

Rods & Wires

# Chevron Jansz-lo Gas Compression Project

Straightening, welding, and spooling  
16mm SDX strength elements

Enabling Cabling



Case study

[sea-reelgood.com](http://sea-reelgood.com)

Customer  
OneSubsea /  
Chevron

Location  
Western  
Australia,  
Offshore

Delivery schedule  
Q1-Q3 2024

Total quantity  
360,000m onto 59 reels

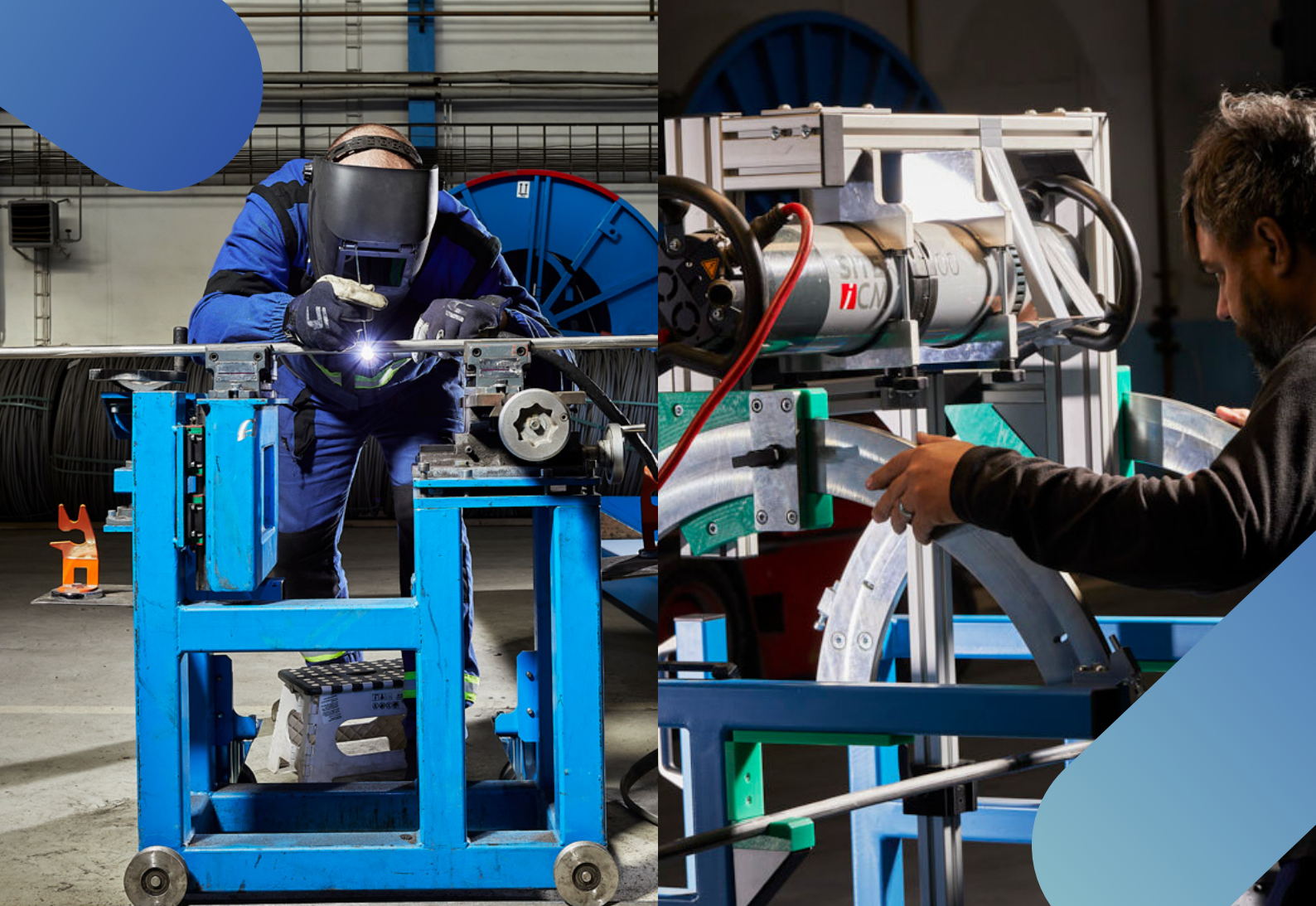
## summary

# Specialized manufacturing processes

The Jansz-Io umbilical project required processing over 360,000m of 16mm Super Duplex (SDX) 2507 stainless steel rods spooled onto 59 reels to be used as strength elements in the construction of static and dynamic umbilicals used to power up the subsea compressors and pumps being built by OneSubsea for the Chevron gas compression project offshore north western Australia.

In order to adhere to OneSubsea and Chevron technical and safety standards, the production process at SEA demanded strict control of product quality throughout the project lifecycle while executing specialized manufacturing processes.





## objective

# Significant reduction in the number of welds

To provide 6,273m of welded 16mm SDX rods per reel within client technical specifications so as to significantly reduce the number of welds required at the client facility during umbilical closure. The key requirements were to:

- Build 59x 2900m flange steel reels with polyurethane coating to guarantee protection of spooled SDX rods;
- Straighten factory supplied 16mm SDX 2507 coils;
- Provide continuous real-time measurements of rod OD every 90° with a tolerance of +/- 0.25mm;
- Join the SDX coils with full thickness welds and ensure weld quality inspection by X-ray in three positions;
- Spool 6,273m of welded sections of SDX rods onto 59 reels;
- Pack rods with porous film to protect against metal tarnishing;
- Transport the spooled rods to the clients facility in time for final umbilical closure.

## solution

# We manage all project stages, to ensure smooth project execution

A dedicated project management team was established to manage all project stages, to ensure smooth project execution and to liaise with the client.

SEA designed and built two spooling production lines specifically designed to meet stringent client quality standards. We processed the SDX rods on our custom built production lines designed for straightening, laser checking of OD, welding, non-destructive testing, and spooling.

The straightening elements were designed for Rm 1000 MPa rods with a pulling force of over 15 kN. During project start-up, the project management team decided to upgrade the pulley wheels in the straightening units and also added a fourth straightening unit to improve coil pulling force.

SEA developed a new welding procedure peer reviewed by the national authority; this procedure included an automatic timer for inter-layer cooling of welds.

Outside diameter (OD) was continuously measured at four points every 90°. The laser was linked to an automatic optical sensor so that the operator had a visual indication of rod OD quality. If the required OD limit was exceeded the spooling line automatically stopped so the out of tolerance section could be identified and cut out.

To prevent metal dust contamination of the spooled rods, SEA developed a streamlined process flow to ensure SDX rod cleanliness that included; initial purchase, rod transportation to our facility, protective coil storage, meticulous standards of facility cleanliness including vacuum suction while grinding. Finally, the spooled reels were covered with porous foil packaging designed to prevent metal sweating and potential tarnishing of the rods.

## results

# Enhance the overall operational efficiency

The strategic solutions implemented in the Jansz-Io umbilical project ensured not only compliance with critical specifications and quality requirements but also enhanced the overall operational efficiency of the spooling lines.

By managing the transport of the finished product direct to the client using our own vehicles SEA was able to provide safe and timely delivery to ensure umbilical closure could take place on time.

This approach guaranteed the delivery of a high-quality product on schedule and within budget, bolstering client satisfaction and helping them maintain a competitive edge in the umbilical market.



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Assessed  
Organisation



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