

# Solutions for the Offshore Industry

Polyurethane for pipeline  
protection & insulation

# Pipeline protection...

Continuous performance under pressure demands innovation and unique products. BASF offers a wide range of Polyurethane Solutions for offshore applications which work smoothly and reliably under the most extreme conditions.



## ...with Polyurethane Solutions

**Elastoshore® GSPU** products are perfect for the wet insulation of deep and ultra-deep flowlines along with subsea structures. Elastoshore GSPU employs the use of BASF ZEROHg™ technology. This mercury-free, high performance material is reliable under the extreme stress and temperatures of the deep sea. BASF Elastoshore is the record holder for the deepest use of GSPU at depths over 2900m.

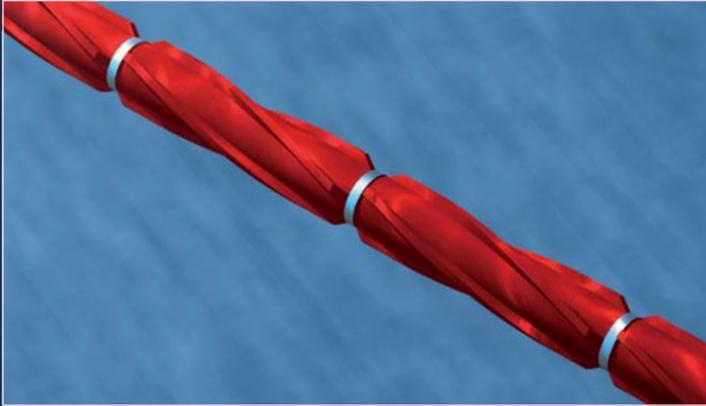
**Elastoshore** field joints ensure stable protection and insulation of pipeline welds. They offer excellent thermal insulation values and are corrosion-resistant with a long life. Elastoshore field joints are mercury free and specifically designed for the harsh environment of the deep sea.

**Elastoshore** structural support elastomers have various uses in the subsea industry. Elastoshore elastomers are used to make pipeline strakes which prevent the oscillation of subsea pipelines and jumpers. The industry demands a mercury-free solution for pipeline strakes. BASF provides the solution with products that surpass 70-ton S-Lay stinger tests. BASF Elastoshore elastomers are also available for bend stiffener and bend restrictor applications.

**Elastopor®** rigid foam pipe insulation is a closed-cell rigid polyurethane foam with excellent insulating properties and is used in a wide range of hot and cold insulation applications. In depths of up to 200m, Elastopor sets the standard in insulating properties, temperature stability and solidity of the polyurethane foam.

**Elastopor** rigid foam for pipe protection is an open cell rigid polyurethane foam that offers damage protection from sources such as dragging anchors and trawl nets. Additionally, the open-cell polyurethane foam fully saturates with seawater to prevent floating of the pipeline.





### Strake

Helix shaped molded elastomers that vertically drain off high horizontal water flow velocities, preventing pipeline oscillation.



### Pipe Pig

Pig systems and components examine, clean and maintain the pipeline without interrupting the process flow.



### Doghouse

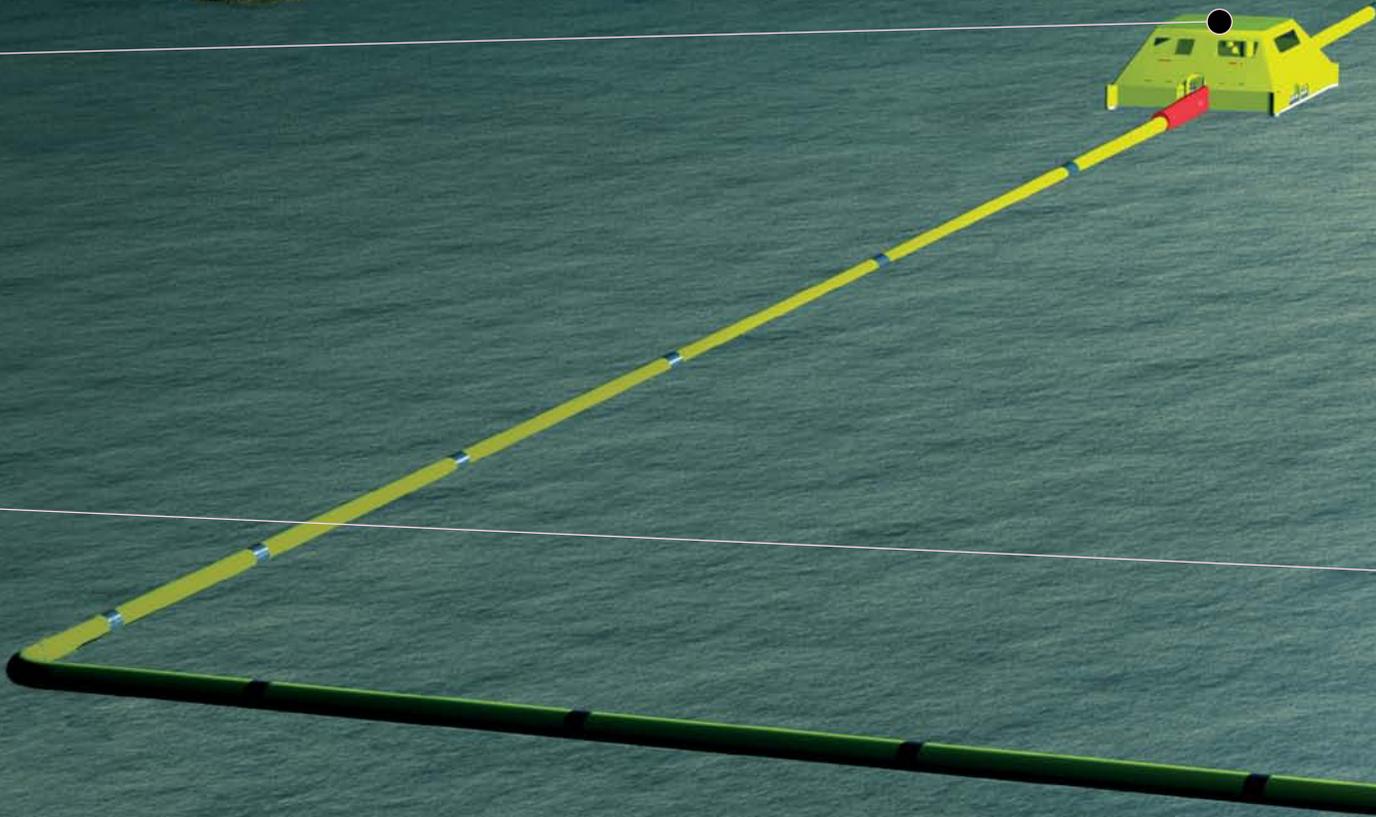
Protective cover to ensure physical stability, thermal stability and functionality of the pipe and production system.

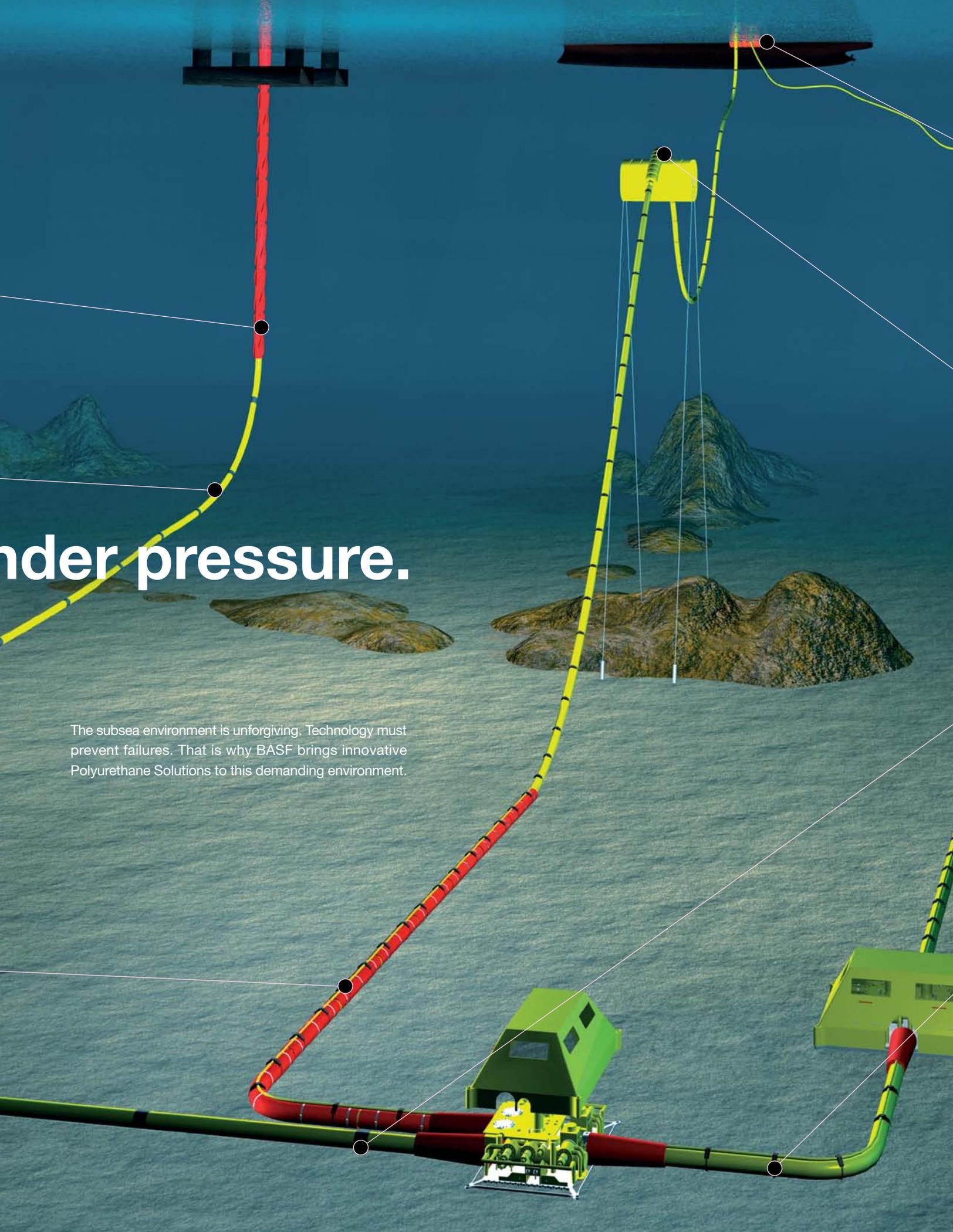


### Flowline Protection / Cable Protection

Cast elastomers to protect the pipeline, this engineered solution is a highly efficient technique and outperforms rock dump and concrete.

Even better un



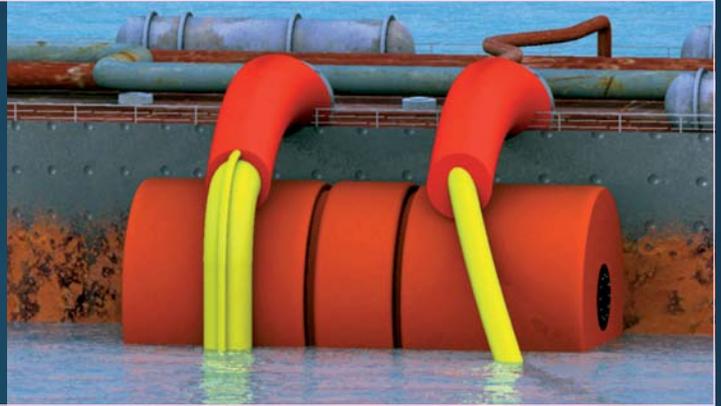


# Under pressure.

The subsea environment is unforgiving. Technology must prevent failures. That is why BASF brings innovative Polyurethane Solutions to this demanding environment.

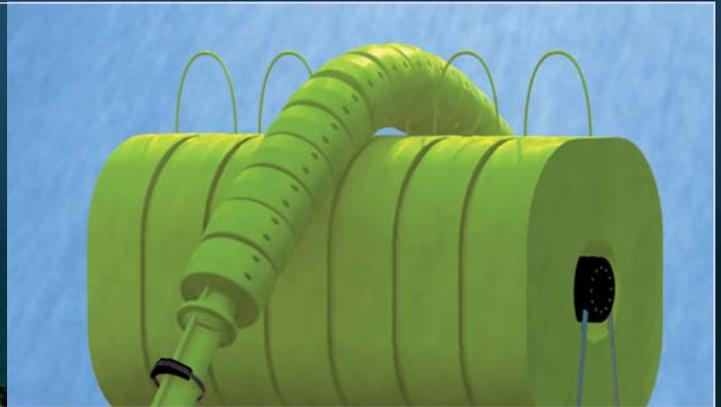
### **Bend Stiffener**

Able to take the tensile and bending forces that act on the pipeline and protect it through delimitation of the bending radii, restricting both movement and stress.



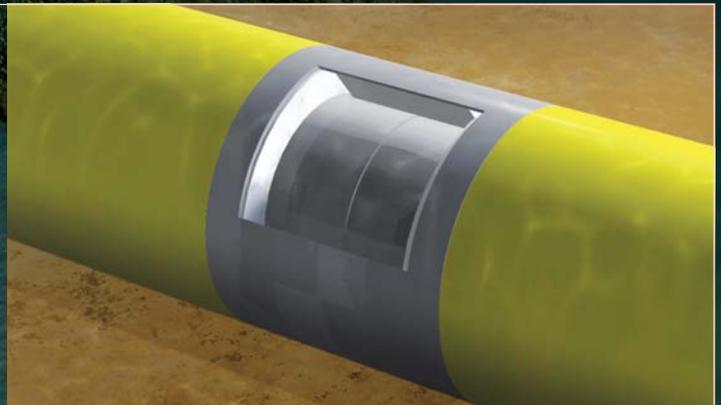
### **Bend Restrictor**

A chain made from polyurethane elastomer components, arranged like a spinal column. It protects the pipeline against overloading from the dead weight in the area of critical bending radii.



### **Field Joint**

Stabilization and protection of the pipeline in the area of the welding seam with an open cell rigid foam or a solid elastomer.



### **Glass Syntactic Polyurethane (GSPU) for thermal insulation**

Glass microsphere filled polyurethane elastomer for the insulation of line pipe and subsea structures. GSPU is an essential component for flow assurance.



**Contact:**

**North America**

Karl Gust, tel. +11-1-734-324-6309  
e-mail: [puroffshore@basf.com](mailto:puroffshore@basf.com)  
[www.basf.com/pur](http://www.basf.com/pur)

BASF Corporation  
1609 Biddle Avenue  
Wyandotte, MI  
48192 USA

**Europe**

Ian Lynam, tel. +44 1773 6011-24  
e-mail: [ian.lynam@basf.com](mailto:ian.lynam@basf.com)  
[www.elastogran.com](http://www.elastogran.com)

BASF Polyurethanes UK  
Alfreton Trading Estate  
Wimsey Way  
Somercotes  
Alfreton  
Derbyshire DE55 4NL

Polyurethane for pipeline  
protection & insulation