OFFSHORE CONSTRUCTION







OUSTANDING WELDABILITY

NDING CUSTOMIZED BILITY SOLUTIONS

DURABILITY





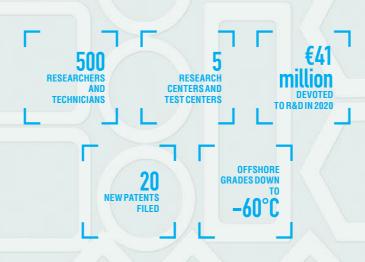




"We've become more competitive thanks to Vallourec's high strength materials which enables us to improve our fabrication techniques thanks to better weldability, tighter and constant tolerances and surface quality."

■ OFFSHORE WIND MANUFACTURER





COMPETITIVE RANGE MEETS ALL CUSTOMER REQUIREMENTS

From standard to premium, Vallourec's seamless tubes and exclusive heat treatment capabilities ensure our complete range of ultra resistant steel grades are fit-for-purpose for a wide range of offshore applications. Approved by international offshore standards, our dedicated Oceanfit® grades offer outstanding mechanical property values, high yield strength up to 890 MPa (and 960 MPa on request), toughness down to -60°C, high charpy values at low temperature and easy processing thanks to excellent weldability.

WIDEST DIMENSIONAL RANGE FOR GREATEST FLEXIBILITY

From 21.6 up to 711 mm, our diversified mills ensure the widest dimensional range in seamless tubular solutions for maximum flexibility in design.*

SHAPES & SIZES:

Hot-formed seamless



Round OD: 21.6-711 mm wт: 4-110 mm



Square op: 40x40 up to 300x300 mm wт: 4-25 mm







Rectangular op: 50x30 up to 400x200 mm wт: 4-25 mm

*Development of customized solutions, applicable also for small quantities, e.g. prototypes or small lot sizes.

JACK-UP RIGS

- Bracings & Span breakers
- Choke & Kill
- Topsides Jackcase & Spudcans
- Offshore Cranes







WIND TURBINE **INSTALLATION VESSELS & CRANES**

- Bracings - Offshore Cranes - Boom Pipes

TOTAL DELIVERIES

OFFSHORE WIND FARMS

- Boatlandings
- Topsides
- Platforms
- Anode Rings
- Anode Cages
- J-Tubes
- Other Secondary Structures





OUR DIMENSIONAL RANGE

Mill	Round tubes Size range (mm)	Rectangular Size range (mm)	Square Size range (mm)
Mülheim Germany	OD: 21.6 – 181.8 mm WT: max. 32 mm	50 x 30 mm – 180 x 100 mm WT: max. 25 mm	40 x 40 mm – 150 x 150 mm WT: max. 25 mm
Rath Plug Germany	OD: 193.7 – 406.4 mm WT: max. 40 mm	200 x 100 mm – 400 x 200 mm WT: max. 25 mm	150 x 150 mm – 300 x 300 mm WT: max. 25 mm
Rath Pilger Germany	OD: 244.5 – 711 mm WT: max. 110 mm	-	-
Aulnoye France	OD: 209.5 – 445 mm WT: max. 90 mm	-	-
Tianda China	OD: 114.3 – 323.8 mm WT: max. 25 mm	-	-
Belo Horizonte Brazil	OD: 33.4 – 406.4 mm WT: max. 50 mm	60 x 40 mm to 400 x 200 mm WT: max. 25 mm	50 x 50 mm to 300 x 300 mm WT: max. 25 mm

OUR GRADE OFFER

Characteristics	Oceanfit [®] & comparable grades			Norms
	Oceanfit® 355 Grade 6 X52, X52N, X52Q L360N, L360Q S355NHHO. S355NLHHO. S355NLHHO	Oceanfit® 420 X60N, X60Q L415N, L415Q S420QLHHO VL A42QOT, D42QOT, E42QOT	Oceanfit® 460 X65N, X650 L450N, L450Q S460QLHHO VL A460QT, D460QT, F460QT	Grades acc. to classification society DNV ABS other classification societies
• Yield strength up to 960 N/mm² toughness down to -60°C	VL A36, VL D36, VL E36, VL F36 AH36, DH36, EH36, FH36 Y22, Y27	VL A04200T, D04200T, E0420QT AQ43, DQ43, EQ43 Y32, Y37	VL A0460QT, D0460QT, E0460QT, F0460QT AQ47, DQ47, EQ47, FQ47 Y42, Y47	European grades EN 10210 EN 10225-3 EN 10297
 High mechanical values 				
 Good ductility/charpy values at low temperature Excellent weldability 	Oceanfit® 500 / 550 X75Q / X80Q	Oceanfit® 620 / 690 X900 / X1000	Oceanfit® 770 S770QLHHO	Others ISO 12633-1:2011
Approved by main classification societies	pproved by main classification	L620Q / L690Q S6200LHHO / S6900LHHO VL A6200T, D6200T, E620QT VL A6620T, D06200T, E0620QT VL A690QT, D690QT, E0620QT VL A690QT, D690QT, E0690QT, F690QT VL A0690QT, D0690QT, E0690QT, F0690QT AQ63, DQ63, EQ63, FQ63 AQ70, DQ70, EQ70, FQ70	Oceanfit® 890 VL A8900T, D8900T, E890QT AQ91, DQ91, EQ91	API grades API 5L 46 ^m Edition

VALLOUREC TEAM HELPING YOU EXPAND ACTIVITIES OFFSHORE

The ability of the energy industry to expand its activities in the marine environment will play a significant role in its growth. We can make a critical contribution in helping customers unlock a new field of opportunities.

Vallourec offers dedicated solutions and services to customers worldwide to meet the challenges of designing as well as building structures and facilities in an ocean environment that must be able to resist the extreme weather conditions like low temperatures, high wind speeds and fierce wave loads of the ocean.



MEETING THE CHALLENGES OF JACK-UP RIGS

Dedicated steel grades designed for the legs of Jack-up rigs enable operation in deeper waters and colder climates, while fully meeting the demanding mechanical properties requirements of designers and owners.

Specific advantages include:

- Toughest design requirements, down to -40°C and -60°C temperature
- Light structure for the legs due to our high strength material and tight tolerances
- Easy processing possibilities due to a variety of special solutions like shaped pipes (PFP)
- Save up to 15% costs in welding with our newest Super Oceanfit® 100 WeldFIT
- Faster coating process due to extra good surface conditions

Republic of Ko Singapore

TS - JU-2000E Proj

- CAT J/CJ/O Project (Korea),
- B Class (Singapore),
-Pacific Class 400



Republic of Ko United States of America, The Netherlands

> -Wind Orca and Osprey (WTIV), - Seajacks Scylla (WTIV),

MAJOR MANUFACTURERS TURN TO VALLOUREC FOR CRANES & WIND TURBINE INSTALLATION VESSELS

Vallourec successfully partnered with the Samsung Heavy Industries (SHI) shipyard in South Korea that builds some of the world's most advanced Wind Turbine Installation Vessels (WTIV).

Our premium tubular solutions contributed to safety, efficiency and reliability and set up new industry standards for lifting capacity and jacking speed even in extremely rough sea conditions. In addition, Vallourec recently delivered more than 700 tons of pipes in ABS approved EQ70 (X100Q) and EQ47 (X65Q) grades for the first ever Jones Act compliant and largest U.S. WTIV currently under construction. Since 2018, Vallourec has delivered over 2,000 tons of steel to the various major Offshore Crane manufacturers for the construction of Heavy Lift Cranes (HLC) and Leg Encircling Cranes (LEC).



COUNTRY

Germany, UK, France,
Denmark

- EnBW Baltic 2
(Germany),
- Dudgeon (UK),
- Saint Nazaire
(France),
- Kriegers Flak
(Danemark),
- Yunlin (Taiwan),
- Akita (Japan),
- Hywind Tampen
Floating (Norway),

_

SERVICES



PROTOTYPE ASSISTANCE

Thanks to our manufacturing process we can support customers with low



MATERIAL SELECTION

We offer advice and recommendations on engineering, grades, dimensions and technical issues including fatigue.



TECHNICAL SUPPORT

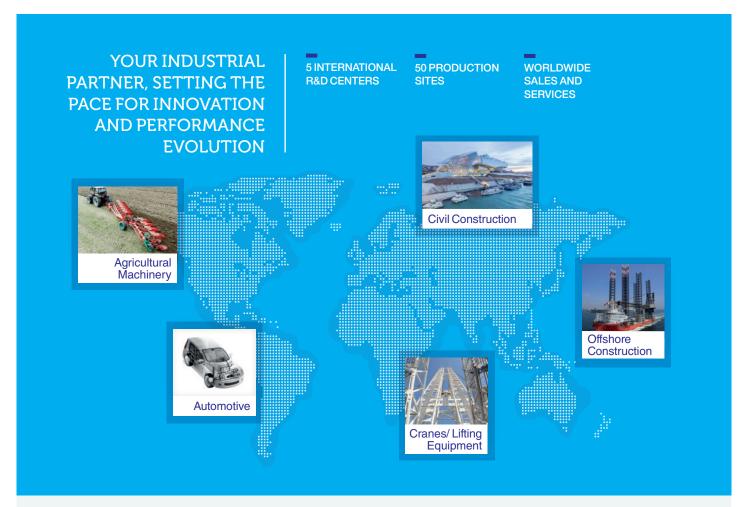
Ve provide customize

EXPERTISE IN OFFSHORE WIND FARMS

Vallourec has contributed to the creation of solid wind farm structures around the world, providing quick delivery, customized sizes, excellent weldability and lower maintenance due to seamless square and rectangular structural hollow sections.

"Today, offshore construction is maturing and becoming a thriving sector not only in Oil & Gas but also in the context of renewable energy. We support industry operators with innovative and flexible solutions and services to rise to the unique challenge."

■ GEORGES BITTÈS,
INDUSTRY PRODUCT LINE DIRECTOR



NEED MORE INFORMATION?

Information is available online on solutions.vallourec.com or by scanning the following QR code.







Headquarters

12, rue de la Verrerie 92190 Meudon - FRANCE industry@vallourec.com

Find your local phone details on your country's page on www.vallourec.com