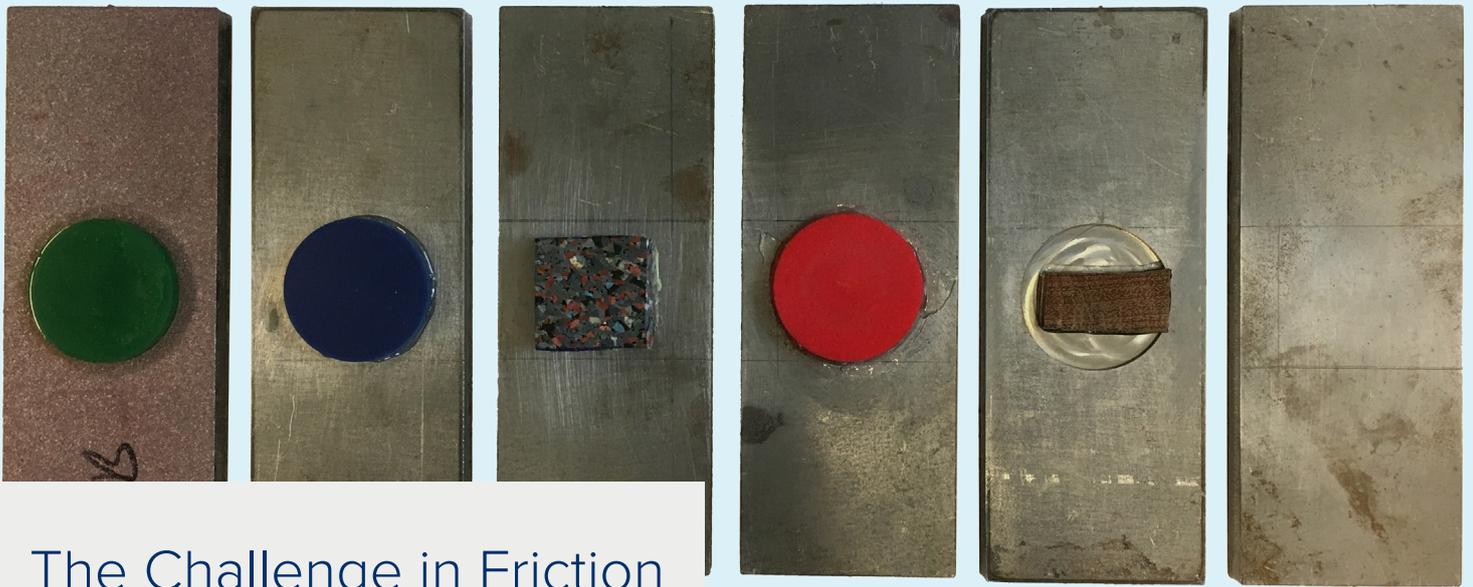


Friction Testing

Increase operational safety and prevent oversized structures with **accurate friction measurements**





The Challenge in Friction

In the offshore industry, friction is widely used in seafastening designs to secure heavy cargo. Unfortunately, the friction's magnitude is commonly decided based on design codes containing generic values. The exact material combination and specific transport situation are rarely considered. Too conservative values could often result in oversized structures; on the other hand, too optimistic values could also result in undesired motions or even loss of the heavy cargo.

TWD Innovation

At TWD, we developed a friction test set-up that can simulate specific project conditions. With ready-to-use test facilities, we can provide quick results and eliminate all friction coefficient related uncertainty. By simulating and measuring the project situation, we determine the friction value and bring assurance to the project.

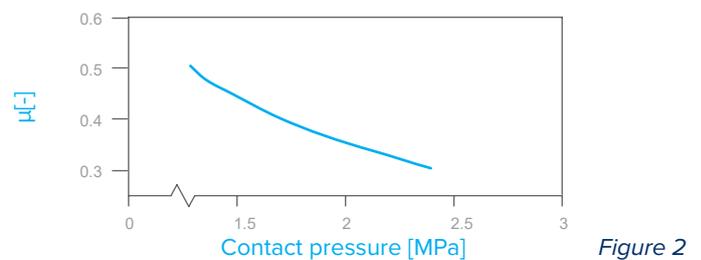
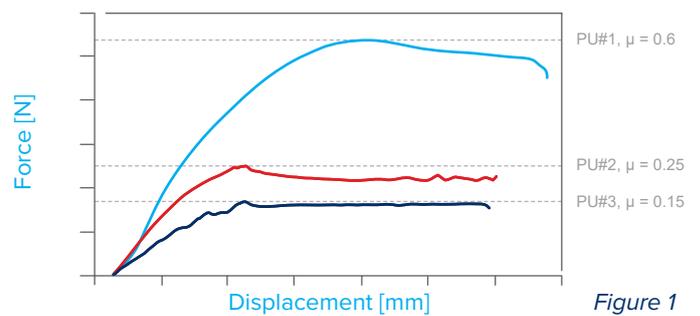
How does the test work

We designed a novel clamping set-up to measure the friction coefficient. In this set-up, we place the test samples and measure the clamp and pull force. With these measurements, the static friction coefficient is determined. Our testing method has been approved by DNV-GL, which means that we can deliver full certified test results.

In the figures below are some examples from our measurements revealing the high uncertainty of the friction coefficient for different materials. The commonly used poly urethane materials in seafastening design were tested under the same (fig. 1) and changing loading conditions (fig. 2).

Below are some common test specifications we apply:

- **Loading conditions:** 1 – 10 mpa
- **Material combinations:** steel, coated steel, poly urethane, wood
- **Environmental conditions:** wet, dry, salt, ice



Benefits of Working with TWD

- Increased safety
- Cost-effective designs
- Your project specific conditions tested and applied
- Quick results
- Fully certified test

