



VEHICLE COMPONENTS
SUPPLY EXPERTS

We build and maintain the strong supply chain links which power the global automotive industry.

API Engineering have more than 15 years of experience as a second tier supplier to the Automotive and Commercial Vehicle industry during which time we have developed an exceptional reputation for providing customers with a reliable source of high quality, competitively priced components and equipment.



QUALITY ASSURANCE – PPAP

Our goal is to achieve 100% quality on a daily basis.

API Engineering Ltd use the Part Production Approval Process (PPAP) for all our vehicle components. PPAP is used by the Automotive Industry to establish confidence in component suppliers and their production processes. Using PPAP has safeguarded our long-term success in producing consistent high volume batch productions and is a requirement of all major automotive manufacturers.

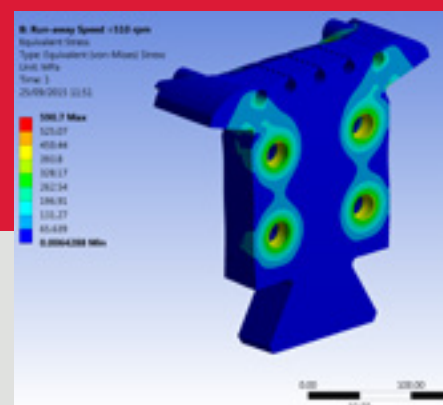
We understand the importance of strict adherence to lead times and pride ourselves on our reliable delivery record and Just-In-Time capabilities.



CONSULTING AND DESIGN SERVICES

Many clients find it advantageous to consult with us at the very beginning of their projects. API Engineering regularly provide input throughout the whole product design process.

We have extensive experience in mechanical design of heavily loaded static and rotary components and selection of material and processes. In addition we have comprehensive knowledge of total Quality Management including the use of PPAP, FMEA and other value chain management techniques.



Our world class in-house capabilities include:

- > Design and development of new products.
- > Computer Aided Design (CAD) - design and drafting of 2D and 3D models.
- > Dimensional analysis, CAD comparison, reverse engineering, easy verification of product quality and much more using our Portable Coordinate Measuring Machine (CMM).
- > Conversion between fabrications, castings and forgings – Tailored engineered designs to meet specific engineering loads, provide tighter tolerances, weight reduction and cost benefits.
- > Material analysis - Our metallurgists study existing materials, including chemical analysis and mechanical properties, and create an updated equivalent product, guaranteed to meet the requirements of the application.
- > Comprehensive Failure Analysis of both mechanical and electrical components.
- > Finite Element Analysis.
- > Re-design and Optimisation of electrical and mechanical components - We design replacement components, re-engineer existing components and produce complete replacements for obsolete equipment while ensuring the new equipment is compatible with the existing system.
- > Software Production and Development.

STRUCTURAL COMPONENTS



API Engineering is a leading global supplier of PPAP approved components to OEMs including Volvo, Caterpillar and JCB.

We produce:

- > Reinforcements
- > Beams
- > Fenders
- > Chassis
- > Threaded inserts
- > Grills
- > Structural body assemblies
- > Brackets
- > Hinges

Typical manufacturing processes include:

- > Machining and laser cutting
- > Punching
- > Various welding techniques
- > Sealing

The following finishes are applied to the components:

- > Powder coating in RAL and BS colours
- > Electro-coating
- > Liquid coating
- > Zinc plating

The metal finishing has two main requirements: protect the surface underneath and enhance the quality of the overall product.

We guarantee exceptionally high surface finishes and uniformity to meet your required coating appearance standards.





BALANCE WEIGHTS

The new innovative API-Mass range of Module Balance weights come in a variety of masses and the universal curved design compliments the modern designs of tractors on the market today. The range is designed to clamp to the standard front hitch housing of tractors so that no modification of the vehicles structure is required. The weight spreads evenly over both axles to boost the traction efficiency of the vehicle.

The balance weights are manufactured by vacuum casting resulting in reduced gas porosities and ensuring high dimensional accuracy and a superior surface finish.

VEHICLE AXLES

We offer a range of axles for a variety of vehicles in the automotive, commercial and off-highway sectors.

Our Forged Axles capabilities include:

- > Diameters up to 400 mm
- > Lengths up to 1200 mm
- > Weights up to 1,000 kg
- > Spline cutting
- > Induction hardening

All axles can be supplied semi-finished or fully machined including heat treatment and assembly.



GEARS AND GEAR COMPONENTS



COMPLETE GEARBOXES

API Engineering Ltd can provide our customers with full gear manufacturing support; from developing, reviewing and assisting in gearbox designs to manufacturing and inspection of finished components for gear types such as:

- > Parallel shaft gearboxes with both single and double helical gear design;
- > Epicyclic gearboxes;
- > Worm gearboxes.

GEARBOX COMPONENTS

As well as complete gearboxes, API Engineering also supplies individual part designs and components.

Our mechanical components comply with a wide range of international design standards including VDI 2230 for bolting, DIN 6892 for key fitting, ISO 281 and ISO 16281 for rolling contact bearings, DIN 743 and AGMA 6001 for shaft design.

FULL FAILURE MODE ANALYSIS

We can also assist our customers with full failure mode analysis of mechanical gears and their components such as investigation of bearings, lubrication or thermal systems and providing new designs and appropriate calculation data files for:

- > Gear rating calculation;
- > Rolling contact bearings modified life calculation;
- > Loss calculation of both gear and bearings;
- > Shaft rating calculation;
- > Key fittings, bolting, shrink fit calculation;
- > Scuffing calculation;
- > Flow and pressure drop calculation.



ABOUT API ENGINEERING LTD

At API Engineering, our goal is to reduce our customers' costs without compromising the quality of the components and services supplied.

API Engineering and our entire supply chain are accredited to ISO 9001: 2008 and we all undergo regular audits and inspections from both internal engineers and external bodies.

API Engineering have sales and support organisations in the United Kingdom, Mainland Europe, the Middle East, Australia and North America providing 24 hour assistance for our customers.



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