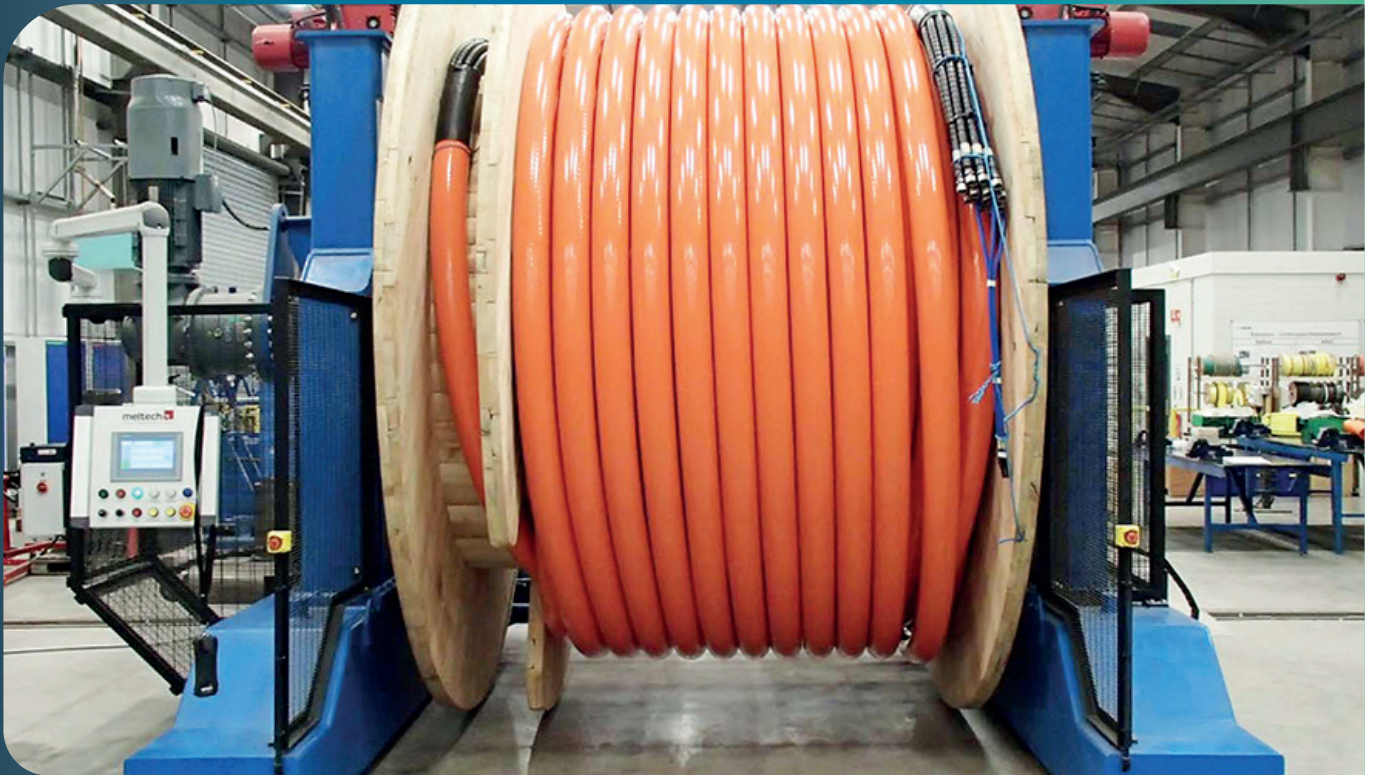


CASE STUDY



Cape Holland – Pile Driving Umbilical

CUSTOMER

Cape Holland

LOCATION

Shah Deniz Project - Caspian Sea

CUSTOMER REQUIREMENT

300m electro-hydraulic umbilical suitable for use with the Vibro Lifting Tool, requiring a minimum of 8 hydraulic lines (WP 350bar) and 24 conductors capable of carrying 24V signal. Also, short lead-time and handling requirements needed to be taken into consideration.

HYDRASUN SOLUTION

Design, manufacture and supply of electro-hydraulic umbilical with 12 x 3/4" ID hydraulic hoses with a working pressure of 345bar and 3 x 8-core electrical cables with tensile strength reinforcement.

BENEFITS

- Engineering Design
- Short Delivery Lead Time
- Project Management
- Flexibility of Manufacturing



Customer		Cape Holland		Description		300m Electro Hydraulic Umbilical		Job No		EP1509295	
PACKAGING TYPE		DRUM		SHIPPING WEIGHT		= Umbilical + Fluid + DRUM		6,196		(kg)	
NET WEIGHT Umbilical+Fluid (NO) DRUM		3,957		Umbilical / Metre Net Weight		13.19				kg/m	
Submerged Weight c/w Fluid in Seawater		-451		Tall Length END 1 (m)		1		Tall Length END 2 (m)		1	
Mechanical Termination		NO		Mechanical Termination		NO		Braid Softener Braid Restrictor		NO	
PRESSURE TEST FACTOR		1.5		TEST DURATION		15 min		FLUSHING STANDARD		NO FLUSHING REQD	
UMBIICAL TYPE	DYNAMIC	JACKET MATL	EXTRUDED PU	JACKET COLOUR	ORANGE	STRENGTH MEMBER	ARAMID BRAID	SWL	5	Tonne	
Umbilical O/A Length (m)	300	Bundle O/D (mm)	125	Jacket O/D (mm)	145	M.B.R. STATIC	870	mm	M.B.R. DYNAMIC	1305	mm



BACKGROUND

Cape Holland is a construction and pile equipment company based in the Netherlands.

One of their key products is the Cape Vibro Lifting Tool (VLT) which is used for a number of purposes including:

- Monopile installation
- Jacket pile installation
- Decommissioning activities

CUSTOMER REQUIREMENT

Cape was contracted by BP to install jacket piles on the Shah Deniz project in the Caspian Region. In usual circumstances the operation of the Cape VLT would include the use of a bundle of rubber hydraulic hoses and electrical cables, consisting of numerous lengths joined together to achieve the desired length for the project application.

In this instance the Shah Deniz project required a bundle length of 300m and BP recommended Cape use a fully encapsulated umbilical with load-bearing properties.

Cape contacted Hydrasun and initially requested an umbilical with a minimum of 8 x hydraulic lines with working pressure of 350bar and 24 conductors capable of carrying a 24V signal to operate the system. They also requested that the umbilical should have an outside diameter as small as possible to minimise the handling equipment required and to facilitate transportation across Europe by road freight.

The umbilical needed to be manufactured, testing and delivered to Holland within a six-week period.

HYDRASUN SOLUTION

Hydrasun engineers carried out several design analyses before agreeing on the optimum solution that would meet all of Cape's requirements. The final design comprised 12 x 3/4" ID hydraulic hoses with a working pressure of 345bar and 3 x 8-core electrical cables with tensile strength reinforcement.

THE RESULT

The final design ensured that the umbilical not only met the electrical, hydraulic and mechanical properties required for the project but that it was also suitable for integration with Cape's handling equipment.

Hydrasun was able to manufacture and deliver the umbilical within the tight delivery deadline allowing Cape to transport the umbilical and other equipment to the Caspian region in time to carry out their piling operations.

The piling operations had been estimated to take 12 days, however due to the successful use of the VLT and the electro-hydraulic umbilical supplied by Hydrasun, the operation took only 4 days. BP was delighted with the outcome and commented on the quality and handling advantages of the system using the umbilical rather than the usual bundle of rubber hoses and cables.

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