



## OIL AND GAS EQUIPMENT

TECHNICAL SERVICES  
DESIGN AND MANUFACTURING  
COMPONENT SUPPLY

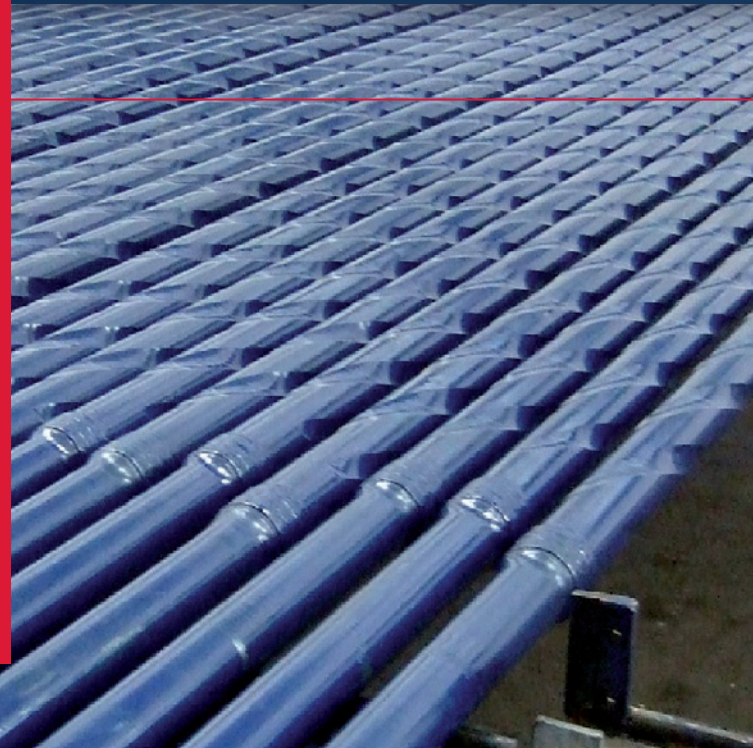
## OIL AND GAS EQUIPMENT

API Engineering's manufacturing facilities in the oil and gas sector have over 30 years' experience and extensive capabilities in the manufacture of a range of drilling tools and equipment including: Drill Collars, Drill Pipes, Kelly Equipment, Stabilizers and Subs.

We have the capability to produce over 15,000 Drill Collars including 2,000 Non-magnetic Drill Collars and 6,000 Integral Heavy Weight Drill Pipes per annum. Our equipment is currently installed and operational in oil fields worldwide.

Products can be supplied finished or semi-finished and we also offer raw material in standard or bespoke alloys.

Our production facility is certified to API Spec 7-1, NS-1 Level 5, ISO9001-2008 and ISO14001-2004.



### NON-MAGNETIC MATERIAL

Our non-magnetic components are typically made from low carbon stainless steel according to API Spec-7.

Non-magnetic material is supplied as raw material, semi-finished or fully finished. Magnetic properties are:

**Relative Permeability:**  $\mu_r < 1.010$   
**Magnetic Field Gradient:**  $\Delta B \leq 0.05\mu T$

API Engineering have full control over the material production process and non-standard alloys are available. Every batch of material is tested according to ASTM A262 E.

### DRILL COLLARS

Integral Drill Collars and Non-magnetic Drill Collars are manufactured in accordance with API Spec 7-1. Threads can be supplied cold rolled, copper or phosphate coated in accordance with international standards, including H90. Drill Collars are also available with slip and elevator recesses.

Our Drill Collars are available in standard dimensions from 3 1/8" up to 14" and Spiral Drill Collars can be supplied from 3 1/8" up to 11". Non-standard dimensions are available on request.



### DRILL PIPES AND INTEGRAL HEAVY WEIGHT DRILL PIPES

Integral Drill Pipe is manufactured by fully machining a solid forged bar. Due to the absence of a welding seam the working life is substantially increased.

Our Integral Drill Pipes and Integral Heavy Weight Drill Pipes are available in standard sizes from 2 7/8" to 6 5/8" and Integral Spiral Heavy Weight Drill Pipe in standard sizes from 2 7/8" to 5 1/2". Non-standard dimensions are available upon request.

We also manufacture Welded Drill Pipe.

All our Drill Pipes are manufactured and certified in accordance with the API 5 DP and we offer ARNCO hardbanding for maximum tool joint protection.

### KELLY EQUIPMENT

API Engineering supplies Integral Square and Hexagonal Kelly in sizes from 3" to 5 1/4" with non-standard dimensions available upon request. The Integral Kelly is manufactured from AISI 4145H alloy steel according to API Spec 7. It is forged to achieve a uniform microstructure and heat treated using a 20m integral horizontal furnace to guarantee the required mechanical properties and hardness throughout the length.

### DRILLING STABILIZERS

Drilling Stabilizers are composed of a hollow cylindrical body and stabilizing blades which are either machined from a single piece of high-strength steel or fabricated. The blades can be either straight or spiralled, and are hardfaced to increase wear resistance.

Our stabilizers are available in sizes from 5 1/4" to 36" with non-standard dimensions available on request.

Stabilizers are manufactured from AISI 4145H alloy steel according to API Spec 7. They are forged to achieve a uniform microstructure and heat treated using a well furnace to guarantee the mechanical properties and hardness throughout the length.

### SUBS

Subs are used to adapt two different connections of drill string tools. We supply all types of drill string subs including:

- > Cross-over subs
- > Kelly saver subs
- > Lift subs
- > Bit subs
- > Top drive subs

Right or left-handed threads can be provided. API connections are machined as standard. All products are manufactured to the customers' requirements.

YOUR OIL & GAS PARTNER





## MANUFACTURING SERVICES

API Engineering combines the service levels of a local support structure with the cost advantages of purchasing from low cost suppliers. Our decades of experience building long term relationships with a range of different supply partners ensure that our customers receive attractive solutions for everything from one-off projects to large production runs.

With a fully owned subsidiary office in Shijiazhuang and permanent, qualified staff located in the Chinese Provinces of Hebei and Henan, all our suppliers are audited and projects are managed by our in-house inspectors and engineers. Every order is fully inspected and approved by API Engineering's inspectors prior to packaging and shipping to our customers. All employees have first-hand experience of the inspection and quality requirements of Western customers.

Full material and dimensional records can be provided for all components and witness inspections and independent verification from inspection agencies like DNV, Lloyd, GL, UL etc. can also be provided. API Engineering can also accommodate for specific testing and documentation requirements such as the PPAP documentation required in the automotive industry.



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