



# CUSTOMIZED ELASTOMER SOLUTIONS FOR THE OFFSHORE AND SUBSEA INDUSTRY

## BEND STIFFENERS AND RESTRICTORS

### Limit the bending constraints of your pipes!

The bend stiffener and restrictors are pipe protection systems. Designed with a conical shape, they are attached to the cable, umbilical or flexible pipe to add local stiffness and limit bending stresses and curvature of the pipe at the junction point with the structure. The stiffeners are mounted on the pipe and then fixed on the anchoring structure.

### 4 good reasons to use Hannecard bend stiffeners and restrictors:

#### CUSTOMER REQUIREMENTS :

- Seawater resistance
- Withstand pressure (depth up to 9000m)
- Resistance to the marine environment (marine growth)
- Resistance to deformation (bending during unwinding)
- Maintenance of technical characteristics over the time
- Precise position of the metal insert

#### 1. A product range unique in the market

The bend stiffeners and restrictors are designed with a corrosion-resistant metal insert (stainless steel, titanium) that allow the anchor of the bend restrictors to the structure. During manufacturing, the metal insert is overmolded with rubber or polyurethane.

Overmoulding is possible for dimensions of:

- 2.000 x 1.000 x 500 mm with a maximum closing pressure of 2200 tons for rubber solutions
- 2.000 x 2.000 x 8.000 mm for polyurethane solutions

#### 2. Technical support

- Technical advices for the choice of materials, hardness and dimensioning.
- R&D in own laboratory to define a tailor-made material.
- Possibility of numerical simulation to validate the dimensioning.

#### 3. Our solutions

- Definition of a specific elastomer holding the marine environment to get the best compromise with the customer specifications.
- A range of presses and tools allowing us to offer a unique range in dimensions.
- Precise positioning of the inserts ensured by specific tooling.
- HANNECARD's know-how in cylinders allowing to select the adhesive adapted to the metal of the insert with the elastomer.

#### 4. Our references

- More than 10 years of experience and more than 10.000 units in service.

#### MORE INFORMATION?

More information, please contact your local Hannecard partner or visit our website at:

[www.hannecardparts.com](http://www.hannecardparts.com)