

# CASE STUDY

Innovative Casing Running Tool Low-Marking Dies Enables Record Chrome Liner Run

## The Objective

- Successfully handle and run 13% Cr pipe with minimal marking and no iron contamination to eliminate potential downhole failure.
- Promote long-term tubular integrity in a Middle East offshore well with production formations containing H<sub>2</sub>S and other corrosive fluids.
- Improve overall rig safety by eliminating the TRS crew as well as the use of full-capacity elevators, stabbing board and other hazardous casing running equipment.
- Exceed requirements of ISO 13680 (API 5CRA), which limits depth of surface markings to the greater of 0.30 mm (0.012 in.) or 5% of wall thickness.

## The Delivery

- As an alternative to traditional methods for running CRA casing with power tongs and grit-coated dies, the operator elected to use the Volant CRTe<sup>®</sup> external-grip casing running tool with non-ferrous low-marking dies\*, coupled with a MSVe<sup>™</sup> Mudsaver Valve, FCT<sup>™</sup> Float Cushion Sub Tool and a Wireless Torque-Turn Sub for the run.
- Using the Volant system, the rig crew successfully installed a 7,600 m string of 13% Cr liner in an extended-reach well.
- The CRTe allowed the driller to make up connections and alleviate the need for TRS crew members on the rig floor.
- The low-marking dies provided reliable pipe grip under heavy hoist loads and high torques with no slippage and minimal marking.

## The Value

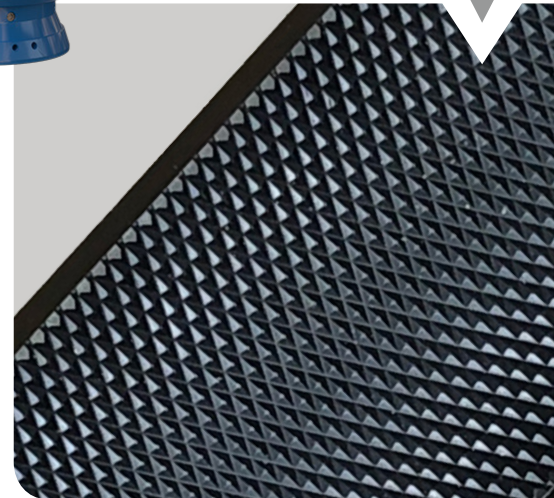
- The integrated tool package enabled a successful run, installing the full length of liner with no slippage and no makeup rejects, while meeting the operator's expectations for targeted running speeds.
- No iron contamination detected.
- Maximum observed die mark depth of 0.15 mm (0.006 in.) was significantly less than permitted by ISO 13680 (API 5CRA).
- The operator highly appreciated the safety benefit of removing personnel from the rig floor and the operational benefits of filling on the fly and the ability to circulate on-demand at any top drive position.

## Highlights

- Middle East Production Formation
- Extended Reach Well
- Approx. 7,600 m (25,000 ft) of 6-5/8" 24 ppf 13% Cr liner
- Fluid circulated at pressures up to 21 MPa (3,000 psi)
- All connections made up with no slippage and no rejects

## Technology

- CRTe-1.0 external-grip casing running tool  
Hoist capacity: 454,000 kg (500 tons)  
Pressure rating: 34.5 MPa (5,000 psi)
- Float Cushion Sub Tool
- Mudsaver Valve
- Non-ferrous Low-marking Dies\*



Doing more with less.

\*Patent pending

