



LIBERTY

STEEL

Line Pipe:

UOE Double Submerged Arc Welded (DSAW) Line Pipe

Liberty Pipes Hartlepool 42" DSAW Mill employs the well proven UOE method of pipe manufacture featuring the world's strongest crimp and O-press combination.

MEMBER OF



UOE Double Submerged Arc Welded (DSAW) Line Pipe

API 5L/ISO 3183



UOE DSAW mill process

Our UOE DSAW mill process ensures pipe properties suitable for most pipeline applications including deepwater scenarios.

Following double submerged arc welding, pipe is mechanically expanded and can be produced in a wide range of sizes. We are one of the few manufacturers operating today capable of forming as low as 16 inch (406.4mm) and up to 42 inch (1066.8mm) outside diameter DSAW pipe.

With the option to source plate either from Liberty House Group's own plate mills or from other quality

suppliers, Liberty Pipes 42" Mill is able to provide the best technical solution to meet customers' bespoke project requirements.

This highest quality feedstock and the achievement of extremely tight tolerances to aid circumferential welding contribute to the outstanding performance of our end product. Weld seam ultrasonic testing using modern, phased array techniques and x-ray radiography (prior to expansion and post-expansion) are among a battery of tests incorporated in the process to ensure the integrity of the pipe.



Properties and performance:

- Thick-walled pipe with exceptional collapse resistance; up to $0.90 \alpha_{fab}$ without heat treatment, and $1.00 \alpha_{fab}$ with heat treatment according to DNV OS-F101
- Inherent fatigue resistance as a result of excellent concentricity control and end shape tolerances; typical out of roundness control is sub 3mm for uti 762mm OD, rising to 6mm at 1067mm OD
- Pipe that withstands extremes of temperature; Cv toughness down to -50°C (dependent on specification), DWTT toughness down to -30°C and high temperature strength derating in accordance with DNVGL-ST-101

Benefits:

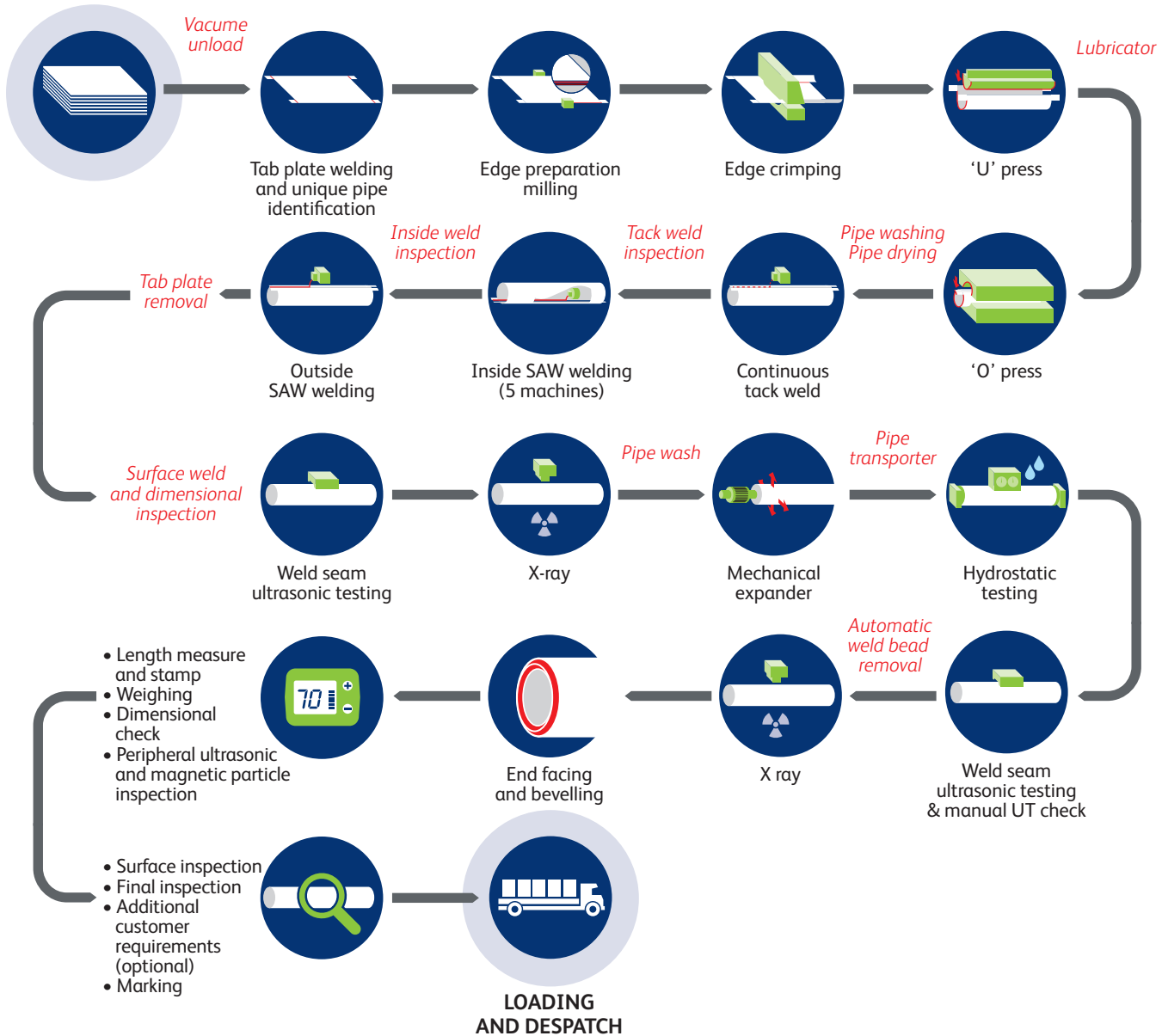
- Extensive choice of outside diameter and wall thickness combinations
- Excellent pipe tolerances for good installation rates and optimum design
- Thick-walled line pipe suitable for installation by reel-lay
- Fast size changes within industrial scale production to meet project demands
- Line pipe for sweet and sour applications
- State of the art phased array automated ultrasonic testing of weld
- On-site internal and external coating facilities



UOE DSAW pipe mill process route

The below schematic details the process route employed by the 42" SAW Mill:

PLATE STOCK



Approvals & Accreditations

The 42" Mill has a full suite of approvals and accreditations by independent third parties necessary to supply material into the oil and gas sector:

Area	Approvals
Quality Management System	ISO 9001, ISO 29001
Welding Control Systems	ISO 3834-2
Health and Safety Management System	OHSAS 18001
Environmental Management System	ISO 14001
Product Licenses	EN 1090-2

42" SAW Mill grades and sizes

The 42" SAW Mill can produce a wide size of grades and sizes, as detailed below;

42" UOE SAW Mill		Diameter (mm)													
		406.4	457.2	508	558.8	609.6	660.4	711.2	762	812.8	863.6	914.4	965.2	1016	1066.8
Wall Thickness (mm)	8.74														
	9.5														
	10.3														
	11.1														
	12.7														
	13.5														
	14.3														
	15.9														
	17.5														
	18														
	19.1														
	20.6														
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	22.2														
	23.8														
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- Piece weight restricted to 12tonnes; please note that some sizes are based on < 12.2m mean length. If piece weight exceeds 12tonnes, small quantities may be possible - please check with mill.
- Some capabilities are based on < 12m nominal lengths due to pressing force required; at peripheries of capability (within 3mm) always check direct with mill.
- All forming is cold, with subsequent mechanical expansion.
- Feedstock condition is TM/TMAC, with some lower grades available in N or NR condition.
- Sour service (up to NACE TM0177 and TM0284 Solution A) is available across grades up to X70 and 38.1mm.
- All sizes are available manufactured to standards such as API 5L, ISO 3183 & DNV OS-F101.
- Maximum length is 12.8m; Minimum length is typically 10.0m, but down to 9.25m is occasionally available dependent on specification.

- Grades between API 5L X52 and API 5L X80
- Grades between API 5L Gd B and API 5L X56
- Grades between API 5L Gd B and API 5L X60
- Grades between API 5L Gd B and API 5L X65
- Grades between API 5L Gd B and API 5L X70
- Grades between API 5L Gd B and API 5L X80

LIBERTY STEEL HARTLEPOOL

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