

Structural Steel Solutions Projects Oil & Gas







To be your preferred supplier & reliable partner for the supply of complete and customized structural steel packages.

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Introduction

Our family - ArcelorMittal

With annual achievable production capacity of approximately 114 million tonnes of crude steel, and some 210,000 employees across 60 countries, ArcelorMittal is the world's leading steel and mining company.

With an industrial presence in 19 countries, we are the leader in all major global steel markets, including automotive, energy, construction, household appliances and packaging, with leading research and development and technology, sizeable captive supplies of raw materials, and outstanding distribution networks.

Our core philosophy is to produce safe, sustainable steel. In doing so, our top priority is safety and our goal is to be the world's safest steel and mining company.

Our position within the group

Our sector Distribution Solutions Projects combines the network power and experience of a global company, with local presence and inherent knowledge, easy access and flexibility.

Its activities lie at the interface between industry and the market; to ensure the closest links with steel producing mills, enabling a broad-based and consistent presence of the ArcelorMittal offer throughout the world.

Distribution Solutions Projects has built its leadership on innovation and satisfaction of international market requirements. It has different business lines engaged in providing specific steel services and solutions.

Supported by specialized proximity distribution, processing and finishing facilities, steel products are supplied to markets and clients around the world. We aim to become a "partner" to our customers; maximizing values and optimising project outcomes.

One of the specific and dedicated business lines is **Projects Oil & Gas**.



Complete structural steel solutions

Projects Oil & Gas is Arcelor Mittal's dedicated and specialized global organization for the supply of complete and customized structural steel solutions for the highly demanding international Oil & Gas sector.

Projects Oil & Gas offers a complete package of structural steel products from our own ArcelorMittal mills and an international network of 3rd party suppliers, combined with specialty stocks strategically located near the major Oil & Gas hubs.

Along with our products, we offer project management services that ultimately support our customers to turn highly critical projects into success stories.

Thanks to our extensive experience, we ensure **value creation** by offering tailor made and innovative steel supply solutions and services, and being **highly customer oriented** and **project driven**.

Long-term partnerships

Our focus on long-term and sustainable partnerships with both our customers and suppliers are the driving forces of our business.

This is evidenced by our impressive project track record and long-term frame agreements that are currently in place with major Oil & Gas companies and international Engineering Procurement & Construction (EPC) firms.

Applications

Projects Oil & Gas has a strong track record and well-established experience in the complete package supply of steel to all major players in the Oil & Gas industry such as the upstream, midstream and downstream.

As every project is unique, we work closely with project owners and contractors to tailor our product and service solution to their specific needs and requirements. Our clients include major oil companies, EPC firms and offshore fabricators.

We are able to serve globally all the key markets:



Exploration & Production

Conventional & unconventional drilling fields

We are able to offer OCTG casing, tubing and various tubular accessories according to all international standards.

Products are manufactured from seamless hot-rolled tubes and fitted with different types of connections such as:

- Threaded and Coupled (TNC)
- integral-flush and semi-flush

Offshore

Subsea Umbilicals, Risers and Flowlines (SURF)

We are able to supply risers and flowlines that bring hydrocarbons from the wellhead to the surface and then route them to the processing plant.

Platforms

We supply high strength offshore steel according to international norms and safety standards for different offshore segments such as jackets, tripods, decks and topsides.

Vessels

Our comprehensive range of shipbuilding grades products and services are suitable for floating and processing units (FPSO & FLNG) and drilling ships. We offer products for hull fabrication, topsides modules and turret fabrication, flowlines, line pipes and mooring systems.

Wind energy

We are able to supply structural steels for the various offshore applications such as jacket foundations, suctions buckets and substations.

We also provide value added services such as pre-fabrication and preservation. All our steels are in full compliance with applicable standards specific for this industry.



Onshore

Pipelines are used to transport fluids/gases under pressure and also oil, gas and refined products through complex networks of interconnected pipelines used in processing plants.

Tubular products (seamless and large diameter spiral & longitudinally welded line pipes) supplied are suitable for demanding conditions with high pressure, low/high temperatures, sour service and corrosive environment.

Hydrocarbon Processing Industry (HPI)

Downstream refineries, petrochemicals, gas & fired heaters

We provide high quality seamless steel pipes and pressure vessel plates for the downstream market.

We supply products in carbon and alloy steels in a wide dimensional range suitable for sour service conditions with high corrosion resistance, low and high temperature service as well as for high pressure applications.

Our unique solutions include:

- Alupur® high quality steel coated on both sides with pure aluminium; offering excellent fire resistance at temperatures up to 1,100°C
- Magnelis® metallic coating that ensures optimal surface protection against long-term wear and tear

Storage tank terminals

Steel supplied includes:

- carbon steel tank plates
- prefabricated beams and sections for roofing structures
- Krybar® (cryogenic reinforcement bars) for LPG/LNG tank construction
- seamless and welded linepipes
- steel plates, girders, tubulars and sections for jetty structures

Products

Plates

Plate sizes can be standard or tailored to project requirements with minimum order quantities as low as 2 metric tonnes per size.

Thickness range: 5mm to 760mm Yield strength range: 355 – 490 N/mm² or higher.

Beams & sections

Our structural beams and sections are produced in the highest quality such as our proprietary Histar® grade. The size range includes the following:

- American (W size)
- British (UB/UC size)
- European (IPE/HE/UPN)

Height: 100mm – 1100mm Breadth: 100mm – 420mm

Pipes & tubes

Our product range covers almost the entire requirement of the energy industry.

- OCTG (Oil Country Tubular Goods)
- seamless riser and flowlines
- offshore structural
- seamless line pipes
- large diameter spiral & longitudinally welded line pipes
- process seamless (carbon & alloy)

We have manufacturing units spreading across Europe, Asia, Africa, North and South America producing pipe sizes ranging from 12.7mm to 1422.4mm and wall thickness starts from 2.3mm.

Krybar®

Krybar® is a specially designed reinforced steel bar for the construction of cryogenic LNG tanks. It has proven track records complying to EN14620 & BS7777. Available diameters: 12, 16, 20, 25, 28 & 32mm (other sizes upon agreement).

Bulb flats

Bulb flats are being used as plate stiffeners especially in the shipbuilding industry. Our supply width ranges from 60mm to 430mm, and can be supplied according to EN 10225/S355G11+N.

Our bulb flats are approved by various shipbuilding classifications including ABS, LR, GL, DNV, Lloyds, BV, Russian, Korean and Japanese Registers.

Mooring wires

Designed to suit engineering and oil companies requirements and used for floating production systems (FPSO, FPU, DWB, SPM, etc) moored on oil fields for long term life periods, at various water depths, up to 1,500 meters.

High strength and very good torque balance, for periods up to 35 years in sea water, on static conditions.



Hollow sections

Hollow sections can be provided according to EN10210/EN10219/S355NLH. Suitable for all construction and mechanical applications. We can supply cold formed and hot formed round, square and rectangular high strength hollow sections. Hot formed hollow sections can also be delivered in seamless execution.

Size range:

- circular 26.9mm to 508mm outside diameter
- rectangular 30mm x 20mm to 600mm x 400mm
- square 20mm x 20mm to 400mm x 400mm

Supplied steel specifications

Our comprehensive product offer meets both the major Oil & Gas companies' specifications which includes thermomechanically rolled steel that can be used in harsh and sour environment.

EN 10025 S235/S355

EN 10225 S355/S420/S460

Norsok M-120 Y20/ Y30/ Y40/

Y50

API 2W Gr. 50/ Gr. 60

API 5L X52/ X60/ X65/ X70/ X80

PSL 2

ASTM A572 Gr. 50/ Gr. 60 ABS/BV/LR AH/ DH/ EH 36

Fulfilled supplementary requirements

- Delivery condition Normalized/ TMCP/ Q&T/ As-rolled
- TTP/ UT Testing (EN 10160 S2/E3)
- Low carbon/ low sulphur content
- Max. CEV 0.43/ PCM 0.23
- Low yield/ tensile ratio
- CVN @ 0/ -20/ -40 deg °C
- Strain aged test
- Simulated post weld heat treatment
- Pre-qualification (CTOD)

We offer high strength offshore steel grades according to international norms and safety standards; meeting specific project specifications with supplementary conditions and additional testing. With our global team of over 1,300 researchers, we are able to offer services of co-engineering for new applications and solutions.

Supply sources

Arcelor/Mittal Europe - Flat Products

Active with 15 sites in six countries, Flat Products produces slabs, hot-rolled coil, cold-rolled coil, coated steel products, tinplate and heavy plate.

Our mills in Gijon (Spain), Burns Harbour & Coatesville (USA), Industeel (France/Belgium) and Galati (Romania) are our key suppliers for API / EN heavy offshore & shipbuilding grade plates.

Facilities in France & Bremen (Germany) offer a comprehensive range of API hot-rolled coils up to X80 PSL 2, including a thickness up to 25.4mm and a width up to 2,080mm.

Arcelor Mittal Europe - Flat Products supplies plate widths up to 4.9m. Supplied plate thicknesses are up to 350mm from Burns Harbour (USA), 760mm from Coatesville (USA) and up to 950mm from Industeel (France/Belgium). The combined annual production of Arcelor Mittal Europe - Flat Products is 53.7 million metric tonnes.

ArcelorMittal Europe - Long Products

ArcelorMittal Europe - Long Products has been producing a full spectrum of Long products, ranging from wire rods, Krybars®, rebars, beams and sections.

The division is located in 10 European countries with 20 production sites and has an annual capacity of 14 million metric tonnes.

Our beams & sections qualities for offshore structural applications are supplied in S355 / S460 grades of EN10225 and EN10025. Advances in the TM & QST rolling process are the cornerstones of a new generation of fine grained steel grades such as HISTAR® and FRITENAR®, with superior characteristics:

- high strength
- good toughness
- excellent weldability



ArcelorMittal Tubular Products Europe

Tubular Products is one of the most diversified producers of pipes and tubes, covering almost the entire requirement of the energy industry. It produces seamless and welded pipes and tubes including electric resistance welded (ERW), high frequency induction (HFI), precision, cold-drawn, and both spiral and longitudinal submerged arc welded (HSAW and LSAW).

It has a global presence with 6 production facilities cross four European countries.

Our facilities located in Vereeniging (South Africa), Ostrava (Czech Republic), Roman (Romania), Galati (Romania) and Jubail (Saudi Arabia) offer pipes from an outside diameter of 21.3mm to 1,422mm, and thickness of 2.3mm to 50mm. Grades supplied are in accordance to API 5L, Grades B to X65 PSL2, and they are also in accordance to all major international standards (EN, Norsok, ASTM, ASME etc.)

We are also able to provide additional requirements for special applications regarding premium steel grade of materials such as chemical composition (PSL1/PLS2), sour and offshore services.

ArcelorMittal partnerships - China

Hunan Valin Steel

Valin Group is a large sized enterprise set up by three steelmakers in Hunan province, with Xiangtan Iron & Steel and Hengyang Steel Tube capable of producing structural heavy plates and seamless tubulars respectively.

Xiangtan manufactures Q&T, Normalized & TMCP plates with lengths from 6m to 20m, widths 1.5m to 4.8m and thicknesses from 6mm to 120mm.

Hengyang, offers API 5L (grade X42 to X100) seamless tubulars with sizes from 6mm to 800mm. It covers wall thickness from 1.5mm to 120mm.

Hebei Jinxi Iron & Steel

A leader in the H-beam steel market in China; Hebei Jinxi Iron & Steel is an integrated iron and steel manufacturer that offers H-beam, strip, billet and sheet piles.

Third party supply sources

Our extensive and well established network and support of third party mills and ex-stock holders, enable us to offer you the best and most complete package offer available in the market. Quality is assured as all sources are qualified by our quality team and regularly audited.



Stock program

Being one of the largest offshore structural steel stockists, we can offer you the complete supply package in the shortest possible lead time; a feature crucial to most projects.

With our proximity distribution network, our strategically located stockyards in Singapore, the Netherlands, Dubai and Nigeria are dedicated to the supply of high strength offshore structural steel plates, beams and tubulars. Our comprehensive range of products allows us to quickly fulfil your urgent needs for project start-ups and unforeseen shortfalls.



High yield seamless pipes (API 5L X52/L360, X65/L450 PSL 2, EN 10225 G15+M. Norsok Y22)

Certificate: EN10204, 3.2 (ABS) Charpy Value: Min 27J at -50°C (L) / Min 34J at -40°C (T)

Heat Treatment: Q & T / Normalized

Size: 3" - 20" (88.9mm - 508.0mm)

Wall Thickness: 0.237" - 1.312"

(6.02mm - 33.32mm)

Length: 6000mm - 12000mm High yield SAW welded pipes (API 5L X52/L360, X56/L390, X65/L450 PSL 2)

Certificate: EN10204, 3.2 (ABS) Min 45J at -40°C Charpy Value:

Heat Treatment: TMCP

Size: 16" - 30" (406.4mm - 762.0mm) Wall Thickness: 0.5" - 1.5" (12.7mm - 38.1mm)

Length: 8861mm - 12000mm

*Kindly refer to our "Offshore structural steel stock program" catalogue for more details.



High yield offshore sections (EN 10225 S355 G11+M, EN 10025-1 S355ML / Norsok Y26)

Certificate: EN10204, 3.2 (Lloyds/GL)
Charpy Value: Min 50J at -40°C

(from flange thickness of 25mm)

Sections: HEA / HEB / UPN / IPE

Dimensions: 100mm - 1000mm

High yield offshore plates (API / EN / Norsok)

Specification:

Α	PI	EN	Norsok
2	W Gr 50	10225/S355 G10+M/N 10025/S355 ML	M-120 MDS-Y20
2	W Gr 60	10225/S420 G2+M 10025/S420ML	M-120 MDS-Y30
2	H Gr 50	10225/S460 G2+M 10025/S460 ML	M-120 MDS-Y40

Certificate: EN10204, 3.2 (ABS/Lloyds/DNV)

Charpy Value: Min 41J at -40°C
Heat Treatment: TMCP / Normalized
Thickness: 8mm - 150 mm

Width: 2050mm / 2438mm / 2500mm

/3050mm

Length: 5500mm - 12000mm

Global network & services



We support our customers with high value and specialized project management skills throughout the life cycle of each project. Depending on the client's or project's needs, we offer a comprehensive range of services such as:

Processing, prefabrication, storage & handling

- Hot works (cutting, bending, welding)
- · Shot blasting & priming
- Storage & warehousing
- Special project marking
- · Consignment project stocking

Documentation & project management

- Project qualification documentation: MPS, ITP, WPS / PQR, etc.
- Final vendor data books: certificates, welding data, test reports
- · Extensive project administration
- Document control systems
- · Contract & risk management

Tailor-made logistics

- Multiple transport solutions: sea, land, air
- DDP deliveries to project sites
- Proactive expediting / release of materials
- Custom clearance
- Import/export shipping documentation



Technical support

- Technical specification and deviation review to given standards/norms
- Product co-design, development and quality advice
- Facilitate Kick-off meetings
- Technical (bid) clarifications
- Technical QC inspections
- Technical queries & professional claim management and support

Quality control & inspection

- Third party inspection by independent agencies
- Additional testing (destructive & non-destructive)
- Full inspection at mill
- Visual & random inspection at stockyard
- · Pre-shipment inspection at quay
- ISO quality process management

Health & safety

Arcelor/Mittal's core philosophy is to produce safe, sustainable steel, making health and safety (H&S) the priority for the company.

The value of H&S is embedded deeply into the foundation of everything we do; an integral component to each of our 3 existing core values of sustainability, quality and leadership.

We want to be the world's safest steel and mining company. Our Journey to Zero campaign — to have zero fatalities and zero time lost to injuries — is the heart of this goal. Since then, we have made good progress in significantly cutting accidents and fatalities in our steel plants and mines.

By implementing this campaign worldwide, we are fostering a culture and creating an environment in which we value the safety of our people.

Moreover, with our strict adherence to our health and safety policy and associated international standards, we are definitely the steel supplier you can rely on to meet your highest safety requirements.



Our people

Our dedicated people are continuously at your disposal to assist with specialized skills and expertise to maximize your project value.

With our global presence, we are always able to offer quick and high quality services while providing the best innovative and flexible steel solutions.

We understand what is at stake and what the demands and expectations are within the Oil & Gas industry.

Our people have a strong focus on developing beneficial partnerships, and to show a personal commitment in the successful realization of your valuable projects.



Project references



Dangote Refinery

Customer: Dangote Oil Refinery Company Country: Nigeria Year: 2016

Product: 138,000MT plates, 101,000 MT rebars



Johan Sverdrup

Customer: Statoil/ K2JV/ SHI Country: Norway Year: 2015/ 2016

Product: 2,610MT bulb flats, hollow sections, merchant



Yamal

Customer: COOEC / Entrepose / PJOE / Siemens

Country: Russia Year: 2014 Product: 36,688MT plates, beams, krybars®



Daman Development

Customer: ONGC/ Swiber Offshore

Country: India Year: 2016

Product: 4,500MT welded tubulars



Umm Lulu Phase 2, Package 2

Customer: Technip/ NPCC Country: United Arab Emirates Year: 2014 Product: 12,590MT seamless tubulars, rolled sections



Culzean

Customer: Sembcorp Marine

Country: UK Year: 2015

Product: 5,445MT tubulars, plates, beams



Pengerang Deep Water Terminal 2

Customer: PrimeSourcing International Country: Malaysia Year: 2015 Product: 21,617MT plates



Catcher FPSO

Customer: BW Offshore Country: Singapore Year: 2015 Product: 6,200MT sections, plates, tubulars



Nyhamna

Customer: Shell/Kvaerner Country: Norway Year: 2014

Product: 10,000MT beams, plates, sections, merchant bars



Kaombo FPSO

Customer: Saipem Country: Angola Year: 2015

Product: 3,400MT plates, sections, tubulars



Suezmax Tanker

Customer: Atlantico Sul

Country: Brazil Year: 2015

Product: 11,392MT plates



Nasr Project EPC 1 & 2

Customer: ADMA - OPCO/ NPCC/ HHI Country: United Arab Emirates Year: 2015/ 2016 Product: 6,717MT sections, seamless tubulars





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