

Forgings **and** Relationships

WHICH LAST LONGER

ABOUT CHW FORGE

Established in 1956, CHW Forge is one of India's leading manufacturer of carbon steel, alloy steel, stainless steel and duplex stainless steel forgings.

Formerly known as Chaudhry Hammer Works, CHW Forge is preferred by companies across the globe for its quality and reliability of products and customer service. Over 5 Decades of its operations, the company has developed systematic and scientific processes resulting in manufacturing excellence. The company is a trusted name known for forgings manufactured using the best raw materials, infrastructure marked by advanced machinery, and testing processes which are as per international standards. At the same time, CHW Forge shares close relationship with some of the biggest names across the world due to its strong service orientation which translates into on-time deliveries, handling emergency orders and meeting customer specific requirements.

CHW Forge has deployed the latest production equipments: Radial-axial Ring Rolling Machine (SMS Meer GmbH, Germany, formerly known as Wagner Banning), Hydraulic Forging Press with Slide rotating device for incremental forging (Schuler SMG GmbH, Germany), Charging Machines & Manipulators (Dango & Dienenthal, Germany), CNC VTL Machines (Youji, Taiwan), VMC (Hartford, Taiwan), CNC Ring Saw Machine (Behringer GmbH, Germany). The company is always willing to invest in capital equipments keeping in mind the ever changing needs of the customer. Some of the latest machines setup by the company include CNC High Speed Drilling machine with two drill heads and a host of new hydraulic hammers equipped with Charging Machine & Manipulators, Electrically operated Heating & Heat Treatment furnace and Expander for stress relieving of Aluminium Rings.

An integrated company wide ERP system maintains accurate control on materials, production and inspections while advanced communication systems ensure fast information exchange between the company and its customers.

CHW Forge supplies to the following industries across the world: EPC Contractors, Oil & Gas, Petrochemicals, Fertilizers, Pressure Vessels & Heat Exchangers, Wind Mills, Valves, Defence, Power, Gears, Bearing Manufacturers, Heavy Earth Moving, Construction and Material Handling Equipments.



**SINCE 1956, WE HAVE
STOOD THE TEST OF TIME
LIKE OUR FORGINGS,
WHICH LAST LONGER
THAN THE REST**

RECOGNITIONS & CERTIFICATIONS

- Rated as the best forge shop in open and open die forging by AIFI in 2006-2007
- ICRA Rating: [ICRA]A (stable)/[ICRA]A1
- Our Testing Laboratory is accredited in accordance with the standard ISO/IEC 17025 by NABL
- Certified by world renowned certifying agencies for :
 - ISO 9001
 - ISO 14001
 - ISO 45001
 - ISO 27001
 - EN 9100
 - API 6A
 - AD 2000-Merkblatt W0
 - PED 2014/68/EU
 - PE(S)R 2016 (UK)
 - Norsok M-650
 - Approved as well known Forge by IBR
 - Enlisted with Engineers India Limited



WE ARE A ONE STOP SHOP
WITH A WIDE RANGE OF
FORGINGS

WE USE THE BEST
TECHNOLOGIES
FOR BEST RESULTS



WE ARE TRUSTED
BY THE BIGGEST
INDUSTRY NAMES
ACROSS THE WORLD

NO REQUIREMENT IS
TOO HIGH FOR US WITH
ANNUAL PRODUCTION
CAPACITIES OF MORE
THAN 40,000 TONNES



WHAT WE FOCUS ON

CHW Forge is sharply focused on

Delivering forgings of **unmatched quality**,
and building **strong relationships**
with its Customers

CHW Forge deploys the best machinery, modern technology and international quality standards to manufacture forgings. At the same time, focused customer service allows us to ensure transparency in documentation, timely order deliveries and inclusion of special raw materials.

The systems and processes at CHW Forge are robust and well defined to ensure flawless manufacturing and they are flexible enough to accommodate special customer requirements.

The working philosophy at CHW Forge is guided by the CHW Quality Policy and Ethics Policy. CHW Forge prides itself in offering complete transparency and is driven to deliver customer delight.

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FORGINGS WHICH LAST LONGER



The product range at
CHW Forge
includes a variety of
heavy steel and aluminium forgings
which find application across
diverse industries



ROLLED RINGS

CHW Forge manufactures cost effective and consistently high quality rolled rings using Radial-Axial ring rolling machine which results in the desired grain flow, higher reduction ratio and good mechanical properties. The rings are manufactured to close tolerances which allow for minimum material allowance and very little waste. CHW Forge can produce seamless rolled rings in complex, custom shapes with contours and profiles: internal as well as external.



SLEWING BEARINGS AND GEAR RINGS

CHW Forge produces large diameter bearing rings in sizes ranging from external diameters of 500mm to 4500mm. We manufacture slew rings which are used in industrial applications such as wind energy, power, defence, heavy earth moving, construction and material handling.



FLANGES – ROLLED AND FORGED

CHW Forge manufactures standard and non-standard flanges (weld-neck, slip-on, socket-weld, lap-joint, blind and screwed types) in all pressure ratings. The flanges are manufactured as per international specifications and as per the customer's requirement. The non-standard flanges can be manufactured upto a diameter of 4500mm with the weight not exceeding 5,000 kg.

TOWER FLANGES FOR WINDMILL

CHW Forge manufactures tower flanges in rolled, heat treated and fully machined condition. The tower flanges are manufactured as per the customer's design and specifications.



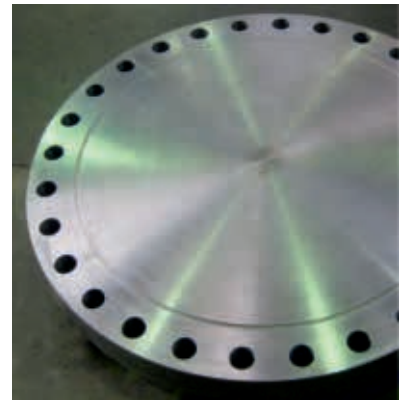
SELF REINFORCED NOZZLES AND HOLLOW FORGINGS

CHW Forge manufactures self reinforced nozzles (SR Nozzles) and hollow forgings as per customer's design and specifications. The SR Nozzles can be machined and supplied in spherical, cylindrical and ellipsoidal radius. The profiling is carried out using CNC vertical machining centers. The nozzles are used in pressure vessels and heat exchangers.



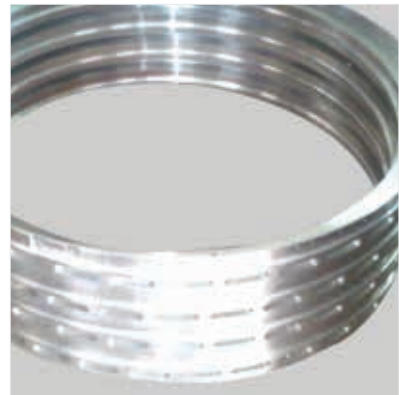
BLINDS AND TUBE SHEETS

CHW Forge manufactures standard & non-standard blinds and tube sheets as per the customer's specification. They can be supplied in fully machined and drilled condition. They find application in pipelines, pressure vessels & heat exchangers and are manufactured out of carbon steel, alloy steel, stainless steel and duplex stainless steel.



ROLLED RINGS OF ALUMINIUM ALLOYS

CHW Forge also manufactures aluminium alloy rings upto a diameter of 2500mm and a maximum weight of 1000 kg in various grades. Aluminium rings can be supplied in solution heat treated, stress relieved & aged condition. These rings find application in aerospace & defence like missile launch vehicles, aircraft, supplementary tank / combat tank and so on.



RELATIONSHIPS, WHICH LAST LONGER



While delivering world class forgings to customers, CHW Forge has built something equally valuable and lasting – Relationships with all its stakeholders – customers, employees, contractors, suppliers, bankers, investors and the government.

At CHW Forge, every effort is made to nourish these relationships and ensure an exceptional customer experience.

CHW Forge and its team places equal emphasis on its customer relationships and the products it manufactures.

As a result, customers at CHW Forge enjoy prompt communication that is accurate and clear. All customers receive regular information from the company within specified time lines.

This unique focus area gives CHW Forge a fundamental edge over other operators in the industry. This is possible due to our customer driven policies, transparency in processes and continuous feedback mechanisms.

This has held the company in good stead as it has successfully built, managed and grown relationships with some of the biggest names across industry sectors.

Relationships linked by
Understanding



and Trust

RELATIONSHIPS, ACROSS GEOGRAPHIES



CHW Forge
has a customer base extending
across the globe



Created World Class.
Served World Class.



India, USA, Europe, Africa, Middle East, South East Asia and Australia

RELATIONSHIPS, ACROSS SECTORS

Oil & Petrochemical

- Saudi Basic Industries Corporation (SABIC)
- Kuwait National Petroleum Company (KNPC)
- Kuwait Oil Company (KOC)
- Abu Dhabi National Oil Company (ADNOC)
- Abu Dhabi Marine Operating Company (ADMA)
- Abu Dhabi Company for onshore Oil Operations (ADCO)
- Abu Dhabi Gas Liquefaction company (ADGAS)
- TAKREER, Abu Dhabi
- Qatar Petroleum (QP)
- Petroleum Development Oman LLC (PDO)
- National Iranian Oil Engineering & Construction Co.
- National Iranian Gas Company (NIGC)
- FLOUR, USA
- SASOL, South Africa
- Nuclear Power Corporation of India Limited (NPCIL)
- Reliance Industries Limited (RIL)

Defence & Power

- Advanced Systems Laboratory
- Bharat Heavy Electrical Limited
- Defence Research and Development Laboratory
- Hitachi Asia Limited
- L&T - MHI Turbine Generators Pvt. Ltd.
- Northern Power Erectors Limited
- Ordnance Factories, Ministry of Defence
- BrahMos Aerospace Private Limited

Material Handling And Earth Moving Equipments

- BEML Limited
- Gujarat Apollo Industries Limited
- L&T, Komatsu
- Schwing Stetter India-Germany
- Telcon (A Tata - Hitachi Joint Venture)

Bearing & Gear Blanks

- ABC Bearings Limited
- Kirloskar Pneumatic Company Limited
- Winergy Drives Systems

Fabrication

- Diamond Engg. (Chennai) Pvt. Ltd.
- Premier Limited
- Santo Engineering Co. Pvt. Ltd.
- Simplex Engineering & Foundry Works Pvt. Ltd.

Wind Energy

- Gamesa Wind Turbine Pvt. Ltd.
- Enercon India Limited
- Leitner Shriram Manufacturing Private Limited
- Global Wind Power Limited
- ReGen Powertech Private Limited
- Winwind Power Energy Private Ltd.

Pressure Vessels and Heat Exchanger Manufacturers

- Kuwait Pipe Industries & Oil Services (K.S.C.) (JPME)
- Maritime Industrial Services Co. Ltd. Inc.
- Gulf Marine Maintenance Offshore Service Co. LLC (GMMOS)
- The Indian Sugar & General Engineering Corporation (ISGEC)
- Larsen & Tourbo Limited
- Thermax Limited
- Godrej & Boyce Manufacturing Company Limited

Engineering, Procurement and Construction

- National Petroleum Construction Company (NPCC)
- Petrochemical Industries Design & Engineering Company (PIDEC)
- Sime Darby Engr Sdn Bhd
- Foster Wheeler India Private Limited
- Toyo Engineering India Limited
- Tecnimont ICB Private Limited
- Technip India Limited
- Linde Engineering India Private Limited
- Lurgi India Company Private Limited
- Engineers India Limited
- Samsung Engineering Company Limited
- Punj Lloyd Limited

Valves

- Dembla Valves Limited
- Flowsolve India Controls Private Limited
- Fouress Engineering (India) Limited
- Mokveld Valves BV
- Audco India Limited
- L&T Valves
- CCI Valves

WHY OUR FORGINGS LAST LONGER



CHW Forge follows a Process Oriented Approach. The company uses the highest quality of raw materials, passes products through vigorous tests and deploys world class infrastructure and resources at every stage, from raw material to the finished product.

Stringent Selection and Processing of Raw Materials

At CHW Forge, selecting the right raw materials and processing them correctly forms a fundamental step towards ensuring quality excellence.

- Complete focus on choosing raw materials with the highest quality
- Immediate order processing
- Thorough inspection of incoming materials
- Wide variety of raw materials across shapes and sizes
- Raw Materials used include high quality grades of carbon steel, alloy steel, stainless steel, duplex stainless steel and aluminium alloys
- Inclusion of special raw materials as per customer requirements
- Use of ERP allows us to manage and streamline our stocks
- CHW Forge deploys a robust Identification and traceability mechanism to avoid mix up and unintended use of the raw materials

Uncompromising Testing Capabilities

CHW Forge has introduced a process layer for ensuring uncompromising value in the form of testing processes which are highly stringent and leave almost no scope for flaws.

Non Destructive Testing

- Ultrasonic Test
- Magnetic Particle Test
- Liquid Penetrant Test
- Positive Material Identification (PMI)
- Hardness Testing
- In-Situ Microscopy

Destructive Testing

- Impact Testing (Lateral Expansion, Shear Area, Charpy and Izod) – upto minus 196 degree Celsius
- Metallurgical Testing (Micro, Macro, Inclusion Count Check)
- Mechanical Testing (Tensile, Yield, Elongation, Reduction) – hot tensile test at elevated temperatures
- Jominy Test
- Inter Granular Corrosion Test (IGC Test)

In addition to these, CHW Forge also conducts customer specific Quality Checks

World Class Production Infrastructure

CHW Forge brings modern and in-house production capabilities which not only result in complete control on the processes and quality, but also result in more cost effective products.

Forge Shop

- Range of hammers enabling single piece forging of weight up to 5000 kg
- Support facilities include manipulators and reheating furnaces
- Equipped with a range of band saws with capacity to saw steel up to 1500mm

Press and Ring Rolling Machines

State of the art Radial-Axial Ring Rolling machine, 4000T Hydraulic Press and Charging Machines

- Manufactures rolled rings (with and without profile on the outer and inner diameter) and flanges with reduced input weight, higher reduction ratio, desired grain flow along the rolled profile and improved mechanical properties
- Manufactures rolled rings upto a diameter of 4500mm, height upto 650mm and weight upto 5000 kg

Heat Treatment Facilities

- The Furnaces are capable of normalizing, hardening, tempering, annealing and hydrogen flaking
- The shop is equipped with water quenching tank for carrying out solution annealing and oil quenching tank for carrying out the hardening and tempering process
- Electrically operated Reheating and Heat Treatment Furnaces with Drop Bottom facility to process aluminium alloys

Machining Equipments

- The Machine Shop is equipped with a range of CNC Machining Centers, Vertical Turning Lathes and other allied machines. We have the capability to supply forgings in fully machined condition
- Forgings can be supplied in proof machined or fully machined conditions within close tolerances



Strong Focus on Quality, Environment and Safety

CHW Forge places unmatched emphasis on quality of its products and exercises complete control and management of the processes which result in complete material traceability throughout the production cycle.

CHW Forge is certified by international certifying agencies underlining the unrelenting focus on quality.

Certifications

- ISO 9001
- ISO 14001
- OHSAS 18001
- ISO 27001
- EN 9100
- API 6A
- AD 2000-Merkblatt W0
- PED 2014/68/EU
- Approved as well known Forge by IBR
- Enlisted with Engineers India Limited

At the same time, forgings can be ordered using criteria laid down by third party inspection agencies of international repute.

Companywide Integrated ERP System

Being highly contemporary in its outlook, CHW Forge has adopted Information Technology in multiple ways. Using an integrated ERP system allows us to handle organizational processes with efficiency and transparency.

- Inventory control and raw material planning
- Material flow during production
- Inspection and test control
- Status tracking, delivery and documentation
- Finance and Accounting
- Human Resources
- Customer Relationship Management

WHY OUR RELATIONSHIPS LAST LONGER



With a dedicated focus on ensuring customer service, CHW Forge has adopted systems and processes which are aligned to the customer requirements and their fulfillment.

Customer Driven Policies

At CHW Forge, a well defined framework of policies and processes guides and drives operations. However, these policies and processes have been laid down after a deep understanding of customer requirements. With these requirements factored in, the framework at CHW Forge is practical and aimed at delivering results which are beneficial for our customers.

Transparency

CHW Forge believes in Transparency. Every system, process and framework involved in running the organization has been developed to offer this fundamental value and is a stand out promise that we offer to all our stakeholders.

Empowered People

People at CHW Forge are creative, free minded individuals who are motivated to discover new possibilities and chart newer routes towards satisfying the customers. They are empowered to take decisions, resulting in prompt fulfillment of customer expectations.

Robust Feedback Mechanisms

At CHW Forge, regular meetings with customers along with swift and comprehensive feedback mechanisms are used to capture customer insights and feedback. CHW Forge also organizes guided tours of the manufacturing facilities for its stakeholders.

Agile Customization Capabilities

CHW Forge respects the right of its customers to demand customized products. Hence CHW Forge offers customization at every layer of the process. Inclusion of special raw materials, passing products through additional testing processes are a few forms of customization the organization offers.

Dedicated Customer Service Team

Customers at CHW Forge are supported by a dedicated customer service team. This team includes dedicated relationship managers, resulting in clearer contact points, faster responses and effective support.



CHW Forge not only demonstrates excellence in its industry, but also displays responsibility towards the larger eco-system.

More than 30% of the land owned by CHW Forge is reserved for green areas. The factory area is surrounded by gardens and trees.

The water obtained from the processes is not sent to sewers or drains. Instead, it is used to irrigate the green areas. The roof top rain water is accumulated and utilized for rain water harvesting.

CHW Forge uses Agro Waste as fuel which has led to the curtailment of air pollution and carbon emissions.





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(formerly Chaudhry Hammer Works Limited)

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