

# OUS SUPER DUPLEX PRODUCTS

Technology for super duplex umbilical tubing has changed! Laser welded super duplex tubing is now available in addition to seamless super duplex products for deepwater subsea applications. The laser welded seamed product has been thoroughly tested and qualified for use by Oceaneering Umbilical Solutions (OUS).

Contact your OUS sales representative to schedule a factory visit or to arrange a formal presentation/demonstration at your convenience.



The tube has been machined to show the seam which is not visible on the outside of the tube.

	Seam Welded Tubing	Seamless Tubing
Product	LASERLINE® SD (UNS 32760): Roll formed from strip material, in-line induction and heat treated, seam-welded super duplex tubing up to 4,000 meters in length	SAF 2507® (UNS 32750): Pilgered/Drawn Seamless lengths ~40 meters long, batch heat-treated and welded together to form longer lengths of coiled tubing
Standard Coiled Tube Sizes	Coiled and welded tube from .375in ID thru 2in ID in pressure ratings from 3,000 to 15,000 psi depending on tube size. Additional sizes and pressure ratings are available upon request.	
Heat Treatment	In-Line induction heat treated using controlled atmosphere quench to ensure tube free of sigma phase defects	Automated batch heat treatment, monitored and cooled rapidly in hydrogen atmosphere to ensure tube free of sigma phase defects
Wall Thickness Tolerance	± 7.5%	+15% / -10%
DNV RP-C203 Fatigue Testing	Exceeds 3 standard deviations above the DNV curve demonstrating LaserLine SD product performs to the SN curve for super duplex	Seamless super duplex tube – field proven to the published SN fatigue curve for super duplex
ISO - Corrosion	Excellent performance in both sulphuric and hydrochloric acids - both LaserLine SD and SAF 2507 exhibit similar fluid compatibility properties	
Hydro Testing - In Process	Up to 99% Yield to test Seam Weld	Not Required
Eddy Current & UT Testing	In-Line continuous eddy current and ultrasonic testing during forming and welding to ensure defect free seam welding. After in process hydro testing, the tube is 100% eddy current tested again.	100% Inspected
FAT Testing	1.5 Design Working Pressure	1.5 Design Working Pressure
Pitting Resistance Number	42	42.5
Approvals	All testing was done in accordance with Oceaneering's rigorous Quality Standards that address requirements stated in API 17E/ISO 13628-5: Petroleum and Natural Gas Industries - Design and operation of subsea productions systems - Part 5: Subsea Umbilical. Both manufacturers are Norsok M-650 Rev 3 approved to manufacture super duplex steel tube.	

LASERLINE® is a registered trademark of Webco Industries, Inc.

SAF 2507® is a registered trademark of Sandvik AB.



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