

SINGLE CARCASS FLOATING HOSE

'21' SERIES

EMSTEC provide a range of high quality, high performance, oil suction and discharge hoses, extensively used at offshore moorings throughout the world. The EMSTEC **Single Carcass Floating** hoses are utilized in high integrity surface installations such as EPS, SBM, CALM, SALM offloading in addition to FPSO, FSO Tandem offloading configurations.

The EMSTEC hose fully complies with the requirements of the "OCIMF Guide to Purchasing, Manufacturing and Testing of Loading and Discharge Hoses for Offshore Moorings, Fourth Edition – 1991".

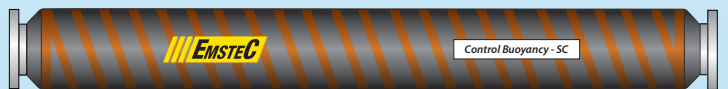
All hoses are designed and manufactured under a quality system in accordance with ISO 9001, and compliance with Pressure Equipment Directive (PED) 97/23/EC module H (hoses carry CE marking as required).

For performance characteristics and specification, please refer to EMSTEC data sheet 'Single Carcass Hose Specification'.

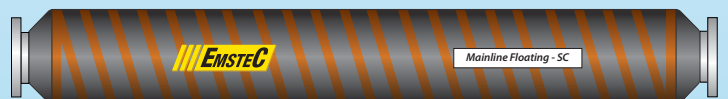
21110 FSC - End Reinforced Half Floating (ie. First off Buoy)



21120 FSC - Controlled Buoyancy



21130 FSC - Main Line Floating



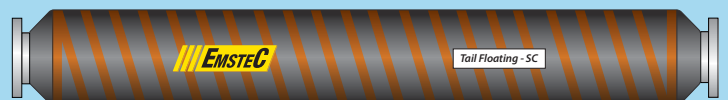
21140 FSC - Main Line Half Floating



21150 FSC - Reducing Floating



21160 FSC - Tail Floating



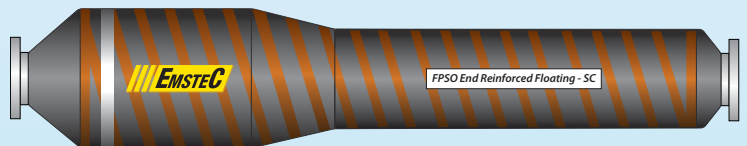
SINGLE CARCASS FLOATING HOSE (continuation)

'21' SERIES

21170 FSC - Tanker Rail Floating



21180 FSC - FPSO - End Reinforced High Buoyancy Floating (ie. First off FPSO to support ERC) *



21190 FSC - ST End Reinforced High Buoyancy Floating (ie. Shuttle Tanker connection to support HEV) *



* NOTE

The **EMSTEC Single Carcass Floating** hoses designed for **special end connection applications** are utilized in high integrity surface installations such as FPSO, FSO Tandem offloading configurations offshore Brazil.

The special hoses are installed at the ends of the floating hose string, connected to the FPSO/FSO hang-off Emergency Release Coupling (ERC) and the Shuttle Tanker bow loading system Hose End Valve (HEV).

The additional buoyancy within the special FPSO end hose will support the ERC on the surface of the sea, if released in an emergency. The Shuttle Tanker end hose will support the HEV on the surface of the sea, during hose transfer and / or emergency release.

For performance characteristics and specification, please refer to EMSTEC data sheet 'Single Carcass Hose Specification'.

SINGLE CARCASS HOSE SPECIFICATION

'21' SERIES

EMSTEC Single Carcass Submarine, Floating & Catenary hoses fully comply with the requirements of the "OCIMF Guide to Purchasing, Manufacturing and Testing of Loading and Discharge Hoses for Offshore Moorings, Fourth Edition – 1991".

PERFORMANCE CHARACTERISTICS & CONSTRUCTION

| | |
|--------------------------------|--|
| Nominal Bore (mm): | 150 (6"), 200 (8"), 250 (10"), 300 (12"), 400 (16"), 500 (20"), 600 (24") |
| Standard Length: | 9.1M (30'), 10.7M (35') & 12.2M (40') (non-standard less than 12.2M also available) |
| Hose Construction: | Liner Tube – NBR based Rubber, resistant to hydrocarbons with aromatic content up to 60%. Main Carcass – Elastomer reinforced with multi-layers of high tensile textile cords and embedded steel wire helix. Floatation Material (Floating Hoses only) – Closed Cell Foam Outer Cover – Fibre reinforced smooth elastomer cover, resistant to ageing, abrasion, weathering, sunlight, tearing and oil and seawater penetration. (Polyurethane coating available on request). |
| Flanges: | ANSI B16.5 Class 150 or 300 Flat Face (FF), Hot Dip Galvanised in accordance with BS729 Part 1. (Raised Face (RF) flange face available on request). |
| Pressure Rating: | 15 BAR, 19 BAR, 21 BAR (higher pressure ratings on request) |
| Minimum Burst Pressure: | 75 BAR, 95 BAR, 105 BAR |
| Flow Velocity: | Maximum of 21m/s |
| Fluid Product: | Crude Oil and Liquid Petroleum Products (other than liquefied petroleum gases and liquefied natural gases). |
| Temperature Range: | Fluid Temperature from -20°C to 82°C. Ambient Temperature from -29°C to 52°C. |
| Minimum Bend Radius: | Submarine Hose - 4 x hose Nominal Bore Diameter. Floating Hose – 6 x hose Nominal Bore Diameter |
| Electrical Continuity: | Electrically Continuous or Discontinuous as required. |

For information regarding hose types and applications, please refer to relevant EMSTEC hose data sheets.

DESIGN APPROVAL & QUALITY ASSURANCE

All of the hoses are designed and manufactured under a quality system in accordance with ISO 9001, and is in compliance with Pressure Equipment Directive (PED) 97/23/EC module H (hoses carry CE marking as required).

Prototype Hose manufacture and testing witnessed and verified by Bureau Veritas (Certifying Authority) and GDC International (Industry Consultant).



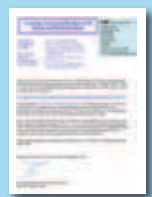
ISO 9001
Design



ISO 9001
Manufacture



Prototype Approval
(BV)



Prototype Approval
(GDC)