

# Offshore structural products

Steel plate and structural sections



An offshore oil rig is silhouetted against a bright yellow sunset sky. The sun is a large, glowing orb on the right side of the frame. The rig's structure, including its derrick and various platforms, is visible against the light. The water in the foreground is dark with some reflections of the sunset.

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# Ahead in the field worldwide

## Expertise and experience - Internationally

**Corus is a leading supplier of offshore plate and structural sections. We have delivered over 2,000,000 tonnes to locations throughout the world. From origins in the North Sea we now regularly supply to projects in West Africa, the Gulf of Mexico, the Caspian Sea, the Middle East and Asia.**



Corus has much to offer through our unique capabilities in products and support services whether you are a designer, contractor or fabricator. Our product range is both modern and extensive with an accompanying project management service which is specifically designed to support the requirements of those engaged in international offshore oil and gas projects, from the smallest to the very biggest.

The three supporting technical brochures detail Corus' plate range and properties, usage and processing, and structural sections range and their usage.

Corus has developed an enviable reputation for its offshore products and technology over the last quarter of a century. Our early experience

was in the North Sea but in recent years we have expanded to supply steel products to most oil and gas bearing regions of the world.



**Product range**

Corus manufactures a comprehensive range of offshore structural plates and sections to Offshore Specifications BS7191, EN 10225, and API grades as well as a variety of other international and proprietary specifications for applications as shown in the table below. For a comparison of the

main specifications please see the separate insert in this pack. The associated technical brochures give more detail of our product capabilities and uses. In addition we have large amounts of detailed technical information which we will be happy to provide and advise upon. See page 9, contact details.

Application	Nominal Yield Strength (min) N/mm <sup>2</sup>	Typical grades
Module walls and decking	275 355	275D 355D
Module support, cranes and top-sides decking	420 - 460	450EM, 450EMZ Through thickness ductility may be required.
Floating production facilities; hulls, top-sides, turrets, spiders and moorings	235 - 355	Ship grades. A, D, AH36, DH36 355EM, 355EMZ
Jacket legs and module support frames	355 420 - 460	355EM 450EM
Node joints and other areas subject to through thickness stresses	355 420 - 460	355EMZ 450EMZ Through thickness ductility is required.
Steel piles	355 420 - 460	355EM 450EM

The use of FPSO's is an increasing feature of the oil and gas industry and Corus manufactures one of the widest selections of ship plate grades, approved by all the major classification societies such as Lloyds Register, ABS, BV, DNV and many others.

**Plate sizes**

Gauges from 6 to 120mm  
Widths up to 3750mm  
Lengths up to 15 metres

**Section sizes**

127 x 76mm to 914 x 419mm

For detail on the available sizes, please refer to the accompanying technical brochures.

**Plate and section processing**

Corus offers an extensive range of plate and section fabricating and processing, including can rolling, welding, shotblasting, priming, bevelling, cutting, profiling and drilling. We have experience in fabricating parts for offshore projects and other heavy industrial applications and will be pleased to quote and advise on product use.



# Supplying the right grade



# Hot on investment

## Steelmaking

Corus has invested heavily in steelmaking facilities, particularly in secondary steelmaking equipment.

High quality ores and hot metal desulphurisation enter the primary BOS steelmaking process and are then refined during secondary steelmaking using ladle furnace treatments and vacuum or tank degassing. Deep injection techniques and inclusion modification produce steels appropriate for offshore use.

**Very low sulphur**

**+**

**Low phosphorous**

**+**

**Inclusion modification**

**+**

**Excellent cleanness**

**+**

**Tight analytical control**

**=**

**Strength, toughness and weldability exceeding specification requirements.**

## The manufacture of quality offshore structural steelwork requires major investment in sophisticated steelmaking facilities and technological resources **Corus has made that investment.**

### Plate and section rolling

Corus has two plate mills and three section mills producing a complementary range of offshore plate and sections. Depending on the specification requirements, thermomechanically controlled rolling is performed, followed by controlled heat treatments including normalising or quenching and tempering.

Corus quench and tempering facilities use sophisticated Roller Quench Technology for assuring highly consistent properties throughout the product.

### Quality assurance

Product integrity for offshore structural products is of paramount importance. Corus products, processes and business systems are Quality Assurance approved by Lloyds Register of Quality Assurance to ISO 9001.

This approval covers all aspects of sales, service, design, manufacture and testing. In addition, quality approvals are held from ABS, Lloyds Register of Shipping, DNV, TUV, BV, KRS, MOD, NKK, RINA and also for a number of specific offshore contracts for operators including Shell, BP Amoco, Marathon, TotalFinaElf, Phillips and Chevron.



A large offshore oil rig is shown at sea during twilight. The rig's structure is silhouetted against a blue and orange sky. A prominent flare on the right side of the rig is lit, emitting a bright yellow flame. The water in the foreground is dark with shimmering reflections of light. The overall scene conveys a sense of industrial activity in a remote maritime environment.

# Delivering vital resources

## Total service

Corus recognises that oil and gas projects require ongoing support. This critical requirement is delivered as part of our service package.

Making quality products is only part of the story. Corus recognises that large oil and gas projects require first rate support in the areas of:

- Project management and logistics
- Single point of contact
- Product support - including technical back up and Research and Development

Large and complex projects require the commitment of a company with the skills, experience and resources to deliver. As such a company, we have long been an active partner in major projects be they offshore engineering or construction, operating worldwide.

## Project management and logistics

### Project management

Corus understands that professional project management is required to successfully deliver large offshore contracts.

We have a dedicated mill-based project management team whose role is to manage the contract from pre-production to post-production back-up and support.

We work in partnership with our clients and customers.

The project manager oversees:

- Pre-order customer liaison covering suggested production plans and, if required, product selection advice and design.

- Implementation of the production and delivery schedule.
- Progress monitoring and prompt resolution of any issues arising.
- Data analyses as requested, of mechanical properties or chemical analysis distributions for instance.

The project manager's aim is to fully understand the customer's requirements and marshal Corus' resources to ensure smooth and successful contract delivery.

### Logistics

To facilitate the Project Manager's work, we offer quick start material to get fabrication off to a flying start.

To ensure delivery schedules can be met, we operate a system of capacity reservation which keeps rolling mill time available for the contract.





# With you at every step

## Single point of contact

### Account management

Corus offers account management and all customers can obtain a needs-based multi-product package. Order handling, quotations, logistics and technical information handling are consequently made more efficient.

In addition to the products detailed in these brochures, Corus can supply tubes and hollow sections, engineering grade billets and bars, and wire rod for mooring and tethering rope applications. We have one of the widest product ranges in the business.

### Electronic document management

Corus is at the forefront of the metals industry with the use of EDI and internet technology. Standard

web browsers allow customers to access order acknowledgements, invoices and test certificates.

Advantages include immediate, error free, 24 hour access with this proven system which some Corus customers have incorporated into their own Quality Assurance Systems.

Other Corus innovations available on-line are the sections rolling programme and plate and sections order status visibility.

## Product support

### Customer technical services

Corus offers professional product support. Corus Customer Technical Services can advise on product use and preparation, welding procedures and many other practical issues.

## Research, development and technology (RD&T)

A long term commitment to research and development of our products, processes and processing capabilities is critical. Our corporate RD&T centre is world renowned and a dedicated centre of excellence. We have invested in people and the latest research tools to make first class technical investigation and continual product improvement on our offshore customers' behalf. Detailed additional product information can be provided on request.

## A unique service package

We ensure your quotation, order, technical specification and delivery all meet your needs. Our account management team will keep you in touch at every stage of the process.

## Contacts

This brochure is an introduction to the extensive product range capabilities and unique service package that Corus provides.

However we cannot cover every aspect of our products and services, so please contact us on any matter you wish to discuss.

In the first instance, please contact our Sales Manager, Energy International at:

### **Corus Construction & Industrial**

PO Box 1  
Brigg Road  
Scunthorpe  
DN16 1BP  
United Kingdom  
T +44 (0) 1724 404040  
F +44 (0) 1724 405600

For information and advice on any aspect of plates products, their use or specification:

### **Plates Technical Advisory Services**

Corus Construction & Industrial  
PO Box 1  
Brigg Road  
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T +44 (0) 1724 402106  
F +44 (0) 1724 381949

Corus Construction & Industrial literature hotline, for literature and information:

T +44 (0) 1724 404400  
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For information and advice on any aspect of sections products, their use or specification:

### **Sections Technical Customer Support**

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