

# Pipelay Solutions



*The system shown above has 8" NB pipe on the reel.*

## Your partner for a Lifetime of Lifting

### Rigid Solutions

Our line of AmClyde Norson products provide pipelay systems for rigid and flexible pipes. Each system is designed to suit the product handling requirements and the vessel deck area. Pipelay systems can be J-lay utilizing a tower, S-lay with a stinger or a combination of both when layed from a ramp at varying angles. The product can be stored on a reel, in a carousel or as pipe stalks (lengths) on the vessel deck. In the main image above shows a Pipelay System for rigid steel pipe with vertical reel, piggyback reel and fleeting ramp. The ramp is designed to fleet over the width of the reel allowing product to be spooled on off accurately. The ramp can operate through 20 to 90° allowing product to be laid in both shallow and deep water. The ramp and reel are modular and can be lifted to / from the vessel in a single lift allowing the complete system to be mobbed/de-mobbed within 48 hours.

## Whatever your pipelay requirements, AmClyde Norson can provide the right solution for you

### Rigid Solutions

The vessel (at right) has a Pipelay System for rigid and flexible pipe with horizontal reel, spooling system and fixed position ramp. The spooling system maintains the tension at the reel to keep the product from slackening around the core. A horizontal reel keeps the lay system C of G low on the vessel allowing more products to be carried. The system is shown laying 6-in. flexible pipe.

With many years' experience in large turnkey projects we have the engineering expertise and project management skills to ensure you get the right equipment on schedule and within budget. This supported by our extensive service and after sales network ensures that you have total confidence in your equipment. We have successfully supplied equipment and systems into the pipelay market since 1989. All our equipment continues to work to this day proving its design and reliability.



Shown: 8" NB pipe on the reel



275Te S-lay Tensioner



S-lay barge with storage reel, 550Te tension capacity and deployment singer



J-lay system where prewelded pipe stalks (lengths) are lifted into the tower and field welded prior to laying

### Cable and Flex Lay Solutions

NOV provides lay systems for tube and hose umbilicals, power cables and other offshore and subsea products. Each system is designed to suit the product handling requirements or the lay vessel deck area.

Lay systems can be J-lay utilizing a tower or S-lay with a stern sheave or over boarding chute. The product can be stored on a horizontal reel, in a carousel or on a number of smaller vertical reels used in conjunction with standard reel drive systems. Shown on the right is a Power Cable and Umbilical Lay System with horizontal reel, fleeting spooling tower, compensator and deck tensioner. The fleeting spooling tower allows accurate loading /unloading of product to and from the reel. The compensator allows automatic speed matching between the reel and tensioner without the danger of system or product overload. The full equipment spread is modular and can be mobbed/de-mobbed to/from the vessel within 24/48 hours.

The lay system can be designed to handle standard offshore products or special one off materials. Capacity of the system can be tailored to the vessel size or the installation requirements. Systems can be provided as modular for vessels of convenience or as permanent equipment installations. Regenerated power can be supplied back into the vessels' power system to reduce operating costs or burned off on resistor banks.

### Tensioner Systems

Track type tensioners are used to provide the force needed to move a product from one area to another. In a product loading system the tensioner is used to pull the weight of the product from the quayside onto the vessel storage unit. Whereas, in pipelay operations tensioners are used to support the outboard weight of the pipe catenary between the vessel and the seabed.

Tensioners consist of a number of caterpillar type track units mounted on a common support structure. The tracks are powered against the product by hydraulic cylinders or similar, thus providing the grip force. The amount of grip force required is dependent on the friction coefficient between the product and the pad material on the tracks. The tracks can be driven by electric or hydraulic motors.

The Tensioner is mounted on a load measurement system that provides accurate information on the outboard lay tension. Typical pipelay systems monitor the outboard pipe tension as part of the lay process with feedback going to the lay speed setting or vessel DP system.

### Main features include:

- Tensioners are provided in 2, 3 or 4 track formats to suit project requirements; grip force is provided to suit a wide range of product applications
- Typical pad material is natural rubber to prevent product coating damage, however steel can be provided if required; operating speeds are provided to suit the lay application
- PLC control of grip force and payout speeds
- Large range of product diameters can be accommodated
- Grip force and track drive fail safe systems
- Single unit or in-series operational set-up options
- Large range of standard designs available to cover range of pipe diameters and tension capacity i.e. 1Te to 275Te
- Individual and conceptual designs also available

