

# OFFSHORE PIPELINE

**Offshore pipeline** are important underwater arteries for global energy transportation, enabling the safe and efficient transport of oil, gas, and other critical resources through the marine environment. Designed with high-performance steel pipes (fabricated using a precise UOE/JCOE process), these pipes are built with advanced materials, automated welding technology, and multi-layer protection systems to withstand extreme subsea conditions, including deep-sea pressure, corrosive brine, seismic activity, and temperature fluctuations. They are designed for 30-50+ years of continuous operation, providing unmatched reliability in high-pressure, high-flow scenarios while prioritizing environmental safety and operational resiliency.



- **Outside Diameter:**  $\Phi$ 323.9mm - 1626mm (12.75" - 64" )
- **Wall Thickness:** 12.7 - 40mm (0.5" - 1.57")
- **Quality Standards:** API 5L PSL2、API 5LC/5LD、DNV-OS-F101、ISO 13623、ASME B31.4/B31.8
- **Length:** 12 - 24m (40'-80'), Double Joints up to 48m
- **Coating Type:** 3LPP (Three-Layer Polypropylene), FBE + Concrete Weight Coating (CWC), Field Joint Coating (FJC), or as per project requirements

## Specification

Parameters	Typical range	Extreme range	Standard basis	Engineering constraints
Outside diameter	$\Phi$ 323.9mm\~ $\Phi$ 762mm	$\Phi$ 168.3mm\~ $\Phi$ 1524mm	API 5L / DNV-OS	>914mm requires specialized installation vessels
Wall thickness	15.0mm\~30.0mm	10.0mm\~50.0mm	DNV-OS-F101	Thickness >40mm requires special welding procedures
Water Depth	Shallow Water (<300m)	Deepwater (300m-3000m+)	DNV-OS-F101	Ultra-deep (>1500m) requires high collapse resistance
Length	Double Joints (24m)	Quad Joints (48m) / Reels	Project Specific	Reel-lay limits based on vessel capacity

**ONSHORE PIPELINE Specification Range Reference Table**

Classification	Standard	Positioning	Applicability
Material & Manufacture	API 5L PSL2	Global standard for line pipe	Mandatory for most subsea pipelines
Design & Integrity	DNV-OS-F101	Comprehensive offshore pipeline standard	Global standard, especially North Sea & deepwater
Safety & Operation	ASME B31.4/B31.8	US Pipeline Safety Codes	Required for US waters / connecting infrastructure
Quality & Testing	ISO 3183	International line pipe specification	Widely used globally, alternative to API 5L

**ONSHORE PIPELINE Standards and Applications Comparison Table**

