



**CASTING  
SOLUTIONS.  
FORGING  
BONDS.**









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# WORLD CLASS INTEGRATION FOR NEXT LEVEL SOLUTIONS

With our 100% in-house testing facility and stringent compliance to quality at every step, we ensure all our products are of world class standards.



# SOLUTIONS THAT MEET PRESENT REQUIREMENTS AND KEEP INNOVATING FOR FUTURE ONES

Wind energy, power, transmission, oil and gas, aerospace and machine tools – diverse industries and applications that have one need in common. Solutions. Cutting edge solutions that not only increase productivity and reduce wastage but are also environmentally conscious. Solutions that meet

present requirements and keep innovating for future requirements. At SEFORGE, we deliver perfect end-to-end solutions that not only meet but regularly exceed customer expectations... thus taking them to the next level every day.

Incorporated in the year 2006, we are a fully-fledged casting and forging company with in-house competence in pattern making, moulding, pouring, fettling, ring-rolling, heat treatment, machining, painting and packaging. This helps us meet customer requirements more efficiently through integrated process management and shorter lead times.

With our 100% in-house testing facility and stringent compliance to quality at every step, we ensure all our products are of world class standards. We thus establish next level precision and unchallenged quality.







**END-TO-END  
SOLUTIONS**



**INTEGRATED PROCESS  
MANAGEMENT**



**SHORTER  
LEAD TIMES**



**STRINGENT  
QUALITY COMPLIANCES**



**100% IN-HOUSE  
TESTING**







## OUR MISSION

Our Mission is to meet customer expectations by continuously improving our infrastructure, technologies, processes and fostering employee engagement.



## OUR VISION

Our Vision is to be the preferred global supplier of large, high-precision castings and forgings by employing path-breaking technological innovation and environment friendly processes that contribute positively towards value enhancement of all stakeholders.





## OUR VALUES

**EXCELLENCE** We excel in delivering superior performance which consistently surpasses all expectations.

**CONTINUOUS IMPROVEMENT** We bring continuous improvement in everything we do.

**INNOVATION** We are proactive in developing new and creative approaches and implementing them swiftly.

**AGILITY** We are prompt in taking decisions at the earliest, keeping all stakeholders in mind.

**INTEGRITY** We believe in upholding highest ethical standards and moral principles in all our actions.





# CASTS THAT LAST

Our Casting Division sets a global benchmark for high-precision castings by harnessing the latest technology and efficient processes, while ensuring that all environmental norms and safety standards are met.

We make large, complex, ductile and grey iron castings – in the weight range of 5,000 kg to 25,000 kg – which are fully-machined, painted and delivered ready for assembly.

Located in a Special Economic Zone (SEZ) in Coimbatore, India, and close to the Indian ports of Chennai and Tuticorin, the foundry is able to serve global customers efficiently.



# FULLY-FINISHED, INNOVATIVE, NEXT LEVEL CASTING SOLUTIONS

Spread over an area of 2,40,000 sq. metres, our Casting Division is one of the largest, fully-integrated foundries in India with an annual pouring capacity of 80,000 tonnes of fully-machined and ready to assemble castings. Our advanced facilities impart to our products a definitive technological edge through the amalgamation of latest machineries, efficient and ergonomic processes, state-of-the-art software and in-depth human expertise. The usage of in-house machines ensures superior finished product quality and reduced cycle time.

We take pride in the fact that each section of our Casting Division – be it the machine shop, the moulding and core shop, the fettling and finishing shop or the quality testing – individually and collectively work towards fulfilling the company's promise of exceptional quality and on-time delivery. We work simultaneously with customers to provide end-to-end solutions including design and development of parts, pattern design, process and quality planning.

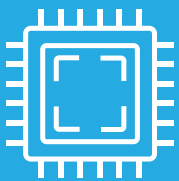
We adhere to highest health and safety standards stringently and meet our social responsibility by using environmental friendly processes.





# CORE INFRASTRUCTURE

## MOULDING



**1. Sand mixers:** Movable and stationary PLC controlled continuous sand mixers ensure good quality of mixed sand.

- Capacity: 25 – 50 MT/hour

**2. Sand reclamation plant:** Our sand reclamation plant is environment friendly with the capacity to reclaim 90% of the used sand.

**3. Mould shake-out machines**

- Capacity: 30 - 60 MT/hour

## MELTING & POURING



**1. Melting furnaces:** 3 pairs of dual track medium frequency induction furnaces consisting of 6 crucibles of 12 MT capacity each.

**2. Melting process control room:** Spectrometers for testing chemical composition of molten metal, which can analyse 28 different elements.

**3. Charging system:** Individual charging system for each crucible for charging raw materials.

**4. Ladles:** Ladles of varying capacity with ladle pre-heaters.

- Capacity: 7 – 20 MT.

## FETTLING



**Shot blasting machines**

- Capacity: 7 – 30 MT/hour





#### MACHINE SHOP



##### **CNC Double column vertical machining centre.**

- Table size: 5,000 mm x 3,000 mm

##### **CNC Floor type horizontal boring and milling centre.**

- Table size: 2,000 mm x 2,000 mm

#### PAINT SHOP



**Facilities for washing, cleaning, grit blasting, painting and drying with motorized ground trolleys and an overhead electric monorail material handling system**

**Paint types:** Thermal zinc spray, Epoxy and Polyurethane

#### TESTING FACILITIES



**Mechanical lab:** UTM with 600KN capacity, impact testing machine and hardness testing machine

**Metallography lab:** Spectrometer (Spectro Max & Lab), Microscope (40 MAT) with camera and image analyser

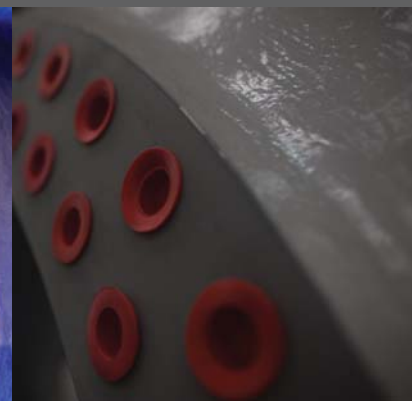
**Non-destructive testing:** Ultrasonic testing equipment to find internal soundness of the castings (GE & OLYMBUS), magnetic particle inspection to find surface and sub surface defects (Yoke-Y7)

##### **Portable CMM**

**EDGE faro arm:** 12 Feet Arm Length, Scanner Attachment for 3D scanning. Accuracy – 64 microns

**Laser tracker:** Range – 70 m, Accuracy - 0.17 mm

#### METALLURGICAL ANALYSIS SOFTWARE



Novacast: ATAS – To predict and ensure tendency of shrinkage of metal in casting even before pouring.

Casting simulation software

Novacast: Novaflow & Solid-Metal Filling and Solidification Simulation Software. To simulate casting defects at tooling design stage itself



# QUALITY ACCREDITATIONS

ISO 9001:2008



ISO 14001:2004 + Cor. 1:2009



BS OHSAS 18001:2007











# FORGING YOUR NEEDS

Spread over a vast expanse of 1,65,000 sq. metres, our Forging Division is fully equipped to meet the demands from diverse industries including wind energy, oil and gas, power, construction and heavy machinery, bearings, transportation, aerospace, mining and defence.



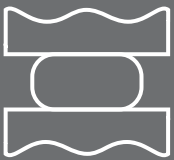
The stringent process control ensures consistent levels of quality while reducing production cycle time and eliminating human error.

This plant has an installed annual capacity to manufacture 42,000 large and high-precision fully machined rings of different material grades up to a diameter of 5 metres.

**Raw material grades:**

- All carbon steel grades
- All bearing steel grades
- All stainless steel grades
- Major alloy steel grades

Located in a Special Economic Zone (SEZ) in Vadodara, India, and close to the Indian ports of Mumbai, Kandla and Mundra, the forging unit is able to serve global customers efficiently.



## AXIAL PROFILING FOR NEAR NET SHAPE FORGING SOLUTIONS

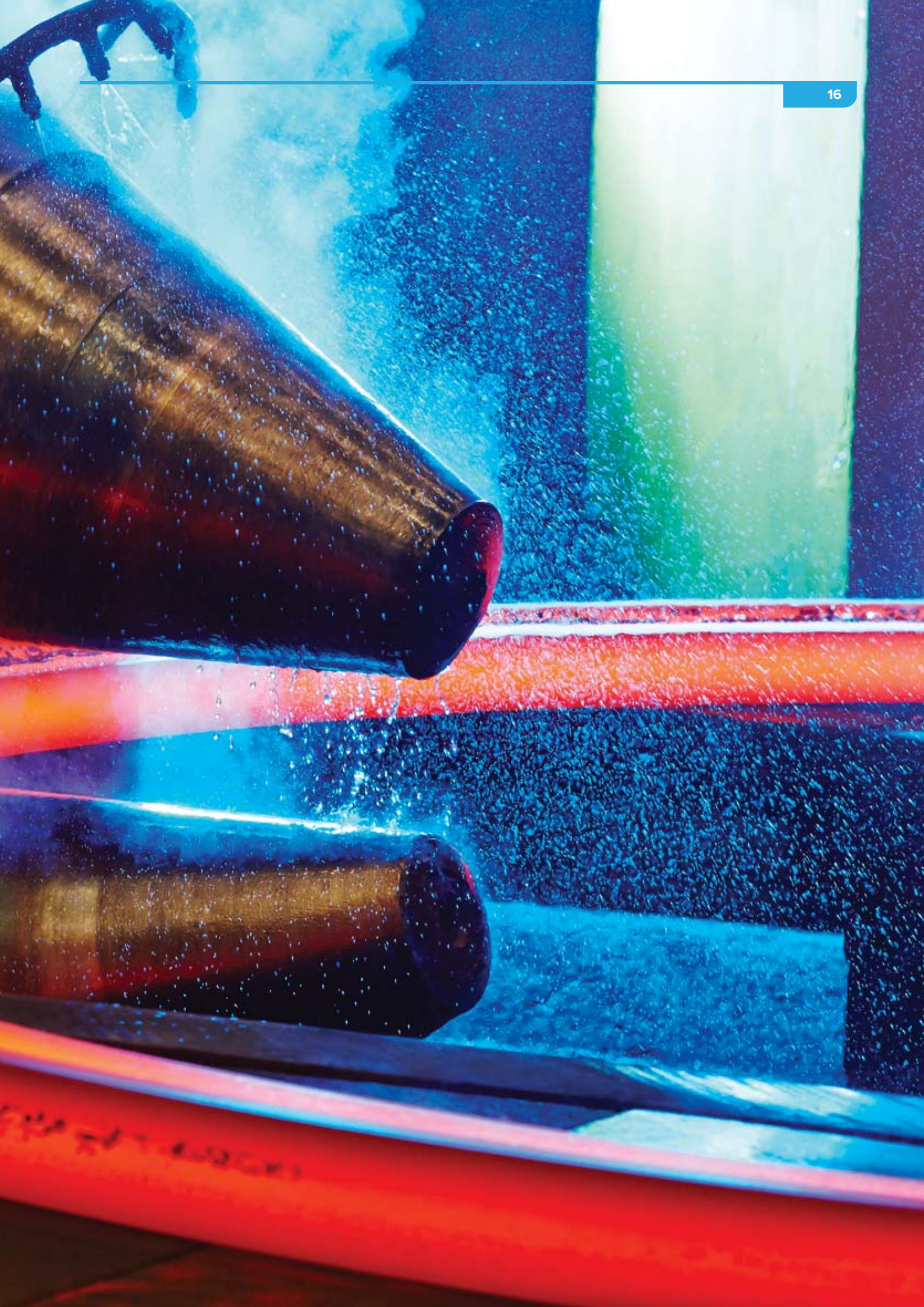
Equipped with state-of-the-art infrastructure and modern technology, our Forging Division ensures that all products are fully- finished and consistently meet global quality standards. The fully-integrated ring-rolling facility with rotary hearth furnace having auto indexing system ensures uniform and consistent heating. In addition, the automatic process control from billet cutting to the heat treatment shop ensures consistent levels of quality, efficiency and

productivity while reducing production cycle time and eliminating human error.

We take pride in the precision of all our processes including ring-rolling, heat treatment, CNC machining, painting and export worthy packaging. With our superior Axial profiling capabilities, we can roll the rings with weld neck profile directly in forge shape. Due to this, yield is improved to 7 % and machining time is reduced by 15 to 20 % based on the depth of profiling.

Comprehensive in-house testing facilities ensure our products meet international quality standards. All aspects of the product cycle, from engineering to process planning, quality management and manufacturing, come together seamlessly to develop the right products the very first time.





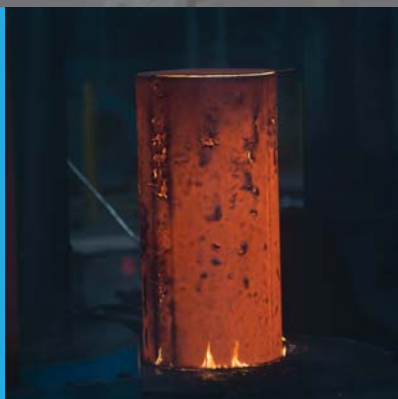
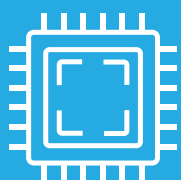


# CORE INFRASTRUCTURE

## SCALING

## HYDRAULIC PRESS

## HEAT TREATMENT



### 1. High speed sawing centre:

Billets range:

- Diameter: 250 - 700 mm
- Weight: 200 - 4,500 Kgs

### 2. Rotary hearth furnace:

Natural gas fired furnace with heating capacity of 30 MT/hour with auto indexing system.

### 3. Material handling robot:

Automatic handling of billets up to 4,500 Kgs capacity from rotary hearth furnace to ring-rolling machine.

### 4. Hydraulic Press:

5,000 MT hydraulic press for upsetting and piercing billets.

### 5. Ring-rolling machine:

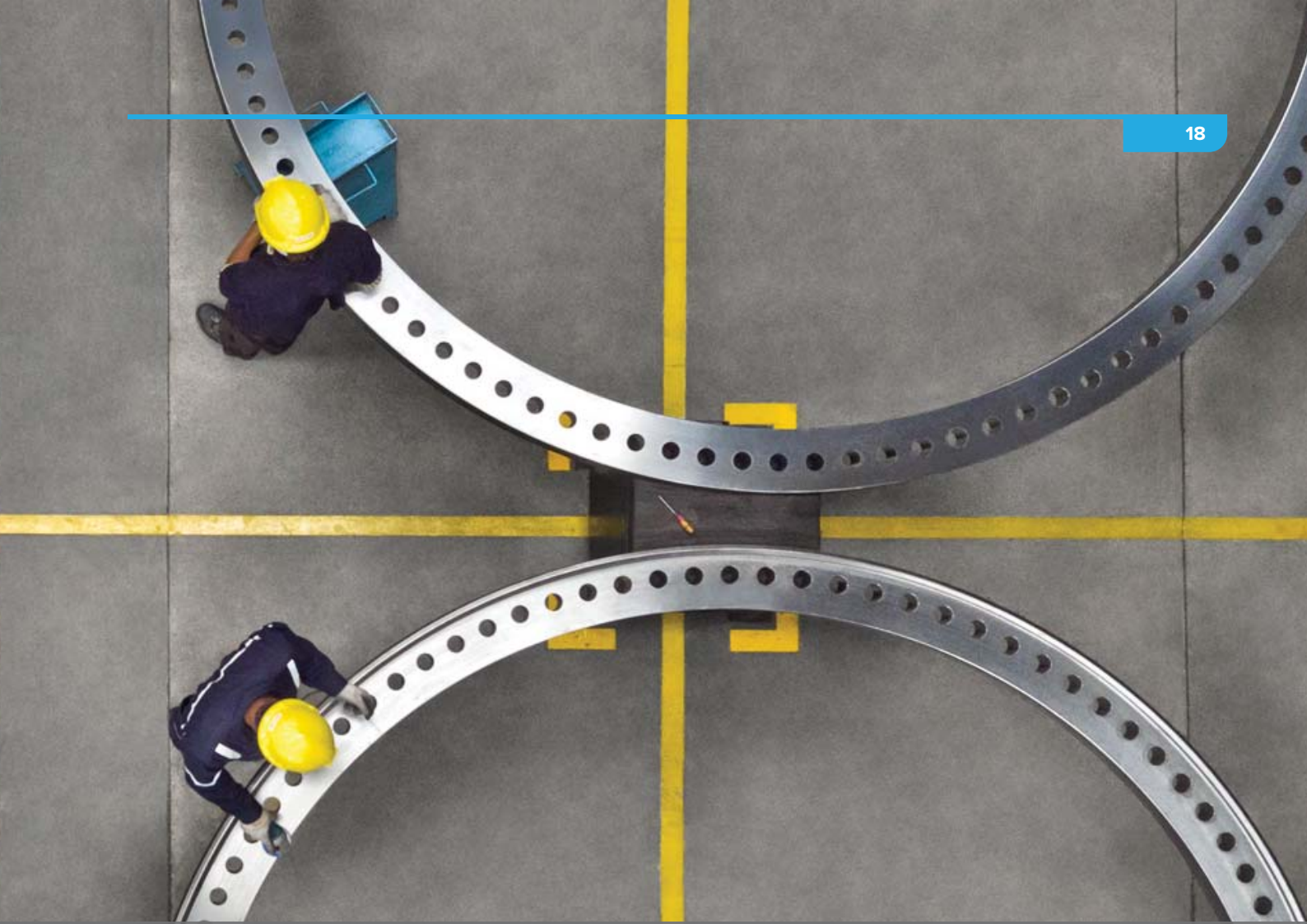
Rolling of near net shape forged rings from 500 to 5000 mm OD and 30 to 550 mm height.

### 6. Ring expander:

Ensures concentricity of rings after rolling process.

Natural gas/LPG fired furnaces with automatic material-handling system for normalizing, hardening and tempering processes.





## TESTING

## MACHINING

## DIMENSIONAL MEASUREMENT

## EXPORT WORTHY PACKAGING

**1. Mechanical testing:**

The fully-equipped metallurgical lab for testing various mechanical properties like UTS, tensile strength and impact testing for -70°, jominy testing and other ambient conditions.

**2. Micro-structure analysis:**

The spectrometer to analyse and ensure micro-structure, grain size and purity as per design specifications.

**3. Ultrasonic testing:**

UT testing by qualified level-II operators under the supervision of an NDT level-III expert.

**1. Machining line for forged rings/flanges:**

CNC controlled VTL and Drilling machines for rings/flanges up to 5000 mm OD

**2. Machining line for bearings rings:**

CNC controlled VTL and Drilling machines for rings up to 2500 mm OD

- In-process dimensional measurements by mobile FARO equipment
- 3D CMM machine (size-4x3x1.6 m) with profile tracing facility

- Packaging processes that protect dimensional integrity and prevent corrosion





ISO 9001:2008

ISO 14001:2004 + Cor. 1:2009

BS OHSAS 18001:2007



## Conformity of the factory production control

## Enlistment with EIL











# BONDS FORGED SERVICE DELIVERED

With our capability of meeting customer needs across various sectors, we take pride in our long term association with some of the leading global players.





### CASTINGS

**WIND** GE (India & USA), Vestas, Gamesa, Suzlon, Senvion, Wind World and ZF

**POWER** GE Jenbacher

### FORGINGS

**WIND OEM'S** GE, Vestas, Gamesa, Suzlon, Regen, Wind World

**WIND TOWER MANUFACTURERS** Gestamp, Windar, GWPL; Eurpoe: Max Boegl, KGW, SIAG; Australia: Ottoway

**BEARING OEM'S** SKF, Rothe Erde, IMO, Laulagun, ABC Bearing

**OIL & GAS** GE, IPI, Cameron through IPI

**POWER & INDUSTRIAL** GE Alstom, VOITH

**DEFENCE** MIDHANI, DRDO, ASL

ACCORD

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ACCURATE





## WHY SEFORGE?

- Certified with the highest international standards and quality accreditations
- Audited and certified by major global customers
- End to end capability in providing finished products
- 100% in-house testing facilities to ensure quality compliance from raw material to finished goods
- A skilled, trained and dedicated workforce committed to delivering superior solutions
- Excellent track record in on-time delivery
- Sourcing of con-cast raw material from reputed global steel mills
- Complete adherence to highest levels of environment, health and safety standards







# SEFORGE LIMITED

## FORGING DIVISION

### Vadodara

Plot No.1, SEZ Unit in ASPEN Infrastructures Ltd,

Village: Piparia, Taluka: Waghodia

District: Vadodara 391 760, Gujarat, India.

Phone: +91 2668 245086 – 89











# SEFORGE LIMITED

## CASTING DIVISION

### Coimbatore

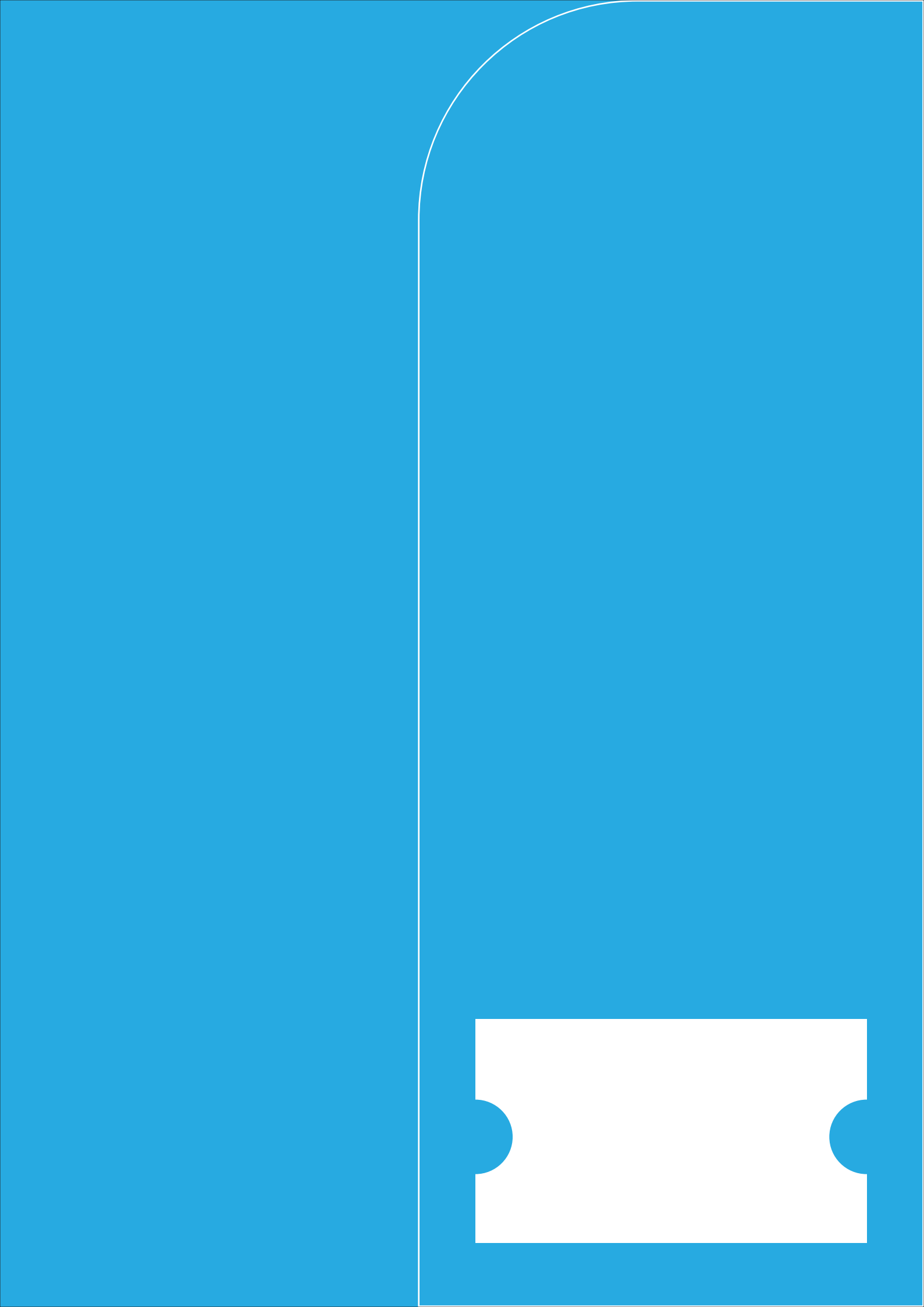
Plot No. 1, SEZ Unit in ASPEN Infrastructures Ltd,  
Kittampalayam Village, Annur Road,  
Karumathampatty,

Coimbatore 641 659, Tamilnadu, India.

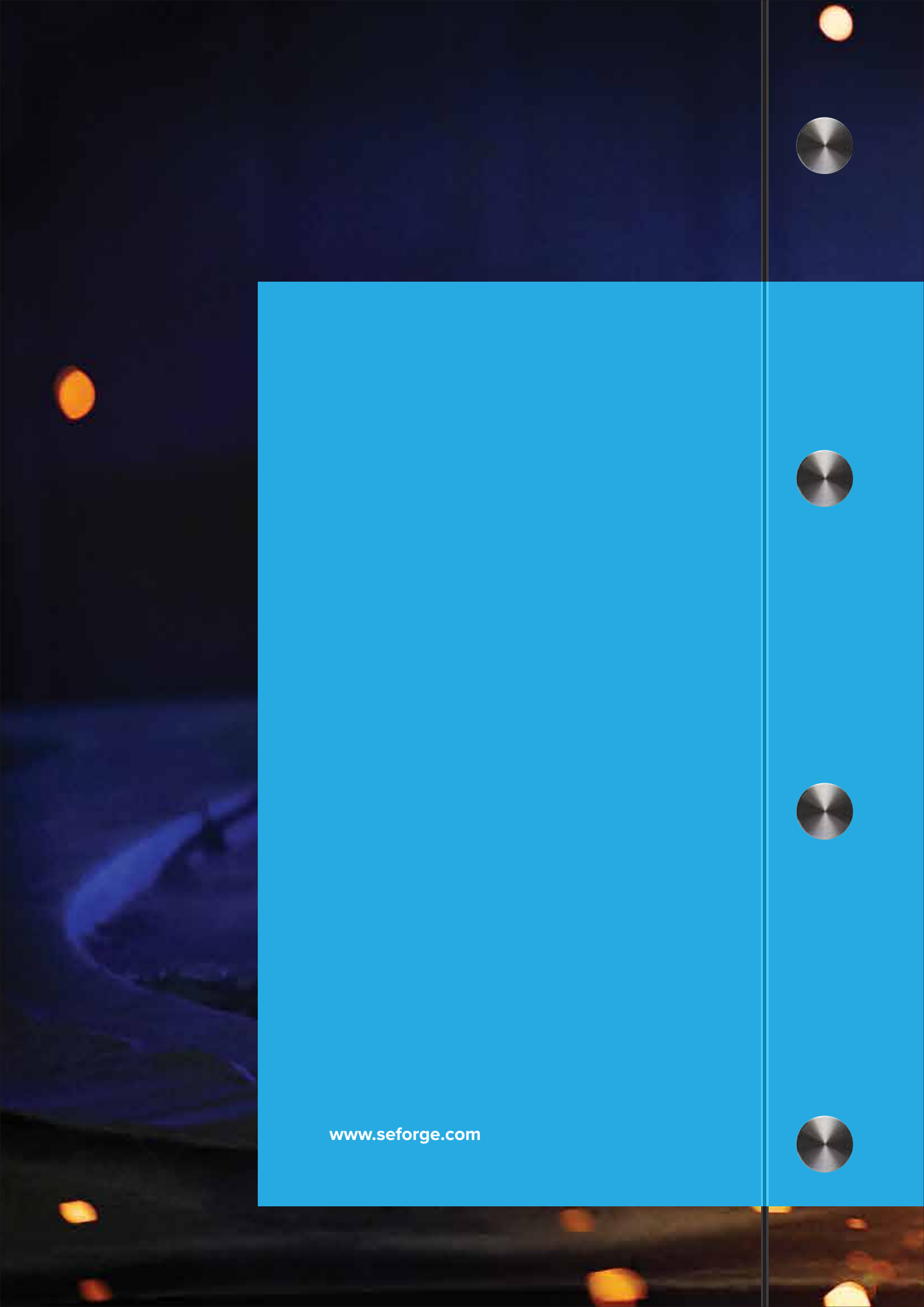
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