

Reels & Drums

Mammoet Offshore Solutions pipe pulling operations

To design and manufacture custom reels designed to spool heavy duty wire cable.

Enabling Cabling



Case study

sea-reelgood.com

Customer
Mammoet

Location
Worldwide

Delivery schedule
Q4 2025

Total quantity
4 Reels

summary

Design, manufacturing, and delivery of steel reels

Mammoet combines engineering design, specialist equipment and controlled pulling systems to move long heavy pipes, risers, umbilicals and similar structures. Their process generally includes: planning, engineered solution design, mobilization of equipment on a vessel or barge, controlled pulling/load-in, monitoring and coordination with the wider project schedule.

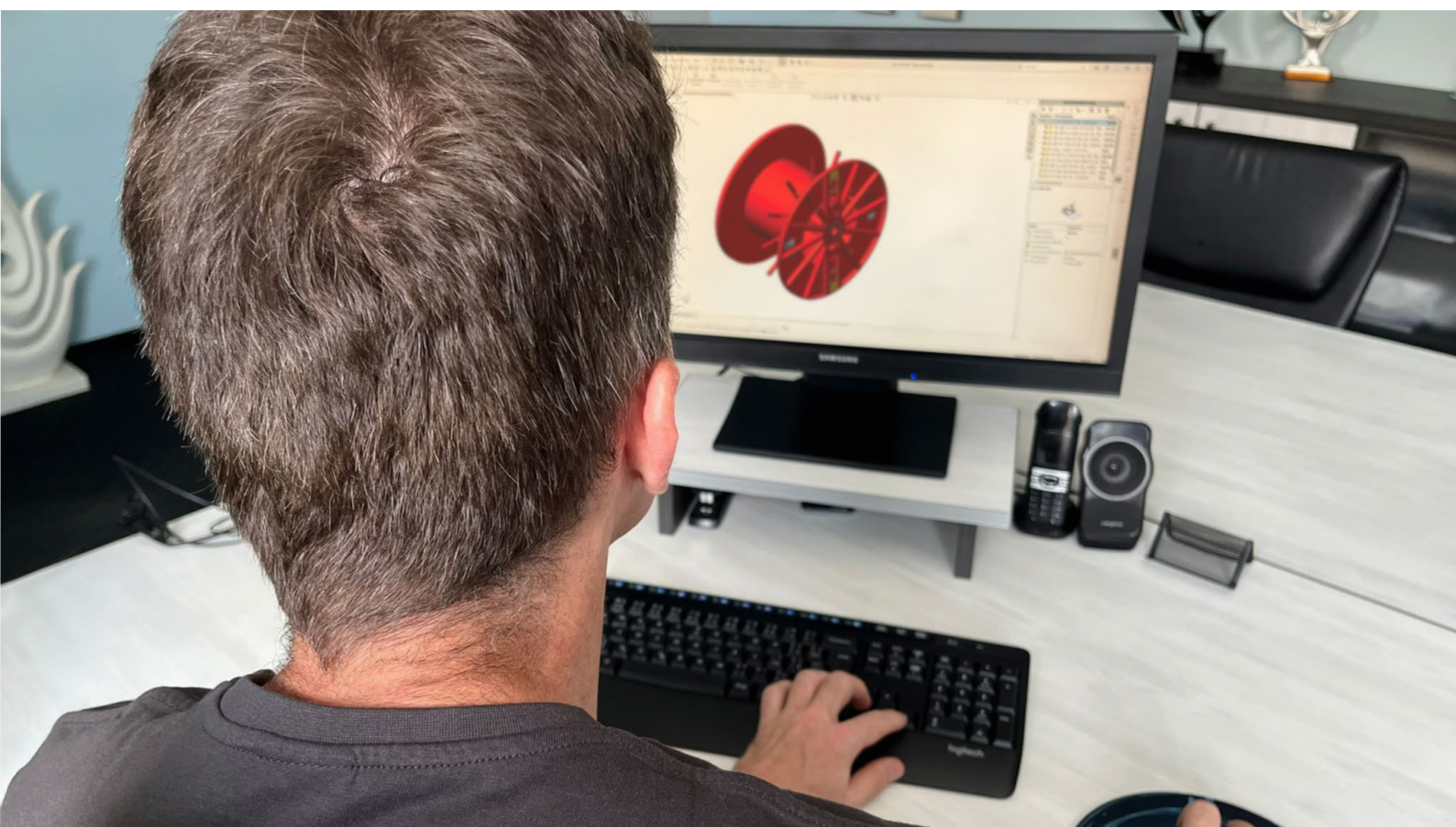
Mammoet won a contract to pull a pipeline offshore Soyo in Angola. Heavy duty wire cables are spooled onto reels which are then mounted in hydraulically driven winches. These winches apply a controlled pulling force measured in meters per minute, enabling steady pull-in of heavy subsea lines or pipe strings and minimizing stoppages.

Once the plan and equipment are in place, winches/strand jacks are rigged to the pipe/riser and anchored appropriately. Pulling begins gradually with careful tension control. Loads are monitored in real time to avoid overstress on the pipe, structure or winch gear. Socket passing or drum changeovers

may be executed while still maintaining tension and reducing downtime during long pulls. The team adapts pulling speed and force to conditions (e.g., vessel movement, seabed friction), ensuring safe final placement. Pipe pulling is good in tight or complex layouts and crucially is significantly cheaper than using expensive offshore cranes.

In offshore projects, such techniques allow pipelines, risers and umbilicals to be pulled quickly to reduce lay vessel idle time and accelerate production start-up.

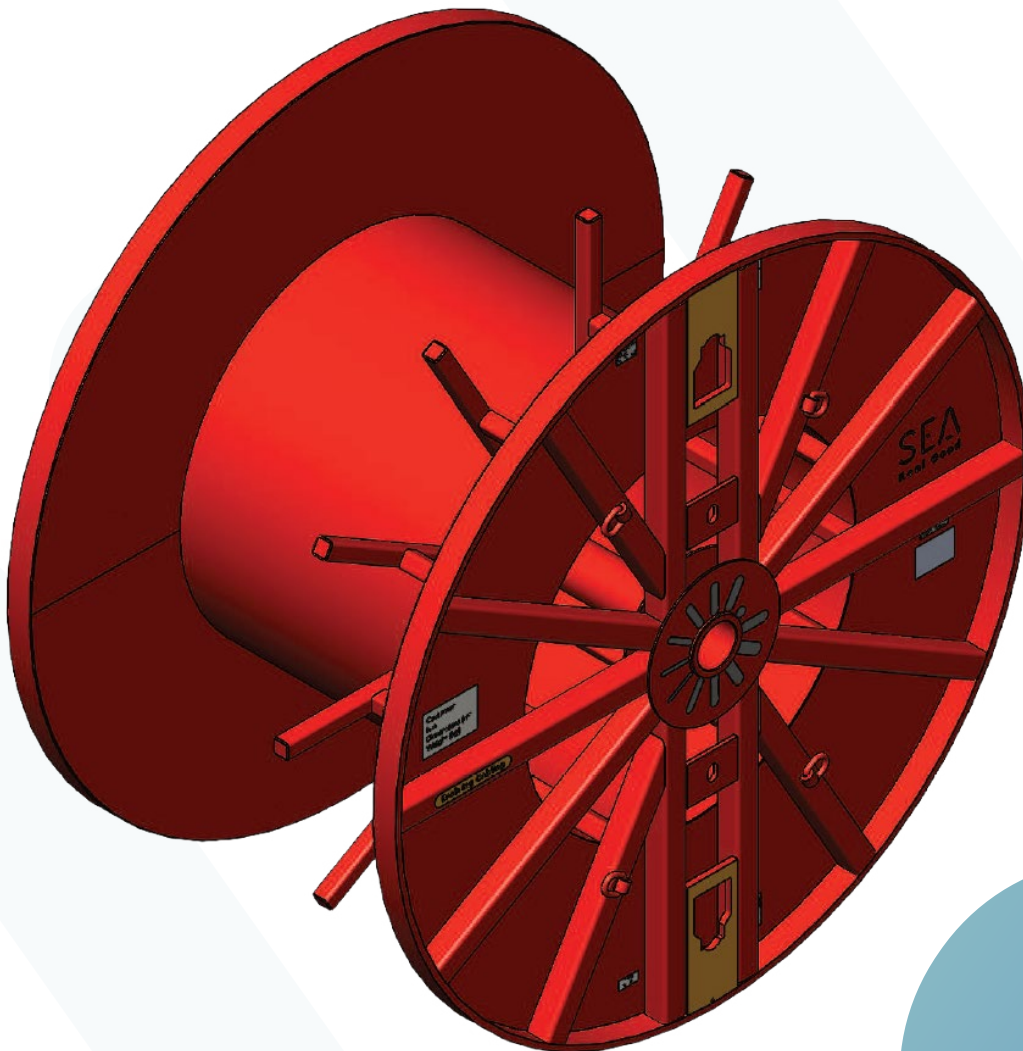
In June 2025, Mammoet contracted SEA to design and manufacture four steel reels and cradles. The customer required expedited project turnaround to the Netherlands to meet the departure date of the vessel chartered to carry all the Mammoet equipment down to Angola ready for mobilization during Q4 2025.



To manufacture reels with a rapid turnaround to be used for spooling thick wire rope

Key requirements:

- Design the drum with a spliter partition to separate the cable and pulling socket;
- Verify the reel design with Solidworks® FEM delivering a stress analysis for all use scenarios;
- Manufacture and deliver 4x 3400mm flange steel reels including cradles;
- Reel to be designed for horizontal spooling/re-spooling only;
- Reels capable of spooling 650m of 117.6mm cable;
- Welds according to EN ISO 5817-C.
- Lifting pockets to be MPI tested and painted yellow;
- Paint reels in RAL red 3020 and verify with DFT;
- Coat the drum and inner flanges with 2µm PU coating;
- Provide customers with a full manufacturing documentation package for each reel;
- To deliver the four reels by the end of July to the customer facility in Westerdorpe, Netherlands.



The successful on-time delivery of four steel reels to the customer

Reels were manufactured at our expert supplier, optimum project planning of the production process by SEA was vital to ensure there was no delay during manufacturing.

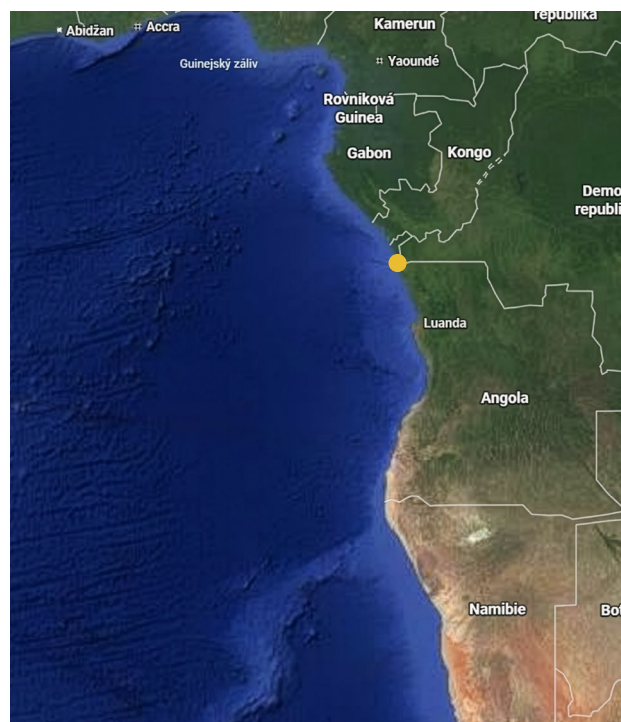
SEA paid particular attention to relationship management and kept our customer informed about manufacturing progress at all stages of the project.

The customer required that the reels were painted according to corrosion class C4. This required painting with controlled temperature and humidity ranges with 24 hours curing time between the two Hempel paint coats. DFT quality control was performed on all reels and cradles to verify paint thickness.

Prior to transportation, the SEA logistics department expedited all customs documentation. This helped ensure the four reels were delivered on time to the customer terminal in the Netherlands where Mammoet were consolidating all their equipment prior to the arrival of the vessel scheduled to transport the complete package to Angola.

As the transport was taking place, the required technical documentation for each reel including, MRB, Painting Application Protocols etc., were made available to the customer digitally via our online document portal BrandCloud.

Map of operations



One of the SEA reels being lifted into the spooling apparatus



To manufacture steel reels to be used in pipe pulling operations

Mammoet use state-of-the-art 800t linear winches that are unique to the industry and allow socket passing under load. They also use smaller linear winches ranging in capacity between 100t and 300t mounted with steel reels spooled with thick wire rope.

Due to the required rapid turn-around requirements of the project, efficient project management was critical. To speed up manufacturing the Mammoet reels were manufactured by our nearby specialist supplier with expert welders qualified according to ISO 9606-1:2012. NDT of the welds was performed by qualified and certified personnel.

Prior to painting and coating, the reel dimensions were measured by a 3D scanner against the customer's dimensional requirements detailed in the ITP.

The completed reels and cradles were then painted with two types of Hempel paint with a total NDFT of 240µm. The paint thickness was then verified by DFT.

The MRB documentation was produced and sent to the customer for review.

After FAT the reels were released for delivery to the customer using SEA trucks and expert drivers to safely deliver the Mammoet shipping terminal.

Reel characteristics:

Reel details	Values
Reel quantity	4
Cradle quantity	4
Spelter Partition spokes	2
Steel grade	S355JR
Flange diameter (mm)	3400
Barrel diameter (mm)	1800
Internal width (mm)	2130
Sprocket design	2 Pin 1000mm from PCD
Spelter partition (mm)	500
Cable diameter	117.6mm
Max reel load (kg)	61,000
Cradle payload (kg)	65,000
Corrosion class	C4
Color (Reels)	RAL Red 3020
PU coating	2.0 mm polyurethane coat on inner flanges and barrel
Paint system (Reels)	Hempel Hempaprime Multi 500 180µm; Hempathane HS 55610 60µm – total NDFT 240µm; corrosion category C4(h), RAL 3020 Red semi-gloss.



SEA[®]
Reel Good

Natural Strength Inspired by SEA

sea-reelgood.com

contact us for cost effective solutions
sales@sea-reelgood.com

0126-01



ISO:

9001:2015, 14001:2015, 45001:2018, 17020:2012,
17025:2017, 3842-2:2005