

RAILWAYS

FORGINGS

HIGHWAYS

CONTROLS



# Forging the future of engineering

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# A service as strong as our products



The forging expertise of Henry Williams Limited grew out of our involvement in the pioneering days of the railway industry, but today encompasses a wide range of applications, including railways, oil and gas, marine, hydraulic cylinders, mining and truck industries.

The company was formed in 1883 to manufacture control and signalling equipment for the rapidly expanding railways network but since those early days we have diversified into many fields, including highways equipment and control systems as well as our ever-increasing involvement in the field of forgings.

Today, we are a versatile and multi-skilled engineering business, based in Darlington in premises occupying almost 10,000 square metres and on a site covering 4 hectares in total. We can call on advanced forging and fabrication technology, as well as first class design and project management expertise, to meet the ever-advancing needs of a wide range of market sectors.

## TOTAL VERSATILITY IN FORGING TECHNOLOGY

Design engineers choose forged components because of their high integral strength and durability. The forging process refines grain structure to give consistent and predictable mechanical properties.

Significant savings can be achieved by forging close to tolerance or replacing previously fabricated parts with a single forging.

There are two main categories of forgings – Drop and Upset – and unlike most forging companies, Henry Williams can do both.

But our versatility goes even further. We offer die sinking facilities too, plus a fully-equipped machine shop and heat treatment facility. It adds up to one of the most comprehensive services in the UK from die sinking and forging through to finished-machined components.

We work in a variety of carbon, alloy and stainless steels and can

provide a wide range of weights and sizes of forgings.

**Drop forgings** are manufactured on our range of Massey drop hammers from 20cwt to 60cwt complemented with a 50cwt rated power hammer. We can handle unit weights from 1kg to 50kg.

**Upset forgings** are manufactured on ACME and COVMAC machines and we can work with bar stock ranging from 20mm to 120mm in diameter.





### **EXTENSIVE POST-FORGING PROCESS FACILITIES**

Henry Williams Limited's post-forging facilities complete our comprehensive one-supplier service.

Our own heat treatment facilities allow us to avoid problems with delays arising from sub-contracting and ensure that delivery promises are met.

We can carry out mechanical testing, including tensile strength, impacts and non-destructive crack detection.

We also have a shotblasting facility for descaling of forgings, a machine shop offering a comprehensive range of machining services, and we can even provide surface treatments such as plating and painting to

customer specifications. This together with our forging and die sinking facilities, enables us to provide a total service from a single supplier.

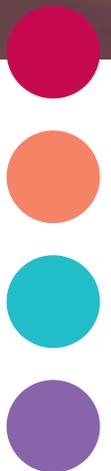
### **DIE SINKING FOR TOOLING MANUFACTURE**

Our high speed, high precision Mazak Vertical Machining Centre uses Delcam software to great effect to reduce costs and minimise lead times. The CAD software Powershape combines solid and surface

modelling to enable complex designs to be created quickly and easily. The CAM software Powermill takes the CAD data and creates a combination of roughing and finishing tool paths to optimise performance.

Customers can supply surface models or drawings in electronic format for

import into Powershape, thus guaranteeing their exact requirements are met.



# Henry Williams - Forging Capabilities

## DROP FORGINGS

- From 1kg to 50kg. Manufactured in Carbon, Alloy and Stainless Steel

## UPSET FORGINGS

- Bar stock from 20mm to 120mm diameter
- Maximum weight approximately 150kg
- Maximum forging length approximately 8 metres
- Manufactured in Carbon, Alloy and Stainless Steel

## DIE SINKING

- MAZAK V.M.C. utilising DELCAM software
- Cincinnati Hydro-tels
- Horizontal Boring facilities

## POST-FORGING PROCESSES

### Heat treatment: -

- Harden and Temper
- Normalising
- Solution Annealing
- Stress Relieving
- Rapid Water Quench (transfer in under 45 secs)
- Polymer Quench

### Material Testing: -

Mechanical, Chemical, Hardness

### Shotblasting

### Machining:

- C.N.C. Lathes  
620mm dia x 1270mm
- V.M.C.s  
X : 3200mm,  
Y : 1000mm,  
Z : 800mm

### Fabrication

### Surface treatments



## Henry Williams Limited

Dodsworth Street,  
Darlington,  
County Durham  
DL1 2NJ  
United Kingdom

**Tel: +44 (0) 1325 462722**

**Fax: +44 (0) 1325 245220**

**Email: [info@hwilliams.co.uk](mailto:info@hwilliams.co.uk)**

**Web: [www.hwilliams.co.uk](http://www.hwilliams.co.uk)**

