

# Oil & Gas



As today's offshore industry is rapidly exploring the possibilities of deep sea drilling and production operations, the need for alternative materials increases. Traditional mooring systems use steel-wire rope in the form of a catenary. However, as water depth increases, the weight of the suspended wire rope increases and the downward angle of the catenary at the platform becomes steeper and decreases payload on the platform by a larger downpull. This can somehow be minimised by submerged buoys, which support the wire rope, but this increases mooring system

material and installation costs. These problems can be eliminated by using lightweight fibre mooring lines.

Since the late 1990s the use of polyester mooring systems was pioneered by Petrobras and have become more and more accepted by the offshore industry. Recent studies from several JIPs (Joint Industry Projects), with contribution of leading oil-companies, mooring specialists and technical consultants, show that with increasing depths the need for stiffer and stronger mooring lines is preferred to achieve desirable mooring systems characteristics. There is ongoing interest from the offshore industry in improving mooring line performance and reducing line weight by using different fibre materials. Not only will stiffer and stronger lines give access to the exploration of larger depths, they will also reduce lifting equipment needed and storage facilities.

FibreMax provides the offshore industry with cables that can meet these requests for stiffer, stronger and longer mooring line applications. FibreMax cables for these applications have the following characteristics:

- 80 to 90% lower weight than steel wire \*).
- 10% lower diameters than steel wire \*).
- 30% lower weight than braided ropes \*).
- 30% lower diameters than braided ropes \*).
- Maximum EA at 5% MBL.
- No "bedding-in" necessary.
- Excellent fatigue life.
- No construction stretch.
- No yarn-to-yarn abrasion.
- Lifespan up to 40 years (depending on usage).
- Continuous length up to 5000 meter.
- Maintenance free.

(\* When compared at the same break load).

Cables produced by FibreMax are available in any break load and length. The significant reduction in size, stretch and weight over traditional steel wire ropes or braided ropes offer many advantages in easier handling, safer and faster operations and downsizing of constructions.

Examples for typical FibreMax applications are:

- Deep sea mooring (taut-leg or catenary moorings)
- Heavy lifting
- Salvage/rescue equipment

**FIBRE**Max  
All fibres used to the Max...

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