

# VIV Fairings



## Lankhorst VIV Fairings

Cylindrical structures, such as free-standing riser pipes interact with seawater and shed Karman vortex sheets. If the vortex shedding frequency is close to the cylinder's natural frequency, the structure will start to oscillate, or vibrate.

The VIV oscillations of submerged pipes are known to increase drag and may lead to structural fatigue. One proven means of suppressing this vibration while reducing drag is the use of fairings, which streamlines the flow around the pipe.

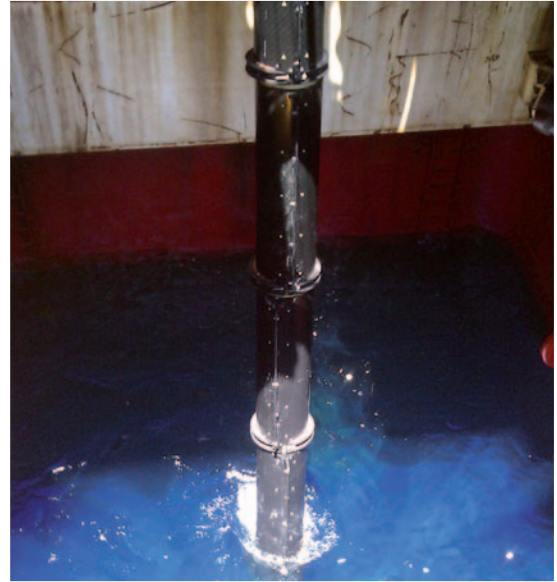
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### Lankhorst Fairings

As an alternative to VIV strakes, VIV fairings can also be considered as an option.

Lankhorst fairings are typically recognized for their teardrop shaped body and rigid collars and are designed under a licence acquired from Shell Global Solutions. Fairings are available in a range of sizes suitable for everything from a 6-inch umbilical to a 56-inch drilling riser.

The typical Lankhorst fairing will deliver a suppression efficiency that is well beyond the generally required 90% compared to bare pipe whilst at the same time also reducing the drag.



### Optimized for installation

Lankhorst fairings have been designed with a clear picture of the main client objectives on ease and speed of installation.

Fairings can be provided in a kit packed form via shipping containers, whereby every container contains a specific quantity of fairings, along with the appropriate number of supporting collars and fasteners, making installation logistics simple.



## References

Projects all over the world have been executed, where fairings have been delivered for production risers, flowlines and drilling risers.

Examples of recent projects are:

- Shell Mars and Auger TLPs retrofit in Gulf of Mexico
- Shell BC-10 in Brazil
- Shell Gumusut in Malaysia
- Statoil Gullfaks in North Sea

And many others. A full reference list is available upon request.



## Lankhorst Mouldings Offshore

Lankhorst Mouldings Offshore have a proven track record in providing the offshore industry with innovative polymer based technical solutions that stand the test of time. Lankhorst Mouldings has for over 30 years been producing products using our unique thick-walled plastic moulding technology. We can supply high-performance innovatively engineered products to

meet the demands of the offshore industry. Lankhorst Mouldings products utilize field proven technology and experience to provide superior technical solutions. The company's technical solutions are designed not only to meet the customers' requirements, but are also foreseen to be used again and again.



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### Additional features

Lankhorst fairings can be delivered with additional features, such as:

- Self-adjusting spring collar for thick insulation coatings that show shrinkage or creep under hydrostatic pressure
- Anti-fouling system for areas where there is normally known to be marine growth
- UV stabilization, in case VIV fairings will be stored outside in the sun for an extended period

