

Experience from the North Sea

Since the childhood of the offshore industry it has been standard practise only to use steel pipes and fittings on drilling rigs and production platforms.

A new era has dawned in the North Sea. Seven years ago one of the major operators started using pipes and fittings made from plastic – polyethylene (PE) or polypropylene (PP).

The first installations took place in non essential areas, but today PE and PP have taken over in all sections of rigs and permanent installations in the North Sea.

Plastic pipes and fittings can be used almost everywhere on rigs and installations, and they are supplied in all dimensions and pressure tested up to 16 bars.



Jobs carried out offshore or at construction yards:

- replacement of cooling pipes of main engine
- replacement of drain under drillfloor
- fitting of washing-down system under drillfloor
- replacement of vacuum pipes for toilets
- replacement of mud pump line under pitt tanks
- replacement of drain under main deck
- replacement of cooling pipes under main deck
- replacement of drain under cantilever
- replacement of drain in shakerhouse
- replacement and redesign of slurry pipes
- replacement of cold and warm water installations in accommodation
- replacement of sea water pipes for toilets

The advantages from using PE and PP pipes are numerous:

- the weight is significantly reduced
- no corrosion – long life
- maximum flow
- no open fire or welding
- no risk of vibration cracks
- stand exposure to rough environments
- maintains shape when temperatures change
- fast installation reducing downtime
- most competitive cost



Approvals and tests

Upon completion all installations are tested and approved by recognised certification agencies in the prescribed way.

All PE and PP installations are approved by leading certification agencies like e.g. Lloyds Register and DNV.

VTT Technical Research Centre of Finland has carried out L3 fire endurance test of the pipes and fittings.



Where do we work?

Our experienced teams are ready to scramble for jobs worldwide at short notice.

We work offshore or onshore when your rig is calling at a yard.

We have solid experience from mobile platforms as well as stationary installations.



Cases:

Maersk Endeavour

What:

- Sea water cooling pipes internally in diesel engines
- Sections of sea water cooling pipes in brake cooling water pipes
- Sections of the Mud Mixing system

Why:

Plastic was chosen for the engines as the steel pipes originally installed on the new Caterpillar 3516c constantly cracked due to heavy vibrations from the engine.

After replacing the steel pipes with plastic pipes no further problems were encountered!

Plastic pipes were chosen for the brake cooling water and mud mixing system in order to reduce weight and due to their fast and easy installation.

Replacement with conventional steel pipes was ruled out as the rig was engaged in a drilling operation not allowing hotwork or downtime. The flexibility of the plastic and the use of slip flanges meant, however, that the pipes could be pre-measured, manufactured onshore and installed using normal hand tools.

No downtime and no hot work permit required!



Maersk Guardian

What:

- Entire sea water cooling system

Why:

On the Guardian not enough cooling water could pass through to the various machinery.

The system had been acidized a few times, but as the condition of the piping called for risks of leaks it was decided to replace the pipes entirely.

Plastic pipes were chosen for two reasons:

1. Installation time
 - the entire piping system of the Engine Room was replaced and old piping removed within a fortnight.
2. Less growth can be expected in plastic pipes, and any growth would be easy to flush out as plastic pipes are resistant to acids.

After replacement no growth has appeared in the new pipes.

Previously, strainers frequently had to be cleaned for sea shells, till now no shells have been found in strainers. Consequently, no anti-fouling system is needed for the system.



Who are we?

E.Skov Jørgensen is a more than 50 years old, Danish company

Originally, we were a traditional plumber, but the growing offshore industry in the North Sea provided us with a solid expertise concerning of the needs and requirements of the operators.

Our main office is situated in the Danish centre of the oil and gas activities, Esbjerg, where we have been working with PE and PP systems offshore for more than ten years – primarily serving the oil companies and the contractors in the North Sea.



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It's Plastic!

**PE and PP pipes and fittings
for the Offshore Industry**

