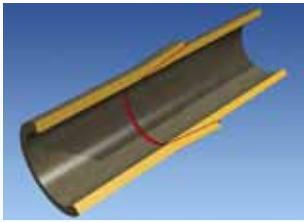




Quick-Lock® adhesive-bonded Joint



Taper/Taper adhesive-bonded Joint



## SW Cooling, Wet Fire Water System for FPSO “OSX-1” using Bondstrand 2416C & 7000M conductive pipes and fittings

Keppel Shipyard, Singapore was awarded by OSX 1 Leasing B.V., a subsidiary of OSX Brasil S/A. to support the modification works of OSX-1 floating production, storage and offloading vessel (FPSO).

The work scope covers the engineering, procurement and modification works of the topside process modules for the FPSO. Modification and construction works on the topside modules commenced in the last quarter 2010 and the vessel will be deployed in the Campos Basin, offshore Brazil on a 20-year lease to OGX Petróleo e Gás.

Keppel Shipyard worked with BW Offshore, which provides project management, engineering services and technical guidance services to OSX 1 Leasing B.V.

OSX Brasil S/A – part of EBX group is a Brazil-based publicly traded company listed on the Brazilian Stock Exchange, which operates in the areas of shipbuilding, chartering of exploration and production units (E&P), as well as operations and maintenance services (O&M).

NOV Fiber Glass Systems Pte Ltd supplies GRE materials for the modification works.

The project was successfully completed within the requested time frame without adverse impact on the project schedule.

Project management, planned execution and customer service is the key factor of success that differentiates NOV Fiber Glass Systems from the rest.

### Advantages

- Reduction In installations of cost & time
- Expected long term service life 30 years
- Corrosion resistance
- Reduced marine growth
- Maintenance free
- Light-weight material

### Vessel

FPSO OSX-1

### Shipyard

Keppel Shipyard Singapore

### Owner

OSX 1 Leasing B.V, An EBX Group Company

### Pipe system

Size: 2”- 12”, 18” SW Cooling System, 2416C  
Size: 2”, 3”, 16” Wet Fire Water System, 7000M

### Operating conditions

#### for Sea water

Design pressure: 10 bar  
Operating pressures: 4.8 bar  
Test pressure: 1.5 x design pressure  
Design temperature: up to 50 °C  
Operating temperature: 27.5 °C

#### for Fire water

Design pressure: 16 bar  
Operating pressures: 13 bar  
Test pressure: 1.5 x design pressure  
Design temperature: up to 50 °C  
Operating temperature: 27.5 °C

### Installation date

2010 - 2011