

Brazil: DURAFLO screens help shed the pounds off of the competitor shaker



The Situation

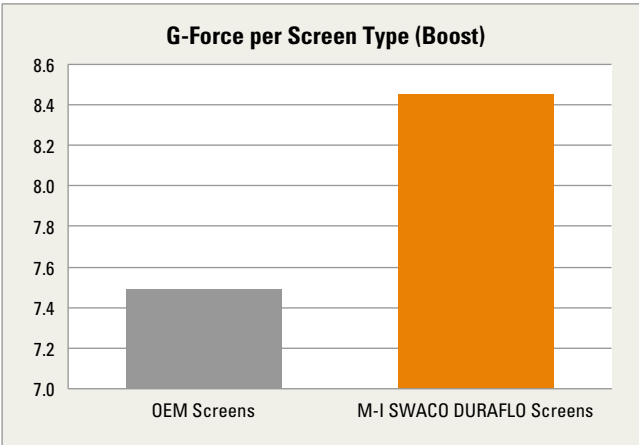
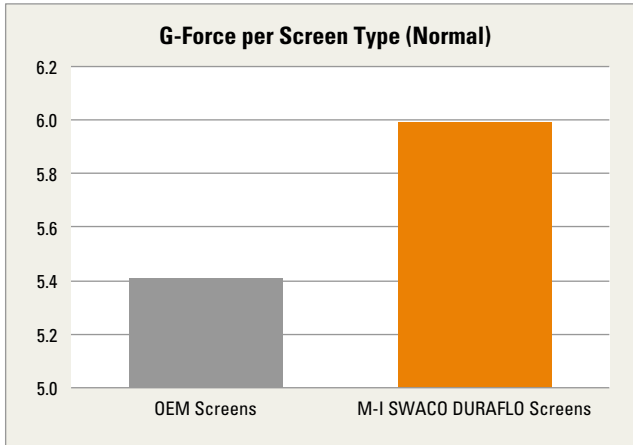
A major oil company, while drilling a deepwater well off Brazil, on a late model drillship experienced numerous issues with flow capacity on the six installed competitor shakers. A comparative performance trial was planned for the next well with this operator in order to demonstrate the differences between the DURAFLO* screens and the OEM. But due to issues retrieving OEM screens from customs, the operator requested that M-I SWACO supply the screen inventory for the test for normal operations. M-I SWACO agreed and quickly shipped the DURAFLO screens to the rig to assist the customer.

The Solution

A basic field trial was quickly organized to compare the performance of the M-I SWACO DURAFLO composite screens with the OEM screens. The quick reaction time of the M-I SWACO Brazil team to deliver the screens and to provide technicians to install the screens demonstrated their commitment to the client.

The DURAFLO composite screens are engineered with a polymer frame and steel reinforcing structure, with a gasket made of a softer material that is co molded onto the leading edge of the frame. This design provides a soft but durable seal between the shaker and the screens and between the screens themselves, thereby helping to eliminate bypass at the metal-to-metal contact of the screens the industry has used previously. Aside from the reduced time for mud clean-up and improved sealing of DURAFLO screens as a replacement for the existing competitor OEM screens, they also deliver significant weight advantages. While utilizing the DURAFLO screen design, the actual vibrating mass of the competitor shaker was reduced by 452 lb (205 kg), which increased the average G-force from 5.41 to 5.99 g. The 10% gain in force significantly increases the conveyance ability of cuttings, especially at the steep (nonadjustable) deck angle design of the competitor shaker.

While receiving the same flow and utilizing the same API screens (API 140), the cuttings that discharged from the DURAFLO screens were very consistent along the width of the screens. The flat geometry of the DURAFLO screen permits even discard compared to the crowned (convex) design of the OEM, which directs the conveyance path to channel along the screen edges. The visual performance advantages of the DURAFLO screens were obvious to the rig management, who then requested the technician to install DURAFLO screens on two other shakers.



The Results

The operator reported no issues with the time or effort required to remove the trays of the competitor shakers and replace the competitor OEM screens with the DURAFLO composite screens. The DURAFLO screens were shown to meet or exceed API equivalent-size OEM screens in handling capacity as well as solids-control removal efficiency. During basic comparison testing the total flow rate of approximately 1,150 gpm (includes riser boost flow) was able to be processed over two shakers with DURAFLO screens but required three OEM dressed shakers to handle the same capacity. The DURAFLO screens were primarily utilized once they were installed, and within 28 hours of installation the sand content decreased from 0.5% to .35%, a 30% reduction in a short amount of circulating time.

This, along with other field trials in Asia, Africa, and the Gulf of Mexico further prove the advantage that our DURAFLO replacement screens continue to offer operators a clear advantage and operational cost savings.



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