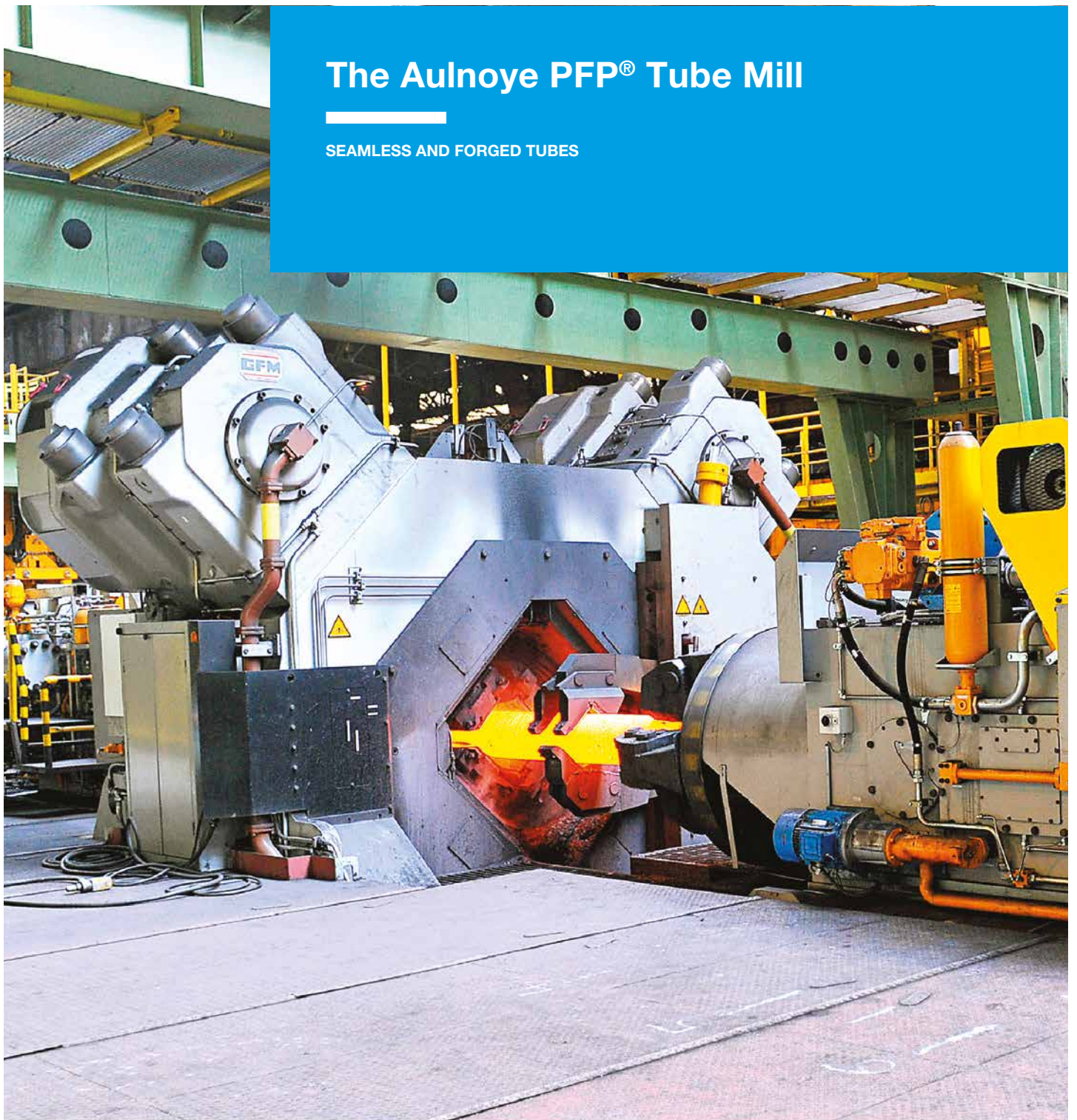




The Aulnoye PFP[®] Tube Mill

SEAMLESS AND FORGED TUBES



An efficient and highly flexible integrated tube mill

In its Aulnoye PFP® Tube Mill, Vallourec has been producing seamless tubes since 2009 with an impressive track record. It operates a unique process of hot-piercing directly followed by a highly efficient radial forging machine and heat treatment. Compared with other processes, forging comes closest to being the ideal hot forming method to ensure full length precise dimensions for straight and shaped pipes.

Seamless & Forged

- 1-step forging process
- Tight dimensional tolerances over full length with a wide size range
- Large spectrum of steel grades, including high alloyed
- Feasibility of shaped tubes with dimensions variations over full length
- Long lengths, up to 14 meters
- Extreme flexibility from large series to small lots
- Short lead times, all grades and dimensions being produced every week

In-house Heat Treatment & Finishing

The Aulnoye PFP® Tube Mill is supported by a highly automatized and controlled production process. It is also equipped in-house with its own heat treatment facility as well as NDT and finishing operations.

- Phased Array - Ultrasonic inspection
- Magnetic Particle Inspection
- Mechanical testing
- Hydrostatic testing
- Internal and/or external grinding
- Beveling
- Individual traceability from billet to shipment

Robust Quality Management

Our operations are supported by committed and innovation oriented teams and by a robust Quality management system recognized as such by the main international certification organizations.

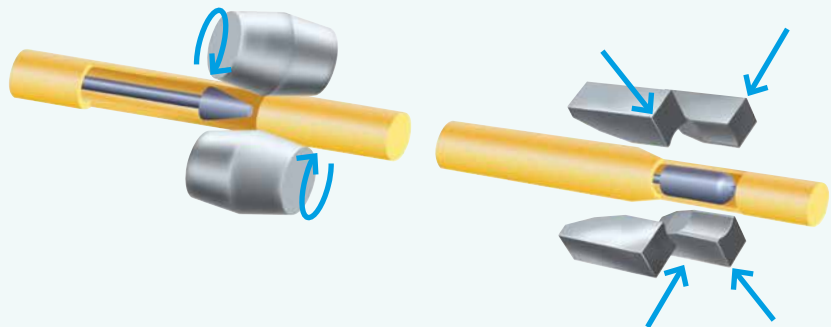
DNV, TÜV, IBR, AFNOR, ABS, KIT, ISO 9001, ISO 14001, ISO 50001, API 5CT, API 5L, OHSAS 18001.

An efficient and reliable process

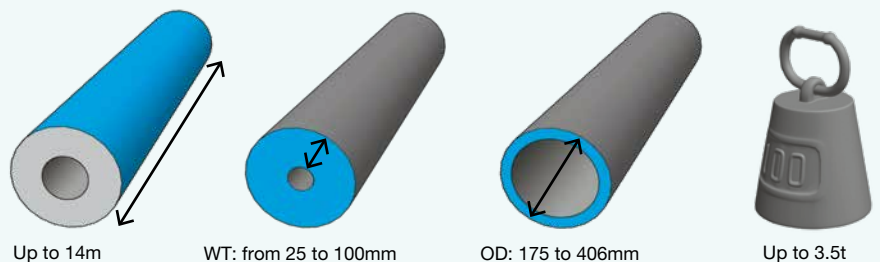
> Piercing



> Forging

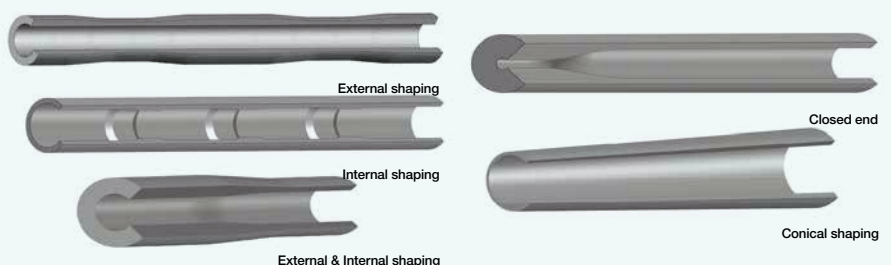


A wide size range



> Other dimensions are possible; the mill has constantly pushed its feasibility limits since 2009.

Customized shaped tubes



Unique capabilities for the benefit of our customers

At the heart of the Aulnoye PFP® Tube Mill, precision, flexibility and versatility open doors to a whole host of applications, from small lots to large series of pipes.

Oil & Gas, Structurals,
Mechanicals, Powergen,
Hydrocarbon processing

Shapes and wide spectrum of dimensions to fit all projects

Tubes will be integrated into project after being cut, welded, bent, machined or transformed into other components. The Aulnoye PFP® Tube Mill strives to meet its customers' expectations and provides them with solutions that will ease their operations and/or reduce their costs.

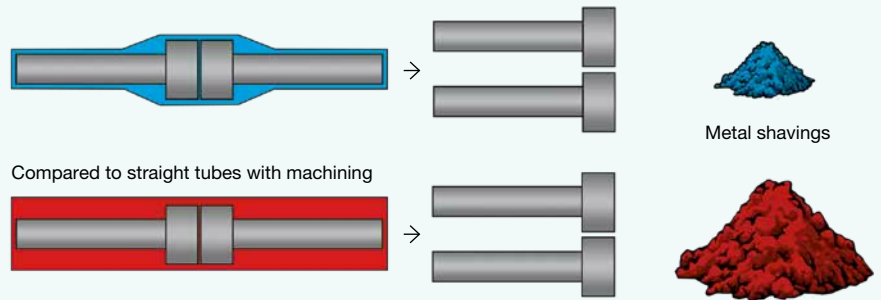
- Save material and machining time thanks to shaped tubes, tight dimensional tolerances and the ability to produce every needed millimeter of OD/WT
- Save extra component purchasing and welding costs by producing directly in shaped tubes according to the final assembly
- Remove costly hot deformation processes of straight tubes (e.g. upsetting, reducing) by producing directly required final shape in one production step
- Improve designs by thickening / thinning chosen tubes sections (e.g. structural applications)

Innovation Mindset & Resources

Innovation is the foundation of the Aulnoye PFP® Tube Mill to meet customers' challenges and help them turning ideas and concepts into innovative real-life solutions thanks to:

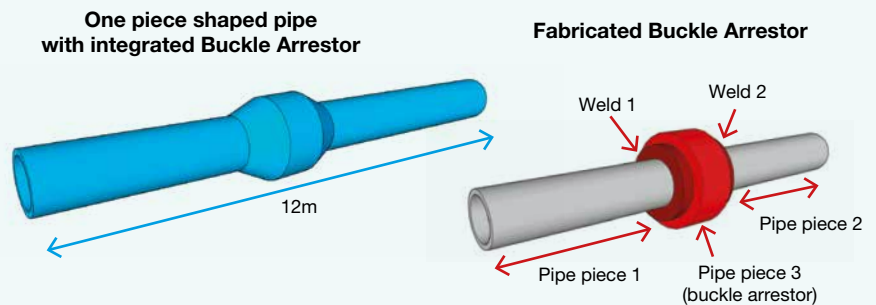
- A mill-dedicated team of experts for designing and industrializing products
- The R&D and Innovation assets of the Vallourec Group and especially the Vallourec Research Center France also based in Aulnoye with an international reputation for Metallurgy, FEA, Non-Destructive-Testing, surface treatment, and premium OCTG connection development

Reducing machining with near net shape tubes



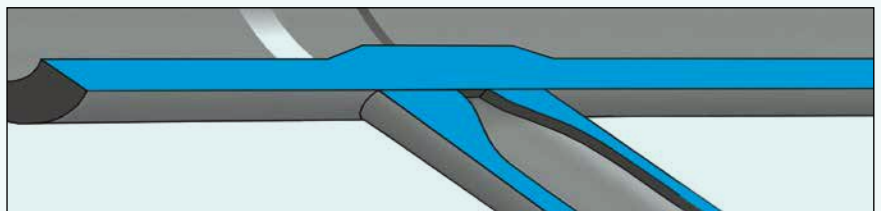
➤ Shaped tubes are metal cost effective with lighter and safer handling.

Removing welding operations

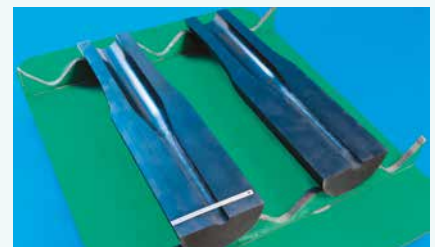
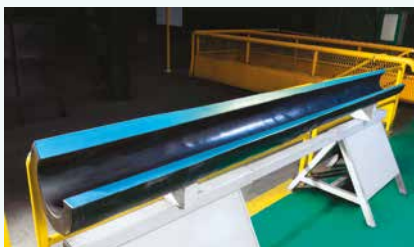


➤ Producing directly the final piece remove costly and hard to weld components.

Allowing new designs



➤ Reinforced areas for improved structural resistance.





Located in the North of France the teams of the Aulnoye PFP® Tube Mill produce seamless tubes with a state-of-the-art forging machine that stimulates new products and solutions development in line with the long standing pioneer and innovative spirit of Vallourec.

VALLOUREC

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