

w.h.tildesley Itd

Drop Forging Specialist

COMPLEX FORGING SHAPES SPECIALIST MATERIALS SMALL BATCHES A SPECIALITY

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Drop Forging Specialist

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W.H.TILDESLEY HAS ITS ROOTS IN UK INDUSTRY AND HAS BEEN OPERATING IN WILLENHALL SINCE 1874

Founded by William Horace Tildesley in 1874, like many companies in Willenhall, W.H. Tildesley made parts for horses that were heavily used in the transport industry.

The production of horse shoe blanks started in 1880. Other parts included horse grooming equipment such as curry combs, tail combs, sweat scrapers, then expanding into vermin traps. In those days Willenhall was famous for lock making as well as metal work for the nearby saddlery trade in Walsall.

During the 1st World War, production switched to mass manufacturing of horse shoe blanks. It was as a result of this that the family business moved to its present site in order to carry out the noisy and hot blacksmith type work. Diversity and adaptation has always been part of the culture and the product range soon expanded to include drop forgings. Horace William Tildesley, the son of WH, took the business further and the forging operations became the heart of WHT business. Horace's son David Tildesley succeeded his Father after the Second World War, building the business to be financially secure with significant investment in new equipment.



In the early 80s, David Tildesley was succeeded as Managing Director by his eldest son Richard and WHT became a major forging supplier not only within the UK but also moved into the export market.

Richard's younger brother John joined the business in the late 80s and as Technical Director began a programme of investment in modern forging technology that continues to this day. During this time, WHT developed applications for a wide range of markets such as admiralty lifting and rigging equipment, motor vehicles, motor cycles, defence and oil & gas.

In 2004, John Tildesley became Managing Director and brought the business very much into the 21st century. Family connections have also played a part in the workforce development with many of WHT's current staff being related to current and previous employees.

In March 2017 ownership of WHT transferred to Brooks Forgings Ltd and following John's retirement in March 2018, a new General Manager was appointed. Brooks is a second generation family run business that was established in 1960.

DRAWING ARCHIVE FROM 1908 TO PRESENT DAY DIGITAL DRAWINGS & MODELS SINCE 1998

DRAWING ARCHIVES

HISTORICAL DRAWING ARCHIVES DATING FROM 1908 THROUGH TO PRESENT DAY

WHT was established in 1874 and is one of the oldest drop forging companies in the UK. Our heritage is thoroughly documented in our drawing archives, spanning over 100 years of drop forging production at the site in Willenhall, West Midlands. All drawings are professionally bound and archived until this day, the oldest being from 1908 when the archive began.

DIGITAL DRAWINGS & MODELS SINCE 1998

Even though all drawings are still printed, bound and archived to this day, WHT has the latest digital drawing and 3D modelling software. We have digital models and drawings that cover the last 17 years of drop forging production. Models from this archive can be die cut overnight and entered into the production schedule in a matter of days.









QUALITY PROCESSES AND CERTIFICATIONS TO MEET THE THOROUGH DEMANDS SET BY THE INDUSTRY

At W.H.Tildesley quality is our number one priority.

We strive to meet the expectations that are required and demanded by our customers and take pride in supplying quality components that conform to all necessary specifications and approvals.

INSPECTION, FINAL TESTING & CERTIFICATION

- ▶ CMM (Coordinate Measuring Machine)
- ▶ Shop floor terminals for in-production checks
- ▶ First Article Inspection Reports (FAIR)
- ▶ Initial Sample Inspection Reports (ISIR)
- Certification to BS EN 10204 3.1 & 3.2

- Re-certification to legacy standards
- ▶ In-house Magnetic Particle Inspection (MPI)
- ▶ In-house Dye Penetrant Inspection (DPI)
- ▶ On-site Ultrasonic Testing (UT)



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QUALITY

MANAGEMENT



ISO 14001 ENVIRONMENTAL MANAGEMENT









METALLOGRAPHY

We have in-house metallography capability which allows us to examine grain flow and microstructures of raw material and forged components. This enables us to ensure that raw materials from our suppliers contain no detrimental phases. It also enables us to study the effect of our die design and forging process on the final structure of materials during new product introduction.

The outputs from metallography inform our process customisation, including heating methods and forging reduction ratios. Understanding the microstructure of our forged components allows us, in collaboration with our subcontractors, to optimise heat treatment regimes and meet our customer requirements.







DROP FORGED COMPONENTS FROM 25GRM UP TO 75KG NET WEIGHT

We are the closed die drop forging experts and one of the leading drop forged component producers in the UK.

Our recent plant upgrade and expansion means we have the most modern drop forging facility in the UK. We currently have a total of nine drop forging hammers with a power rating ranging from 350Kg to 5 Tonne.

We forge in a wide range of ferrous and non-ferrous materials ranging from standard carbon steel alloys, stainless steels, duplex steels, aluminium and copper alloys, up to nickel super alloys and titanium.

Our drop forging process is fully supported by our other services. Component design, forging feasibility and optimisation through CAD modelling and simulation, in-house tool room for quick turnaround of dies, inhouse machine shop for proof or finished machined components.



EXAMPLES OF DROP FORGED COMPONENTS

- ▶ Hooks
- Eyebolts
- Flanges
- Valve Bodies

- Tees & Elbows
- ▶ Con Rods
- ▶ Control Arms
- Suspension Arms

- Stub Axles
- Steering Links
- Draw Hooks
- ▶ Tail Pins







EXTENSIVE IN-HOUSE MACHINING CAPABILITY FOR PROOF OR FINISH MACHINED FORGINGS

Our in-house machining gives us the capability to offer proof or finished machined forgings to customer requirements.

We can carry out a full range of simple or complex machining operations on our forged components.

The benefits of our combined drop forging and machining services are appreciated by customers who want to obtain complete parts from one source, improving communication, quality, lead time and overall cost.

MACHINING CAPACITY

- ▶ 3 and 4 axis machining centres with beds up to 1000mmx500mmx500mm
- ▶ CNC controlled chucking lathes up to 250mm dia. and 1000mm length
- ▶ Bar feed lathes up to 65mm diameter



SUB CONTRACT MACHINING SERVICE

We are happy to work with new or existing customers to machine components from forgings or from solid.

Please contact us today to discuss how W.H.Tildesley can assist with your requirements.









FULL ENGINEERING SUPPORT FROM INITIAL PRODUCT DESIGN THROUGH TO FORGED PRODUCTION PARTS

Our skilled team of engineers and experienced technicians are here to assist you, ensuring that components are fully optimised for the drop forging process.

REVERSE ENGINEERING

Many components require fresh production tooling due to original supplier closure or improvement due to new regulations or failure in application. We have the ability to work with our customers to create new tooling, component drawings and digital 3D models from original physical samples.

SOFTWARE SOLUTIONS

We use the latest industry standard in CAD and CAM software. This includes 3 seats of CREO and Solidworks.



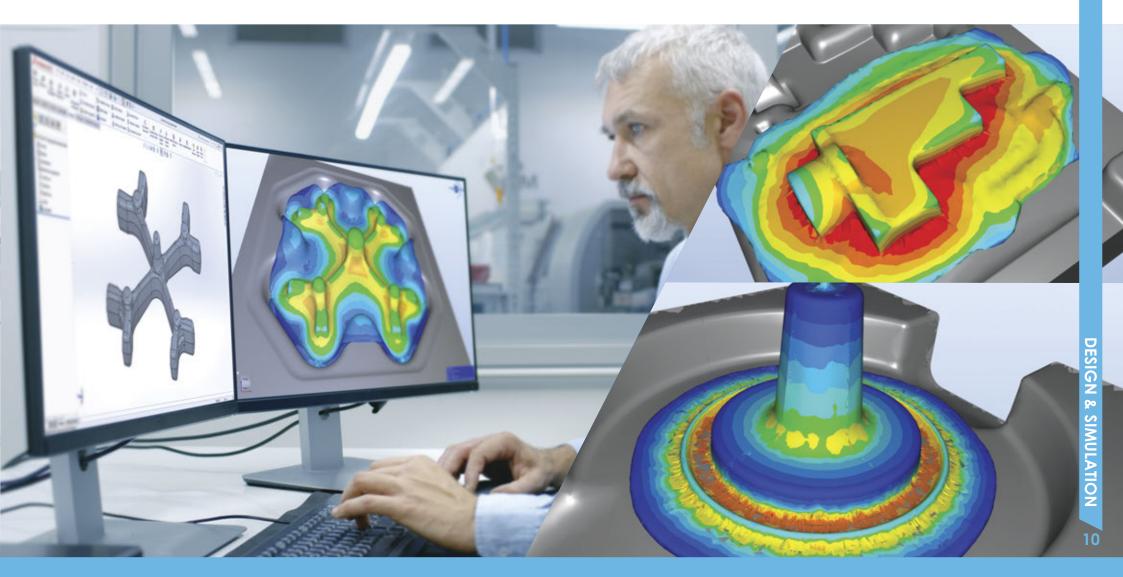
FORGING SIMULATION

Forging simulation is a cost effective way to evaluate the overall process before any major cost is incurred.

Every component that is produced at W.H.Tildesley is 3D modelled and run through simulation software to develop part geometry and test tooling design.

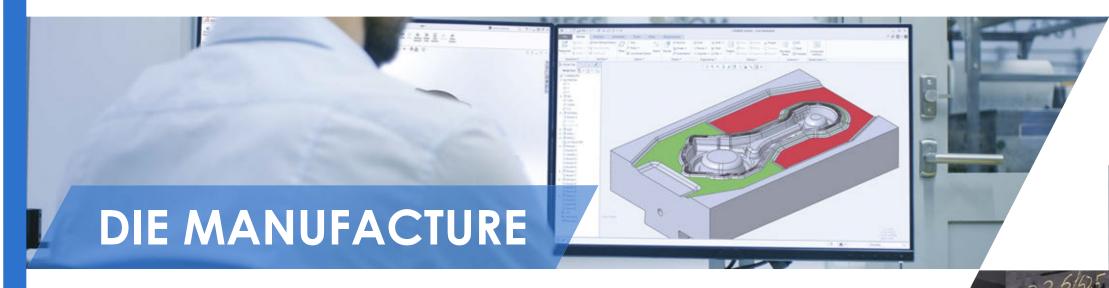
This helps to identify forging defects such as folds, laps or under-fill.

SIMULATION SOFTWARE ENSURES WE GET IT RIGHT FIRST TIME, EVERY TIME.









OUR FORGING DIES AND TOOLING ARE PRODUCED IN-HOUSE TO GUARANTEE QUALITY AND IMPROVE LEAD TIMES

Our fully integrated CAD/CAM package links product and die design to high-speed die sinking using Matsuura machining centres with the latest Hitachi cutting tool technology.

By keeping this process in-house, we can utilize the expertise of our technical staff that are familiar with our processes and equipment. This guarantees that we produce the correct tooling for our hammers and the end component is manufactured in the most efficient and economical way possible.

All die blocks are machined in the hardened state. This not only saves time but eliminates the risk of distortion during heat treatment.

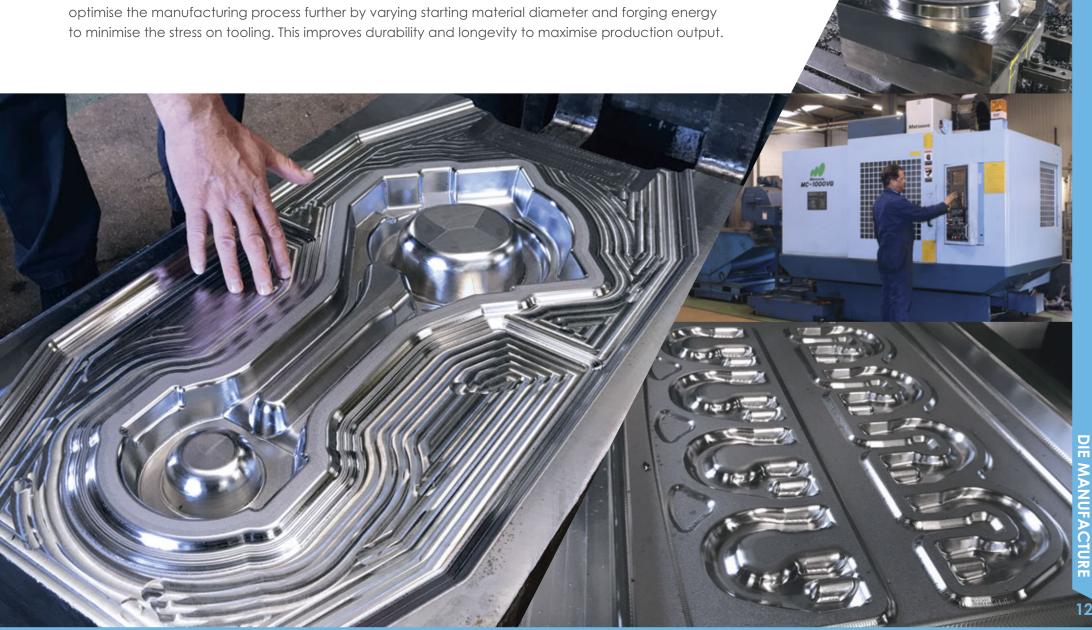
In addition to the rapid production of dies for new product designs, those dies required for regular production can be re-sunk overnight to ensure their readiness at all times.



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DIE WEAR & LONGEVITY

Our forging simulation process includes the analysis of part die and tool wear. Our engineers are able to







APPROVED MANUFACTURER OF FORGED & MACHINED COMPONENTS FOR AEROSPACE

W.H.Tildesley has years of experience supplying forged and machined components to the Aerospace industry. We are an approved supplier to several of the world's major Aerospace companies.

Unlike many of our competitors in the industry, we are proud to be accredited with AS9100 Revision D. The accreditation covers the production of both forged and machined components.

Our Aerospace components are forged in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and super alloys.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your requirements for components used in the Aerospace industry.



EXAMPLES OF AEROSPACE COMPONENTS

- Camplates
- Mounting Flanges
- Undercarriage Bracketry
- Undercarriage Pintles

- Regulator Heads
- Bearer Beams
- ▶ Throttle Levers
- Rudder Pedals

- Valve Bodies
- Landing Gear Axles
- Toggles
- Actuator Bodies





DROP FORGED COMPONENTS FOR MANY OF THE WORLD'S VEHICLES

W.H.Tildesley has extenisve experience supplying forged and machined components that are used in many different types of vehicles, operating in a diverse range of industries worldwide.

We supply a number of vehicle manufacturers with small and medium quantity run forged and machined components. We ship direct to OEMs as well as to tier 1 and tier 2 suppliers.

In addition to volume passenger vehicles, we produce many parts for the specialist and off road vehicle sectors.

Standard carbon and alloy steels, aluminium and non-ferrous materials including copper alloys and titanium.

We offer full project support from initial product design for manufacture through to serial production and aftermarket requirements.



EXAMPLES OF VEHICLE COMPONENTS

- Stub Axles
- Wishbones
- Suspension Arms
- Suspension Links
- Uprights

- Steering Arms
- Lever Arms
- ▶ Con Rods
- Brake Calipers
- Crankshafts

- Camshafts
- ▶ Tappet Levers
- Selector Forks
- ▶ Track Rod Ends
- ▶ Engine Mounts

- Swivel Axles
- Brake Levers
- ▶ Clutch Levers
- Prop Stands
- ▶ Inlet Rockers







NO MINIMUM ORDER QUANTITY. SMALL QUANTITY BATCHES A SPECIALITY.

W.H.Tidlesley has the capability to manufacture many forged and finished machined parts that are found in a wide range of heritage projects.

In most cases, we can replicate original components that are discontinued and no longer available off-the-shelf or from the original equipment manufacturer.

By using modern techniques, it is possible to improve the longevity of original components to extend service life.

WHT are well known in the heritage vehicle sector, producing both forged and machined parts for many vintage and classic vehicle applications. We work with small businesses, micro-businesses, individual traders, owners clubs and individual enthusiasts to help restore and maintain many, many vehicles every year.

Heritage projects cover a vast range of applications such as restoration of vintage locomotives, motorcars, motorbikes and aeroplanes.



EXAMPLES OF HERITAGE COMPONENTS

- Stub Axles
- Wishbones
- Suspension Links
- Steering Arms
- Brake Levers
 - Prop Stands
 - Clutch Levers
 - Landing Gear Axles
- Rudder Pedals
- Inlet & Exhaust Rockers
- ▶ Tappet Levers
- Selector Forks

- Track Rod Ends
- Brake Calliper Forgings
- ▶ Locomotive Draw Hooks
- ▶ Locomotive Screw Couplings







STRONG & RELIABLE DROP FORGED COMPONENTS FOR GLOBAL MILITARY APPLICATIONS

W.H.Tildesley has extensive capability to enable the manufacture and supply of many forged and machined components that are found in military applications all over the globe. WHT supply components to many sectors that are part of regular military applications. These include land, sea and air vehicles through to army personnel equipment.

Many of the components used in the industry can be forged in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and super alloys.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.



FORGED DEFENCE COMPONENTS FOR

- Fighting Vehicles
- Ships & Submarines
- ▶ Land Systems

- Missile Applications
- Military Aircraft

- Firearms
- Personnel Equipment





FORGED AND MACHINED COMPONENTS FOR THE PETROCHEMICAL INDUSTRY

W.H.Tildesley has the capability to drop forge components that are used in many oil & gas applications worldwide. Optimising material grain flow to achieve strength and resilience.

We forge oil & gas and petrochemical components in a range of ferrous and non-ferrous materials such as carbon and alloy steels, stainless steels, duplex, super duplex and nickel super alloys. We also hold **NORSOK** approvals accredited via Aker Solutions, to produce forgings in F44, F51 and F55 material.

We are a specialist forging company and strive to meet the standard and bespoke design requirements of the customer.

Please contact us today to discuss your oil & gas and petrochemical requirements.



- Flanges
- Bonnet Forgings
- ▶ Forged Elbows
- Cross Fittings

- Valve Components
- Yoke Forgings
- Valve Bodies
- ▶ Oblique Valve Bodies

- Cover Forgings
- ▶ Tee Pieces
- ▶ Oblique Tee Pieces
- Open Die Forgings







STRENGTH & RESILIENCE FOR THE MOST DEMANDING RAIL & LOCOMOTIVE APPLICATIONS

W.H.Tildesley has the capability to drop forge components that are used in numerous rail, track, electrification and locomotive applications worldwide. Optimising material grain flow to achieve strength and resilience.

Forged components for the rail industry can be manufactured in a range of ferrous and non-ferrous materials.

Standard carbon and alloy steels, stainless, duplex and non ferrous materials including copper and aluminium.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your requirements.

EXAMPLES OF RAIL & LOCOMOTIVE COMPONENTS

- Draw Hooks
- Screw Couplings
- Instanter Forgings
- ▶ Bogie Brake Beams

- ▶ Tail Pin Forgings
- ▶ Pump Saddle Forgings
- ▶ Coffin Links
- ▶ Eye Bolts

- Bearing Plates
- Rocker Washers
- Lever Arms
- ▶ Tee Bolts

NET WEIGHT







STRENGTH AND RESILIENCE FOR THE MOST DEMANDING LIFTING APPLICATIONS

W.H.Tildesley has the capability to drop forge lifting components that are used in numerous lifting applications worldwide. Optimising material grain flow to achieve strength and resilience.

Forged lifting tackle components can be manufactured in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and super alloys.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your lifting gear requirements.



- Eye Bolts
- ▶ Collared Eye Bolts
- Dynamo Eye Bolts
- Eye Nuts
- Eye Plates

- Deck Plates
- ▶ Reevable Egg Links
- Forged Rings
- Connecting Links
- ▶ Shackle Bodies

- Turnbuckles
- Jaw Forgings
- ▶ Chain Hooks
- ▶ Shank Hooks
- Forged Hooks

- Italian 'G' Hooks
- Slip Hooks
- ▶ Bulb Hooks
- Clevis Ends







SPECIALISED DROP FORGED COMPONENTS FOR THE PHARMACEUTICAL AND MEDICAL INDUSTRY

W.H.Tildesley supply a range drop forged components and blanks to the pharmaceutical and medical industries. Our focus on high quality standards are an important part of being successful in the industry.

Many of our precision drop forged components are found in pharmaceutical and biomedical laboratory machinery such as boilers, centrifuge machines, roll compactors, feeders, valve components and line fittings.

Forgings for surgical tools and instrumentation are supplied in close net form, ready for final machining and preparation for use in medical and surgical applications.

We have the ability to produce components in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, nickel alloys and non-ferrous materials such as copper and aluminium.

Please contact us today to discuss your requirements for components used in the pharmaceutical & medical industry.



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EXAMPLES OF PHARMACEUTICAL & MEDICAL COMPONENTS

Rotor Forgings Pan Forgings

Flanges Yolk Columns

- ▶ Tuning Forks







DROP FORGED COMPONENTS THAT PROVIDE STRENGTH AND RESILIENCE, EXTENDING SERVICE LIFE AND REDUCING COSTS

W.H.Tildesley has the capability to manufacture drop forged components that are used in numerous forestry and agricultural applications worldwide. Optimising material grain flow to achieve strength and resilience.

Forged components can be manufactured in a range of ferrous and non-ferrous materials. Standard carbon steels and alloy steels.

We are a diverse forging company and strive to meet the standard and bespoke requirements of the customer.

Please contact us today to discuss your drop forging requirements.



- ▶ Flails
- ▶ Chain Links
- ▶ Connecting Links

- ▶ Connecting Rods
- Shackles
- Yoke Forgings

- ▶ Con Rods
- Bracketry







FORGED COMPONENTS TO WITHSTAND THE HARSH CONDITIONS OF THE MINING & EXCAVATION INDUSTRY

W.H.Tildesley has the capability to drop forge components that are used in mining and excavation applications and machinery all over the world. Optimising material grain flow to achieve strength, longevity and to reduce costs.

Mining & excavation components can be manufactured in a range of ferrous and non-ferrous materials.

In addition to a range of standard components we can develop and manufacture fully bespoke components to suit customer specific designs.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your requirements for mining and excavation components.



EXAMPLES OF MINING & EXCAVATION COMPONENTS

- Conveyor Blades
- Gear Blanks
- ► Conveyor Support Arms
- Crusher Parts

- ▶ Flight Bars
- ▶ Broadband Links
- ▶ Conveyor Chain Links
- ▶ Pins

- Lifting Chain Links
- ▶ Traction Teeth
- ▶ Flight Bar Straps







HIGH QUALITY, PRECISION FORGED AND MACHINED **COMPONENTS FOR THE NUCLEAR INDUSTRY**

W.H.Tildesley are a 2nd or 3rd tier supplier with the capability to drop forge components that are used in many nuclear applications worldwide.

Components can be manufactured in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and super alloys.

We are a diverse forging company who strive to meet the standard and bespoke requirements of our customer. To this end, we are currently engaged with the F4N, Fit For Nuclear program.

Please contact us today to discuss your requirements.



NOCLEAK

EXAMPLES OF NUCLEAR COMPONENTS

- ▶ Flanges
- Nozzles
- Domes

- Fasteners
- Valve Bodies
- ▶ Plenums

- Shafts
- ▶ Eye Bolts







FORGED AND MACHINED COMPONENTS FOR THE DIVERSE POWER GENERATION INDUSTRY

W.H.Tildesley has the capability to drop forge components that are used in many power generation applications.

Power generation comes in many different forms, ranging from hydro and wind to nuclear and fossil fuel. Weak and inferior components are simply not an option for the industry and we strive to supply forged components that achieve strength and resilience through refinement of the material grain flow.

Components used in power generation applications can be manufactured in a range of ferrous and non-ferrous materials. Alloy steels, stainless steels, titanium and nickel super alloys. Monels, hastelloys, 625, 825 and nimonic.

We are a diverse forging company, with over 140 years experience of meeting customer standards in the power generation industry.

Please contact us today to discuss your requirements.



EXAMPLES OF POWER GENERATION COMPONENTS

- ▶ Forged Blades
- Forged Vanes
- Flanges
- Valve Bodies

- Cover Forgings
- Disk Forgings
- ▶ Turbine Parts
- ▶ End Caps

- Adaptors
- Valve Components
- ▶ Bearing Blocks









DROP FORGED COMPONENTS PROVIDE RESILIENCE AND STRENGTH AGAINST THE HARSH CONDITIONS ENDURED IN THE NAVAL & MARINE INDUSTRY

W.H.Tildesley has the capability to drop forge components that are used in various naval and marine applications worldwide. Optimising material grain flow to achieve strength and resilience and evaluating the use of lightweight alternative materials.

Forged components can be manufactured in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and super alloys.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your requirements.



EXAMPLES OF NAVAL & MARINE COMPONENTS

- Recessed Links
- Deck Plates
- Eye Bolts
- Eye Nuts
- Swivels

- Flanges
- ▶ Hooks
- Shackles
- ▶ Chain Connectors

- Rudder Knuckles
- Spindle Forgings
- Shafts
- Oval Rings







FORGED AND MACHINED COMPONENTS FOR SUBSEA APPLICATIONS

W.H.Tildesley has the capability to drop forge lifting components that are used in many subsea applications worldwide. Optimising material grain flow to achieve the strength and resilience needed in high pressure, sub sea environments.

Forged components can be manufactured in a range of ferrous and non-ferrous materials. Standard carbon and alloy steels, stainless, duplex, non-ferrous and nickel super alloys.

We are a diverse forging company and strive to meet the standard and bespoke requirements of our customer.

Please contact us today to discuss your requirements.



EXAMPLES OF SUBSEA COMPONENTS

- Barrel Flanges
- Neck Flanges
- Bonnet Forgings
- ▶ Forged Elbows

- Cross Fittings
- Valve Components
- Valve Bodies
- ▶ Oblique Valve Bodies

- Oblique Tee Pieces
- ▶ Tee Pieces
- Cover Forgings
- Yoke Forgings

