

DOUBLE CARCASS CATENARY HOSE

'22' 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 **Double Carcass Catenary** hoses are utilized in high integrity floating offloading installations such as FPSO, FSO tandem offloading to DP Shuttle Tankers (i.e. Reel, Chute, Cantilever hang-off arrangements).

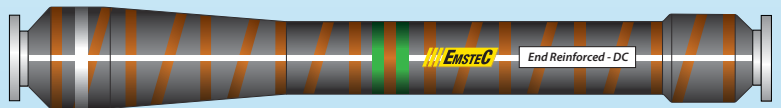
In addition to the standard hose carcass (commonly termed 'primary' carcass), EMSTEC **Double Carcass Catenary** hoses incorporate an additional second carcass designed to contain any product escaping from the standard carcass as a result of a slow leak or sudden failure. Effective, robust and reliable leak detection and indication system is provided.

The EMSTEC Double Carcass 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".

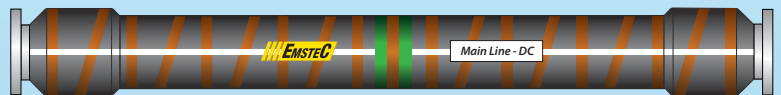
All hoses are designed and manufactured under a quality system in accordance with ISO 9001, and is in compliance with Pressure Equipment Directive (PED) 97/23/EC module H (hoses carry CE marking as required).

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

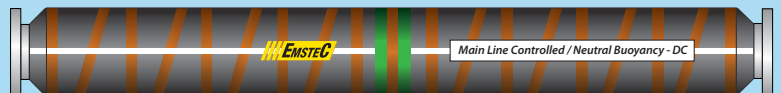
22410 SCDC - End Reinforced (i.e. FPSO)



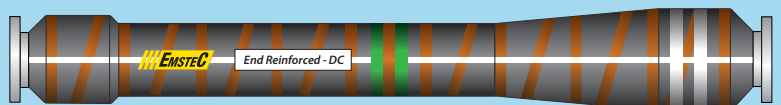
22420 SCDC - Main Line



22430 SCDC - Main Line – Controlled / Neutral Buoyancy (for special applications)



22440 SCDC - End Reinforced (i.e. Shuttle Tanker)



DOUBLE CARCASS HOSE SPECIFICATION

'22' SERIES

EMSTEC Double 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% Primary Carcass – Elastomer reinforced with multi-layers of high tensile textile cords and embedded steel wire helix. Secondary Carcass – Elastomer reinforced with multi-layers of high tensile textile cords 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:	Primary Carcass - 15 BAR, 19 BAR, 21 BAR (higher pressure ratings on request) Secondary Carcass - 15 BAR, 19 BAR, 21 BAR.
Minimum Burst Pressure:	Primary Carcass - 75 BAR, 95 BAR, 105 BAR Secondary Carcass - 30 BAR, 38 BAR, 42 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 Hoses - 4 x hose Nominal Bore Diameter. Floating Hose – 6 x hose Nominal Bore Diameter.
Electrical Continuity:	Electrically Continuous or Discontinuous as required.
Leak Detection:	Pressure compensated leak detection system for Floating, Submarine & Catenary applications.

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).



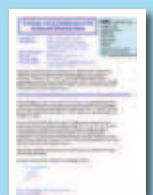
ISO 9001
Design



ISO 9001
Manufacture



Prototype Approval
(BV)



Prototype Approval
(GDC)