



## Forged & Machined Components



WHERE **STRENGTH**  
**MEETS** PRECISION

GIVING EXPERT  
SERVICES SINCE 2009



We are a company founded on solid goals, beliefs and values. As we embark on the journey to becoming the preferred global suppliers of Forgings, we follow a single minded goal of excelling in everything we do. We are engaged in the manufacturing of forging components.

Since the inception of the company, it is remained our proud tradition to give quality-packed products. We believe in an innovative approach, dedicated to achieve the topmost level of efficiency and excellence blending with the quality of the product. To Achieve this we keep eagle's eye-watch; right from 'Procuring of Raw Materials' to the 'Forging Process', 'Heat Treatment', and 'Timely Delivery of Products'.

A sophisticated manufacturing facility, coupled with technological superiority and a skilled workforce ensures that we deliver end-to-end solutions that meet customer satisfaction.



## MISSION

To get global recognition as a socially responsible corporate entity by ensuring good service and high business ethics.

## VISION

Uphold the recognition and reputation as a value brand source for world class 'Forged and Machined Components', both nationally and internationally.

## BELIEF

Quality never happens as an accident .... It is the result of systematic, dedicated and intelligent efforts.

THE NEXT INSPECTOR IS THE CUSTOMER

- 🔥 Bearing
- 🔥 Automotive
- 🔥 Earth Moving
- 🔥 Construction Equipment
- 🔥 Infrastructure & Mining
- 🔥 Agriculture
- 🔥 Oil & Gas Industries
- 🔥 Pole-line Transmission
- 🔥 Gear Transmission
- 🔥 General Engineering
- 🔥 Hydraulic Industries
- 🔥 Railways

## TECHNICAL DETAILS

We can forge components from Ferrous, Non Ferrous and SS as per customer's specifications. Some of the popular grade, as per categories are as under mentioned:

### Low Carbon Steel

SAE1008, SAE1010, SAE1018, SAE1020, En1A, etc..

### Medium Carbon steel

En8d, En9, C45, SAE1040, SAE1045, SAE1141, etc..

### High Carbon Steel

SAE 52100, En19, etc..

### Alloys Steel

16MnCr5, 20MnCr5, SAE8620, SAE4140, En353, etc..

### Stainless Steel

Ss304, SS316L, SS410 etc..

Other than grade mentioned above we can also forge any Ferrous Metal Compositions as per SAE, IS, DIN, JIS or BS or International Standards

### Ring Rolling Forging Size

OD - 50 mm to 450 mm (0.500 Kg to 20 Kg)

### Close Die Forging Size

650 # 350 # 250 mm (0.500 Kg to 20 Kg)

### Press Forging Size

150 # 150 # 80 (0.100 kg to 2 Kg)





## ▲ **RAW MATERIAL**

We follow our standard procedure for every material which we procured from steel suppliers. First we do Metallurgical Testing like Chemical Test, UT of Rolled Round Bar procured from suppliers. All testing are held in-house / at NABL approved Laboratory. Round Bars are identified by Color Code on both ends of the bar. We always purchase material form Oems approved source like ISMT, JSW, Gardau, Bhushan Power & Steel, VSP, Etc...

## ▲ **DIE MANUFACTURING & INSPECTION**

All types of die like Trimming Die-Punch, Cup Forming Die-Punch, Die for Forging done at In-house Die Shop. It includes VMC & Conventional Leth. Using die's material DIN-2714 for Closed Die Forging & H11/H13 for Press Forging and Ring Rolling. (Hardness: 38-42 HRC) Finished impression of Die is 100% dimensionally checked by Layout Inspection on Plaster of Paris.

## ▲ **INHOUSE RAW MATERIAL TESTING**

Chemical Analysis is done by Spectrometer. Make: GNR ITALY Other testing facility available like Micro cleanliness, Hardness, Metallurgical Microscope with image Analyzer software available to check Micro structure, Grain size after Annealing & Normalizing.





## ▲ **BLANK CUTTING**

Cut blanks are done on high productive precise Circular Saw Machine with auto loader facility and Band Saw.

We also have a facility of Hot Shearing Machine which is attached in Long Bar Induction dedicated for SAE52100 material.

## ▲ **HEATING**

Cut blanks are heated by Induction Billet Heater with Controlled Temperature (with acceptor/rejector) for Hammer Forging, Press Forging and by Continuous type Oil Fire Furnace for Ring Rolling Forging.

We also have Long Bar Heater for Ring Rolling with additional facility of Billet Heating.

QUALITY IS OUR TOP PRIORITY



## ▲ FORGING

Forging operations that are performed with Hammers & Presses include Drawing Down, Upsetting, and Rolling, leading to Finished Product. A Subsequent Trimming Operation is carried out to remove excess material on Power Press. On the other hand, Forging operations that are performed with Presses & Ring Rolling include Upsetting, Cup Forming, Piercing, Ring Rolling, leading to finished product which is executed in One-Heat Cycle together with finished forging.

## ▲ IN HOUSE HEAT TREATMENT

After Forging is completed, Forging Components undergo required processes of Normalizing or Spheroidized Annealing as per validated temperature and time cycle.

This Operation Performed in house with bell type induction furnace with facility of real time tracking I-tool Software.

Micro structure testing of component is done as per quality plan.

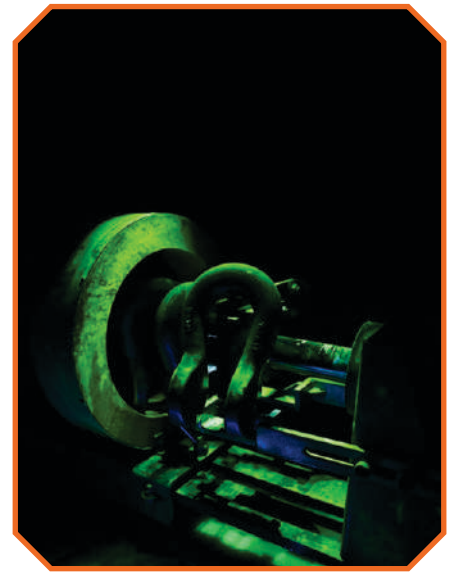
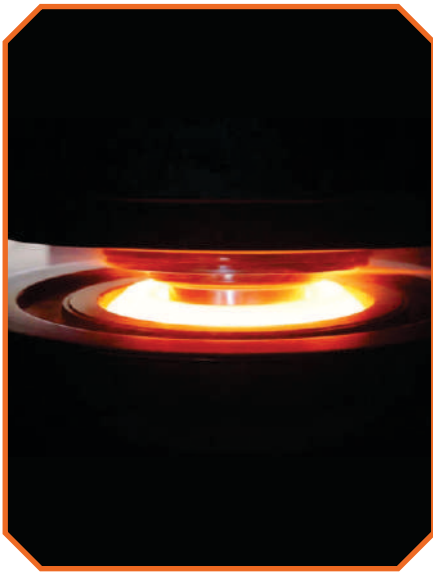
Quenched-Tempered Process held by out source which is reputed and approved from OEMs and Our Customers.

## ▲ SHOT BLASTING & FETTLING

Forging surface De-scaling operation is done by Tumbler type shot blasting machine.

Using proper grade of shots ( 0.45 & 0.55 mm) to avoid pit marks.

100% fettling is done for flash projection, burr, chopping etc



## ▲ **QUALITY INSPECTION - HARDNESS & CRECK DETECTION**

Visual inspection is carried out after shot blasting. PDI (pre dispatch inspection report) is done & sent along with material to the customers.

Brinell hardness tester for 3000kg load & 10mm dia is used for hardness checking.

Magnetic partical TEST (MPI) is done for all functionally critical forging as customer's requirement.

## ▲ **MACHINING**

CNC Machining is done by approved CNC vendor while VMC Machining is done In-house.

PRODUCTION SOLUTION THAT MAKES SENSE





YOKE



TEE



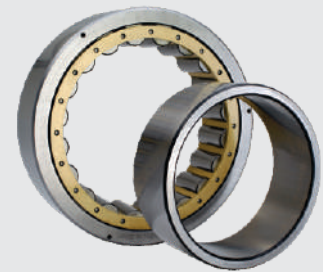
ANCHOR-SHACKLE



AUTOMOTIVE



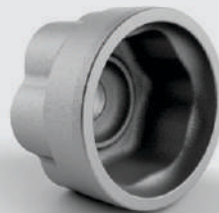
BALL-JOINT



BEARING RACES



BONNET



CAP



CAP-END-COVER



CHAIN-LINK



CLEVIS-EYE



CONNECTING-ROD



COVER



CRANK-SHAFT



CUSTOMISE FORGED RING



ELBOW



FLANGE BUSH



FLANGE



FLANGE



GEAR BLANK



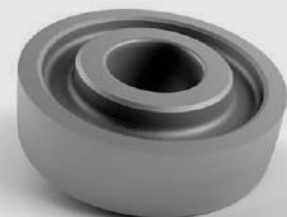
GLAND



GROOVE RING



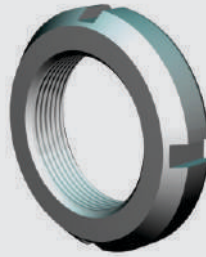
HARDENED STEEL BUSHES



HUB



KING PIN



LOCK NUT



NUT



OIL-SEAL-CUP



OUTER-BLANK



PISTON-ROD



POLE LINE PARTS



PRESS COMPONENTS



PRESS FORGE



RING-GEAR



ROD-EYE



ROLLER





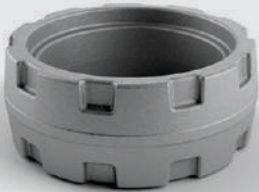
SHAFT



SLEEVE-COUPLING



SLEEVE-YOKE



SLOTTED BUSH



STEEL-CLAMP-1



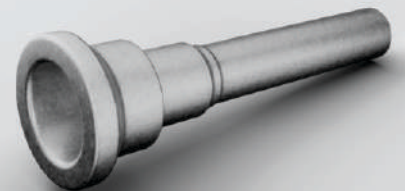
STEERING-ARM



STEERING-KNUCKLE



TORQUE-ROD-ARM



TRANSMISSION PART



TROUQE ARM



UPSET FORGING



WEB

## LAND & CONSTRUCTION



Total Area - **1,07,600** Sq.ft  
Total Production Area - **33,000** Sq.ft  
Raw Material Storage Area - **8,000** Sq.ft



Total Area - **12,000** Sq.ft  
Total Production Area - **8,000** Sq.ft  
Raw Material Storage Area - **1,000** Sq.ft



THE FOUNDATION FOR GREATNESS







## **MACHINE FACILITY**

### **CUTTING**

Circular saw - 100 Dia / RCS  
Bandsaw Machines  
Hot Sharing Machine

### **FORGING**

#### **CLOSED DIE FORGING**

1.5 MT Belt Drop Hammer Line with 350 KVA Induction Heating Facility  
Dimension Capacity - 650 # 350 # 250  
Weight Capacity - 0.500 Kg to 20 Kg

#### **PRESS FORGING AND UPSET**

500 MT Screw Press Line with 250 KVA Induction Heating Facility  
Dimension Capacity - 150 # 150 # 80  
Weight Capacity - 0.100 kg to 2 Kg

#### **RING ROLLING FORGING**

300 MT Power Press Line with 250 KVA Induction Heating Facility at VIMAL FORGE LLP.  
Dimension Capacity - 50 - 250 MM DIA  
Weight Capacity - 0.200 Kg to 4.500 Kg

400 MT Power Press Line with Oil Fired Furnace at VIMAL STEEL FORGE  
Dimension Capacity - 50 - 400 MM DIA  
Weight Capacity - 0.500 Kg to 15.000 Kg

### **ANNEALING OR NORMALIZING**

Bell Type Induction Furnace - 3 nos.  
Capacity - 3 MT  
All furnaces are with I-TOOL Software to generate a Graph of Live Cycle.

### **SHOT BLASTING MACHINE**

Capacity - 1MT / cycle



## **MACHINE FACILITY**

### **MAGNETIC PARTICLE INSPECTION**

Capacity - up to 400 MM  
Auto De-magnetic Facility

### **LABORATORY**

Spectro with nitrogen detection facility  
Hardness Tester  
Microscope upto 1000X  
Abrasive Cutting Machine and Polishing Machine  
Surface Plate

### **DIE SHOP**

3 Conventional Lath for die making as well as  
for maintenance activity  
Radial Drill - VMC - HASS

### **MACHINING FACILITY**

#### **CNC Machine (Vendor Side)**

For Proof M/c - 12 Nos.  
For Finish M/c - 14 Nos.  
Capacity - up to 400 MM DIA

#### **VERTICAL MILLING CENTER**

2 HASS Machines for VMC Operations  
Capacity - 1020 x 600 x 400  
Auto probing facility  
Tool measuring facility

### **Laser Marking Machine**





## **CAPACITY & CAPABILITY**

- ▲ **Ring Gears, Gear Blanks**
- ▲ **Clutch Components, Clutch Bearing Races**
- ▲ **Case Hardened and Ground Bushes**
- ▲ **Earth Moving Equipments**
- ▲ **Bearing Races, Sleeves, Bearing Spacers**
- ▲ **Lock Nut, Groove Nut**
- ▲ **Seal Rings for Mechanical Seals**
- ▲ **Washers, Thrust Rings**
- ▲ **Upset Forge Components**
- ▲ **Automotive Components**
- ▲ **Spacers**
- ▲ **Hub and Axle Parts**
- ▲ **Farm and Tractor Equipments**
- ▲ **Construction Equipments**
- ▲ **Forge Fitting components**
- ▲ **Axel Rod , Piston Rod**
- ▲ **Connecting Rod**
- ▲ **Material Lifting Components**
- ▲ **Gasket Ring**

We also Forge and Machine any kind of customised Components as per customer's specification.

## FUTURE PLAN

- ▶ Expand capacity for close die forging upto **50 Kg** single Pic
- ▶ Expand Capacity For Ring Rolling Upto **1000 MM** Ring
- ▶ In-House **Quench and Tempering** Facility
- ▶ In-House Machining Facility Like **CNC machines , Turn Mill , VTL** Etc.



A customer is the most important visitor on our premises.  
He is not dependent on us. We are dependent on him.  
He is not an interruption on our work. He is the purpose of it.  
He is not an outsider on our business. He is part of it.  
We are not doing him a favour by serving him.  
He is doing us a favour by giving us an opportunity to do so.

**- MAHATMA GANDHI**





## Contact Us

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🌐 [www.vimalsteelforge.com](http://www.vimalsteelforge.com)

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