CASE STUDY | SHD | OFFSHORE

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PROVEN RELIABILITY AFTER MULTIPLE RUNS – HOW CENTEK CENTRALIZERS AND STOP COLLARS PERFORMED UNDER EXTREME CONDITIONS

Region: North Sea **Country:** Norway

Engineering components are often selected based on their performance in ideal operating conditions. The true measure of reliability, however, is how equipment performs after repeated exposure to challenging real-world environments.

This North Sea well construction project provided an exceptional test of durability for Centek SHD centralizers and the holding force of Centek 00SO stop collars. Throughout the operation, the centralizers and stop collars were run, retrieved, and re-run multiple times while being exposed to severe downhole conditions, significant casing loads, and wellbore restrictions.

Despite these demanding circumstances, the centralizers remained securely in place and operational, contributing to the successful installation and cementing of the production casing.

Multiple pull-outs. Zero failures.

THE CHALLENGE

The production casing string encountered a series of operational challenges before final installation. Changing well conditions required the casing to be pulled and re-run multiple times, exposing the same set of centralizers to repeated deployment cycles.

Over the course of the project, the Centek SHD centralizers and 00SO stop collars experienced:

- Multiple separate running cycles
- Multiple retrieval and redeployment operations
- Exposure to pack-offs and restricted hole sections
- Significant mechanical loading during casing installation
- Extended service well beyond that of a conventional single-run application

These conditions created an ideal opportunity to evaluate the robustness of Centek's product design under prolonged and repeated use.

Following multiple running cycles, some of the centralizers showed evidence of limited deformation consistent with repeated exposure to high loads and restrictive wellbore conditions. However, this did not compromise the critical performance requirements of the equipment.

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THE SOLUTION

Centek SHD centralizers and 00SO stop collars were used to support the production casing installation in a demanding North Sea well construction environment.

Throughout the operation, the centralizers remained securely positioned on the casing, supported by the holding force of the 00SO stop collars, and continued to perform their primary mechanical function despite repeated deployment, retrieval, and exposure to challenging downhole conditions.

This distinction is important. While cosmetic or dimensional changes can occur when equipment is subjected to repeated loading, maintaining structural integrity, retention capability, and functional performance is often the most critical measure of field reliability.

From an engineering perspective, the project demonstrated an important principle:

Deformation does not necessarily equal failure.

In demanding applications, the ability of a component to maintain its integrity, remain securely positioned, and continue performing its intended function is often the most meaningful measure of reliability.

> “Centek SHD centralizers were run and pulled out multiple times without breaking or falling into the hole. The stop collars held in place.”
>
> Client feedback

THE RESULT

The final casing run encountered pack-offs and restrictions in the lower section of the well, requiring the casing string to be worked carefully to total depth. Despite these challenges, the casing was successfully installed and cemented.

The centralizers continued to deliver against the most important field performance indicators:

- No centralizer failures
- No centralizers detached from the casing
- No stop collar movement
- No equipment lost downhole
- Successful casing installation

Subsequent cement evaluation confirmed the presence of a competent cement barrier, demonstrating that the centralization system remained operationally effective even after extensive reuse and exposure to severe service conditions.

The successful outcome highlights the ability of Centek SHD centralizers to continue functioning after conditions that would test the limits of many downhole mechanical components.

For operators seeking confidence in challenging environments, this project demonstrates the durability and robustness that can be achieved through proven centralizer design, helping the operator avoid NPT.

POOH Casing: Following pull-out, the Centek centralizers and stop collars were inspected and found to be intact on the casing. The stop collars had held position, while the centralizer bows retained their formed profile, helping preserve the geometry required to deliver standoff in the wellbore.