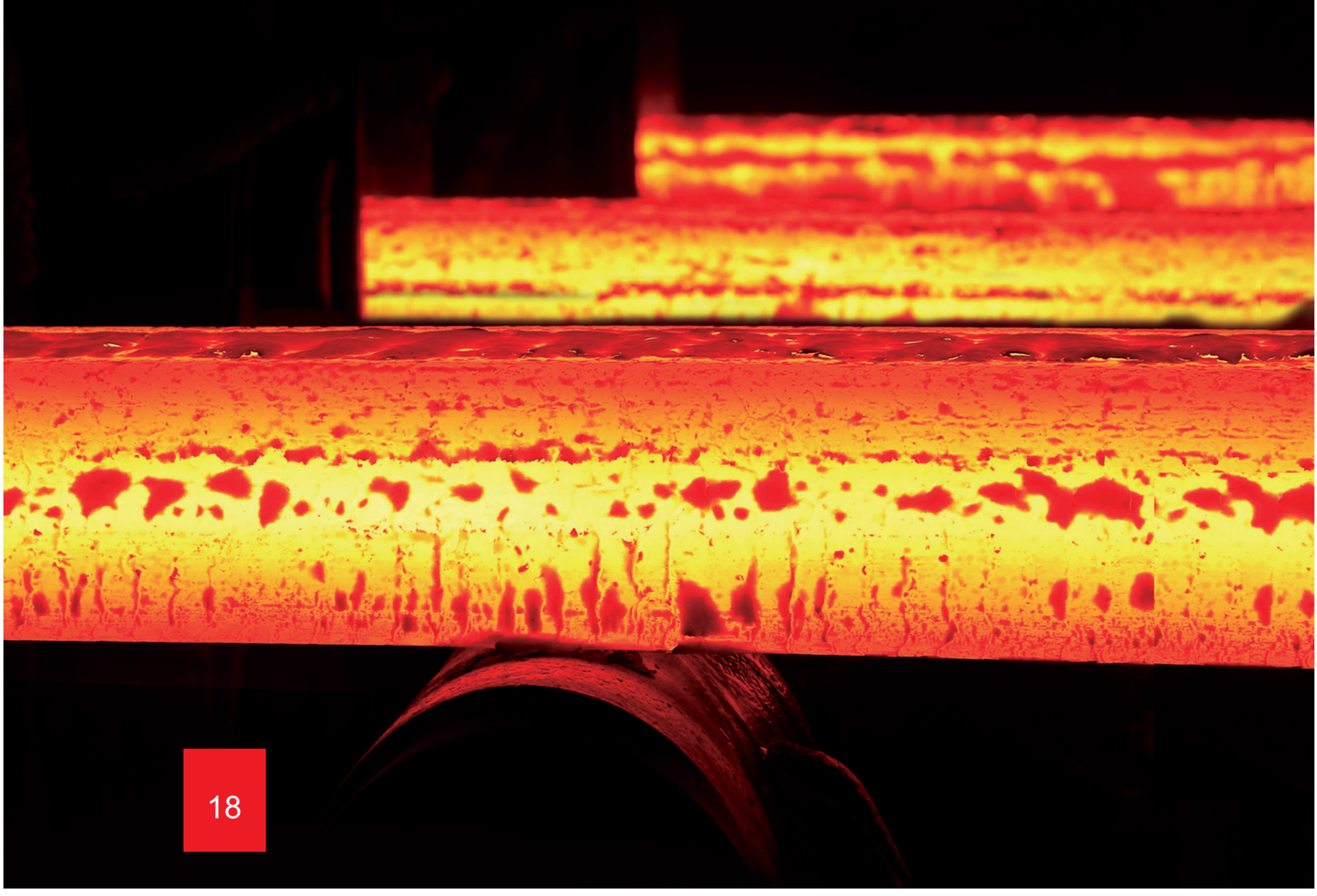
OUR **PROCESS**

RAW MATERIAL SEGREGATION & PROCESSING

MELTING & REFINING

CASTING

DIRECT ROLLING



SLITTING **GUIDE**

A **roller slitter guide** designed for the slit rolling production of reinforcing bars, this guide can be used for slitting **four-strand** or **five-strand rebars**. It is installed on the **mill stand rest bar** using a special **guide holder**. The guide holder is equipped with an **FPA (Fine Pass Adjustment)** system for accurate alignment with the receiving roll pass.

AUTOMATED BAR HANDLING

Automated bar handling ensures uniform, even bundles every time. Our latest bundling machines allow us to offer single bundles of up to **4 tons**, tailored for our esteemed commercial clients. These high-weight bundles significantly reduce the risk of theft during delivery — as it is virtually impossible to remove bars from the sealed bundles. Once the seal is broken, it cannot be resealed, ensuring complete transparency and security.

You get **exactly what you pay for — true value for every coin.** This makes **Amba Shakti SD TMT** the perfect partner for all types of construction, enabling the highest levels of **compliance, safety, and environmental standards**.

AMBA AND INNOVATION

We are committed to untiring research in new material applications and processing technologies, and we will continue to provide products that meet the evolving needs of our clients.

ELECTRIC FURNACE

Our **ultra-modern electric furnace** allows for precise control over chemical composition, while **direct charging** ensures that the core properties of steel are perfectly retained.
We use only the **finest raw materials** to produce **high-grade, unmatched steel products**.

CNC ROLL FORMING

We use **CNC machines** instead of conventional lathe machines found in older mills for all roll cutting operations.
This enables **precise geometric dimensioning** in the passes, resulting in **perfect grooves on the rebars** for superior bonding with concrete.

CNC roll cutting is ideal for machining **slit pass forms** and is highly suitable for **composite and high-speed steel (HSS) rolls**.

HSS ROLLS

The **quality of rolls** used in a mill directly defines the **durability and sustainability** of a rebar.
At Amba Shakti, we use **composite High-Speed Steel (HSS) rolls** — the finest available globally — to manufacture our products.

In addition to giving the rebars their **distinctive Amba Shakti shine**, these rolls form a **protective surface layer** on the rebars, enhancing their **resistance to corrosion** and extending their life in harsh conditions.

SETTING A TREND IN MANUFACTURING

AMBA SHAKTI 500 SD TMT Bars are manufactured with a precisely controlled chemical composition of **Carbon, Sulphur, Phosphorus**, and other alloying elements.
The **Carbon Equivalent (CE)** is maintained within the optimal range to ensure **excellent strength and weldability**.

Rolling:
Billets are rolled using the most advanced **Horizontal-Vertical mills**, equipped with **PLC-controlled drives**. This ensures a **tightly controlled temperature range**, **minimal rolling time**, and optimal rolling parameters — all of which are crucial for producing **super ductile rebars**.

'Thermax' TMT:
The **Thermo Mechanical Treatment (TMT)** quenching process is performed using the latest **'Thermax' technology from Germany**. This cutting-edge system features **online automated control** of water pressure, nozzle angle, and flow rate, ensuring precise control over every variable.
When the cut ends of an AMBA SHAKTI rebar are **etched in Nital**, they reveal **three distinct microstructural layers** — **Martensite, Bainite, and Pearlite** — a clear indication of our rebars' superior **Yield Strength**.

All of these advanced processes work together to make **Amba Shakti SD TMT Bars** significantly stronger than conventional rebars.
In fact, they deliver **up to 20% more strength** to concrete structures — using the **same quantity of steel**.

Amba Shakti 500 SD TMT bars are **super ductile (SD)** and have a **higher ultimate tensile strength ratio**, which ensures that when these TMT bars are **stressed beyond their yield strength** — as may occur during an earthquake — they can **absorb stress effectively** and to a **much greater extent**, without any risk of sudden rupture.

SD

MORE ELONGATION
SUPER **DUCTILITY**

PROMINENT FEATURES OF **AMBA FLEXION TMT BARS**

ENSURE EVERLASTING CONSTRUCTION

- **Uniform strength and ductility** throughout the entire length of each bar, unlike other TMT bars whose properties may vary from meter to meter.
- **Higher yield stress** and a superior **Ultimate Tensile Strength (UTS) ratio** for enhanced structural performance.
- **Advanced computerized 'Thermax' quenching process** ensures consistent mechanical properties.
- Manufactured using only **Grade A raw material** for unmatched quality.
- **CNC-cut rolls** create precisely notched grooves, providing strong bonding with concrete-especially vital during seismic activity.
- **Amba Flexion TMT Bars are Available in grades Fe 500 & 550.**
- **High-Speed Steel (HSS) rolls** form a protective oxide layer on the surface, offering superior **corrosion resistance**.
- **Integrated captive steel plant manufacturing**, not just re-rolling-making it the **only pure steel rebar** in North India.
- Excellent **fire resistance** for greater safety in high-temperature environments.
- **Weld-friendly** – no pre-heating or post-heating required.
- **Available in sizes from 8 mm to 32 mm**.
- Every meter of the bar is clearly marked with **'Amba Flexion'** and its **diameter**.
- **Superior bendability** achieved through stringent control of rolling parameters.
- **Automatic bending** ensures uniform bends across all bundles.
- **Online weighing systems** ensure strict weight control and accuracy.
- **Exclusive 4-ton bundles with automated bundling** – secure sealing prevents tampering or theft during transport; only the end user can open the bundle.

AT AMBA SHAKTI GROUP

The company is involved in a variety of social efforts with the main listed below:

Education:

The main focus of the company has been towards child education. We believe that the future of the country can only be bright when each one of us is educated. It is our goal to help as many children get education as possible to help realize that dream. Amba Shakti regularly works with organizations who are making a strong effort in this area and is always looking to do more.

Greenification:

As an industry, we look to offset whatever small emissions we are letting into the climate by various means of control and plantation. We have installed the globally best available pollution control systems in our facilities that capture **up to** 99% of the emissions, but even for the rest, we conduct tree plantation drives in various surrounding areas.

We stand firm in delivering excellence by constantly updating ourselves with the latest technology
and developments.
We remain persistent and diligent in maintaining the quality we promise. This commitment makes us a pioneer in the steel industry — **AMBA STEEL**.

SABKA HAI HUM PAR YAKEEN...

AMBA
SHAKTI
GROUP

AMBA SHAKTI GROUP.

19-A, Ring Road, Lajpat Nagar-IV, New Delhi-110024

011- 43521968 www.ambashakti.com