CONSLOT®
SCREENS DEVELOPMENT & TRADING

Gas–Sand Erosion Test (GSET) – Successful test at ≥ 150 ft/s

Demonstration and continuous improvement of the erosion resistance of our coated **FormationLink-Ceramic®** screens under compressed air flow, with a focus on high flow velocities.

FormationLink-Ceramic®

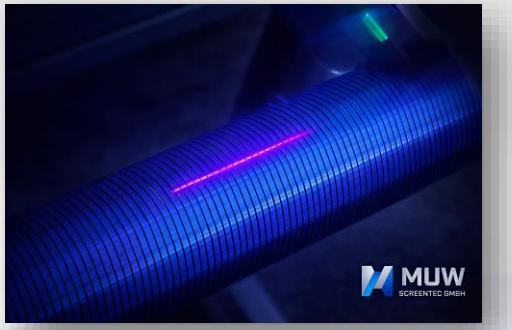
FormationLink-Ceramic sand screens offer an innovative solution for sand control in challenging wells. The combination of a multi-layer coating and a robust stainless-steel construction ensures exceptional resistance to erosion. The ideal sand screen for high sand rate and high production well environments.

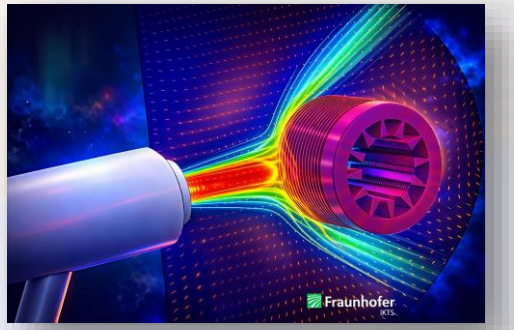
Internal test – development & optimization

During the development and optimization of the coating, erosion resistance was investigated using an internal test set-up. The setup is based on the work described in SPE-191942. A compressed air flow is used to accelerate particles in a controlled manner towards screen samples.

Measurement and evaluation

- Mass loss is the primary parameter to assess erosion. It is measured using a high-precision balance.
- Increase in slot width (measured using an in-house laser measurement system, developed by MUW Screentec GmbH) as the critical criterion for screen functionality.
- Precision pressure gauges are used to accurately measure and reproduce flow conditions and velocities.
- Calibration of air flow / particle velocity is done using a specialized high-speed camera over an extended period. This is a complex, time- and cost-intensive step required to determine particle velocity with the highest possible accuracy.
- A simulation of the test conditions was performed by Fraunhofer IKTS Hermsdorf, as an additional validation of the experimental conditions.





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Representative samples

Creating a representative test environment was considered paramount during the development of the test procedure. To reflect realistic operating conditions, cylindrical screen samples were chosen over coupons.

External validation – Universiti Teknologi Petronas (UTP), Malaysia

After internal qualification, samples with the final coating were sent to Universiti Teknologi Petronas (UTP), Department of Petroleum Engineering (Malaysia). The objective was to validate the internal results and to provide independent proof of erosion resistance.

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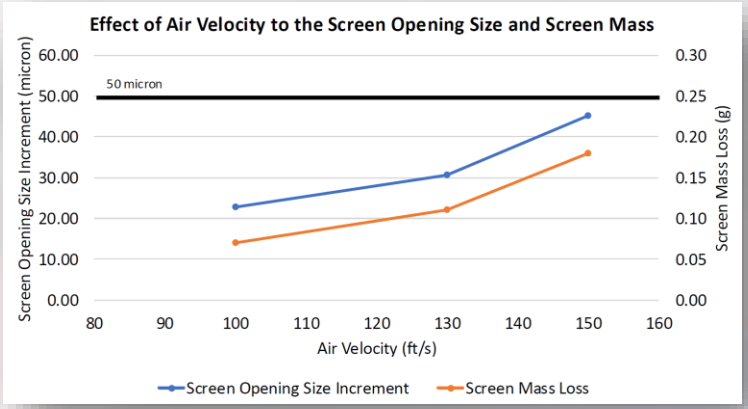
Pass/Failure criterion

A screen sample has passed the test if the slot width doesn't increase more than 50 µm over a duration of 48h hours.



Result (2nd generation coating)

Based on this criterion, the results qualify the screens for flow velocities of up to 150 ft/s. This is an improvement of 100% over the already successful first generation.

Outlook

Development of the 3rd generation is currently underway, with the clear objective of extending the qualification to > 200 ft/s.

We were proud to host Mr Ir. Dr Mohd Azuwan Maoinser, PEng (UTP) in September 2025 at our facilities in Germany. He personally presented the outstanding results to us and we discussed possibilities for future collaboration.

Our new roll-up banner is on display at Universiti Teknologi Petronas (UTP) in Malaysia.