



Seaflex

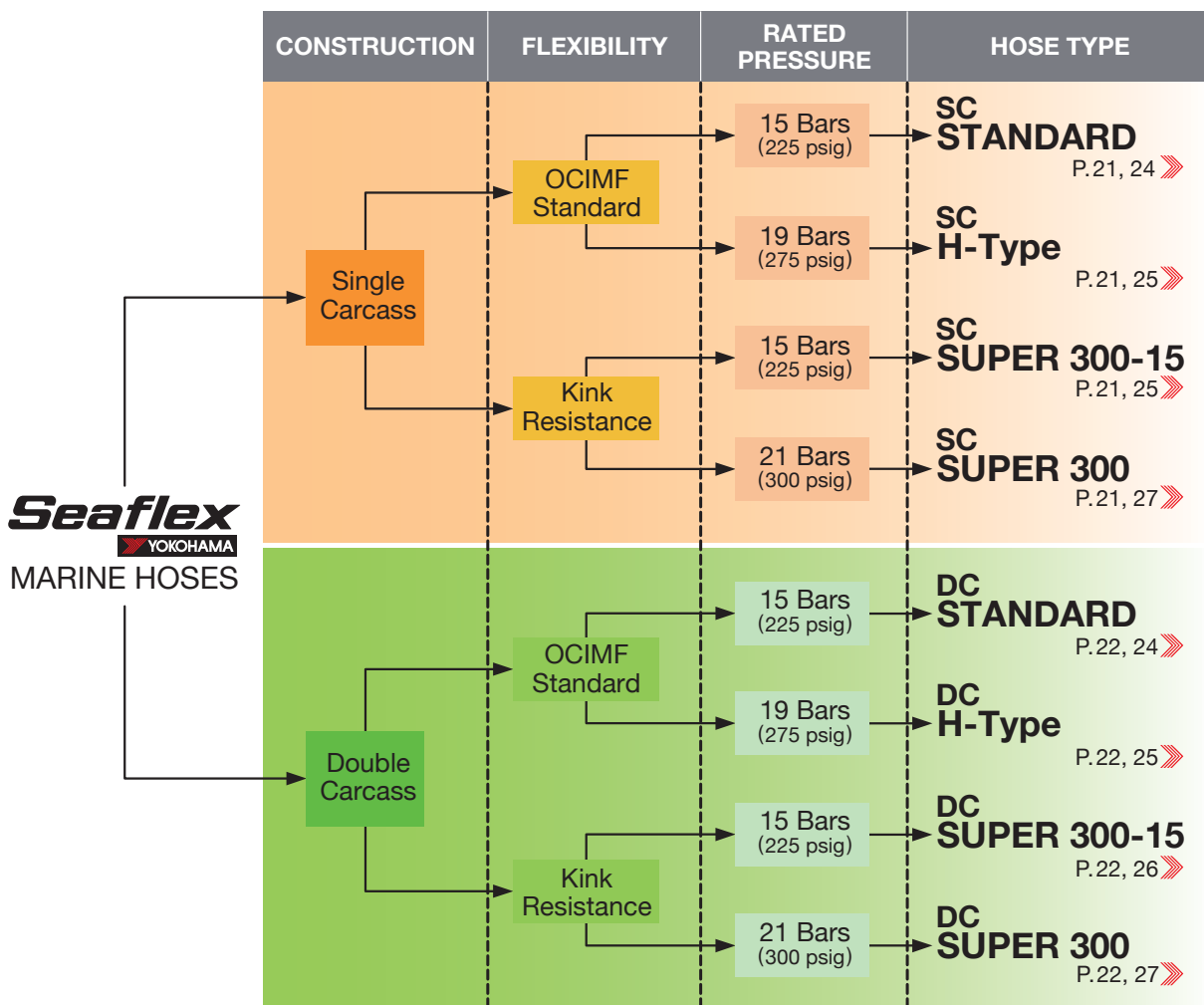
 YOKOHAMA

OFFSHORE LOADING
& DISCHARGE HOSE

Hose Selection

YOKOHAMA offshore loading & discharge hose **Seaflex** fully conforms to Guide to Manufacturing and Purchasing Hoses for Offshore Moorings (GMPHOM 2009), and most specifications exceed it.

SELECTION FROM HOSE CONSTRUCTION



Seaflex SINGLE CARCASS HOSE YOKOHAMA

» FEATURES

1. **Seaflex** Design Concepts ---- “No Leakage & No Bulge”

2. **Leak Free Tube Lining Construction**

- Strong adhesion between nipple & lining
- Overlapping of tube layers, No air trapped & Strong tightening at tube fabrication
- High oil resistant material
- Longer adhesion length

3. **Strong Flotation Construction**

- No-Gas-Lock System

4. **Polyester Cord Reinforcement**

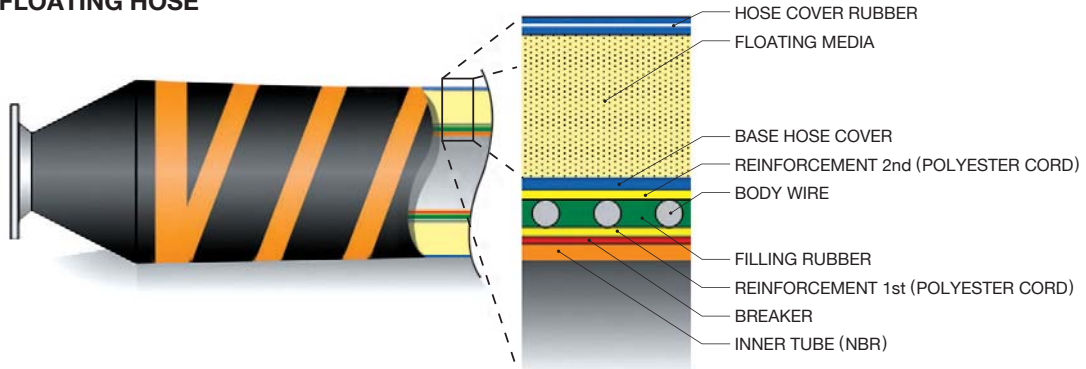
- Better fatigue performance
- No permanent deformation (eg. Kinking)
- Non-Corrosion
- Light Weight

5. **Body Wire**

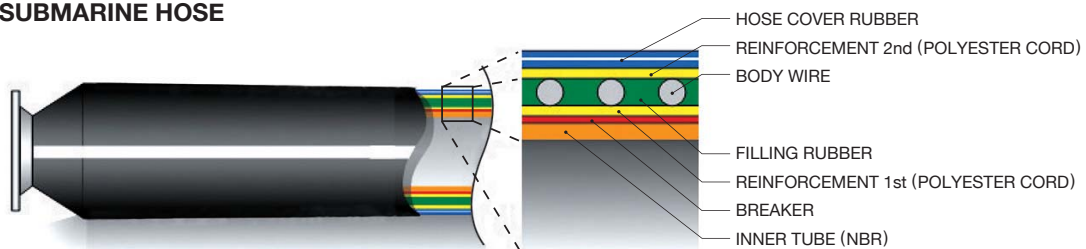
Each helical wire in layer(s) is continuous without welding.

» CONSTRUCTION

FLOATING HOSE



SUBMARINE HOSE



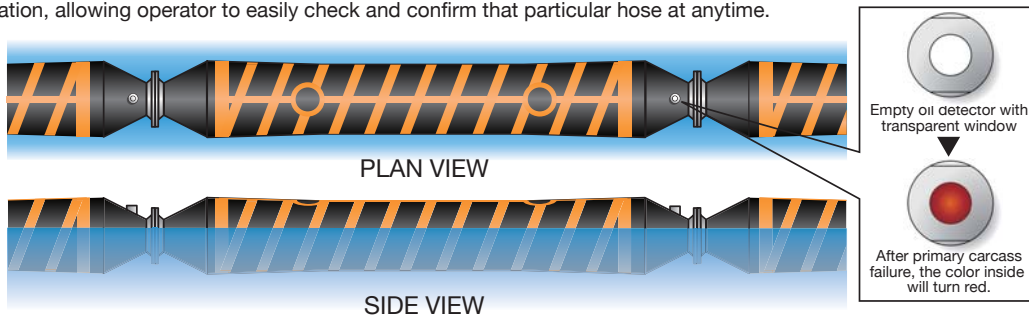
Seaflex DOUBLE CARCASS HOSE

YOKOHAMA Oil Detector Warning System (DC)

FEATURES

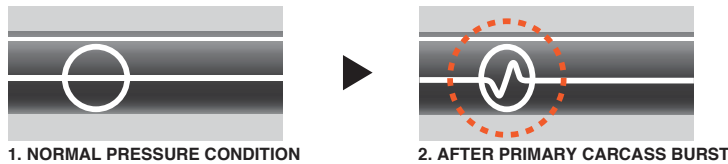
for FLOATING HOSE

“The Oil Detector Warning System” is a YOKOHAMA double carcass hose's primary carcass failure detection system. At the time of primary carcass failure, the color inside the built-in oil detector will turn red. It is visible even after completion of operation, allowing operator to easily check and confirm that particular hose at anytime.



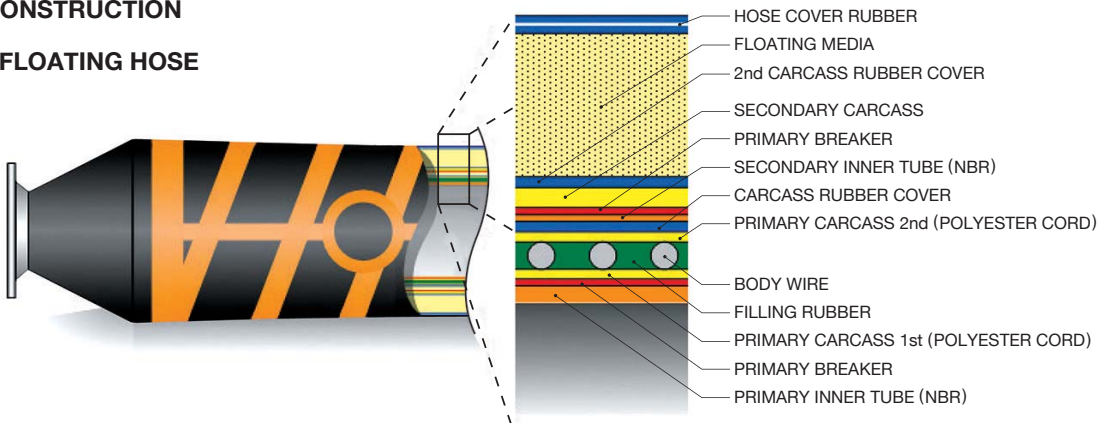
for SUBMARINE HOSE

“Twist Warning System (TWS)” is specially designed for the submarine hose as a main leak detector. It is characterized by a distinct visible change which helps diver's inspection under water. The oil pot detector is also available for submarine hose as a secondary function of detection system. However, for submarine hose, please refer to TWS as a priority since oil pod detector is too sensitive to use as a part of submarine hose. The operators can firmly confirm the primary carcass failure through these two detectors. This confirmation work reduces the risk of unnecessary hose replacement under water.

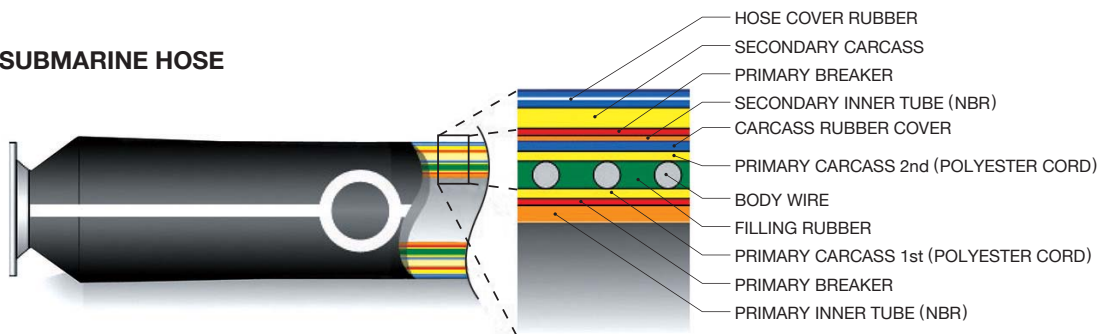


CONSTRUCTION

FLOATING HOSE



SUBMARINE HOSE



STANDARD^{TYPE}

15 BARS FLOATING & SUBMARINE HOSES

Seaflex “STANDARD” type is conventional design, and accepted by lots of customers world wide.

In each hose model, customers can choose from both **SINGLE CARCASS** and **DOUBLE CARCASS**.

» SPECIFICATION

PRESSURE RATING	: 15 Bars gauge (225 psig)
FACTORY TEST PRESSURE	: 15 Bars gauge (225 psig)
PROOF TEST PRESSURE	: 22.5 Bars gauge (337.5 psig)
MINIMUM BURST PRESSURE	
SINGLE CARCASS	: 75 Bars gauge (1125 psig)
DOUBLE CARCASS	
Primary Carcass	: 75 Bars gauge (1125 psig)
Secondary Carcass	: 30 Bars gauge (450 psig)
ALLOWABLE OPERATING PRESSURE	: -0.85 bars (25" HG) Vacuum
MINIMUM BENDING RADIUS	
FLOATING HOSE (Except for tanker rail hose)	: 6 × Nominal Diameter
SUBMARINE HOSE & TANKER RAIL HOSE	: 4 × Nominal Diameter
ALLOWABLE FLOW VELOCITY	: 21 m/sec (70 ft/sec)
FLUID	: Crude Oil, Liquid Petroleum Products
ALLOWABLE AROMATIC CONTENT	: Max. 60%
ALLOWABLE TEMPERATURE	: Min. -20°C to Max. 82°C (Min. -4°F to Max.180°F)
ALLOWABLE AMBIENT TEMPERATURE	: Min. -29°C to Max. 52°C (Min. -20°F to Max.125°F)
PROTECTION FOR THE EXPOSED INTERNAL AND EXTERNAL SURFACES OF THE NIPPLES AND FLANGES INCLUDING FLANGE FACES	: Galvanizing
APPLICABLE STANDARDS	: OCIMF GUIDE 5th Edition - GMPHOM 2009
INSPECTION OF WELDS BETWEEN NIPPLES AND FLANGES	: To be 100% radiographed in accordance with GMPHOM 2009

» MATERIAL

INNER LINING	: NBR (Vulcanized seamless tube)
REINFORCEMENT CORD	: Polyester cord
BODY WIRE	: Steel wire
FLOATING MEDIUM (FLOATING HOSE)	: Closed cell foam
OUTER COVER	: Fabric reinforced elastomer cover
FLANGE	: ASTM A-105 (Max. Carbon 0.25%) ASME B16.5
NIPPLE	: API 5L Grade A or B or ASTM A-285C or Equivalent (Max. Carbon 0.23%)

Hose Selection

H TYPE

19 BARS FLOATING & SUBMARINE HOSES

Seaflex "H" type is designed for 19 bars rated pressure, and accepted by lots of customers world wide.

In each hose model, customers can choose from both **SINGLE CARCASS** and **DOUBLE CARCASS**.

» SPECIFICATION

PRESSURE RATING	: 19 Bars gauge (275 psig)
FACTORY TEST PRESSURE	: 19 Bars gauge (275 psig)
PROOF TEST PRESSURE	: 28.5 Bars gauge (412.5 psig)
MINIMUM BURST PRESSURE	
SINGLE CARCASS	: 95 Bars gauge (1375 psig)
DOUBLE CARCASS	
Primary Carcass	: 95 Bars gauge (1375 psig)
Secondary Carcass	: 38 Bars gauge (550 psig)
ALLOWABLE OPERATING PRESSURE	: -0.85 bars (25" HG) Vacuum
MINIMUM BENDING RADIUS	
FLOATING HOSE (Except for tanker rail hose)	: 6 × Nominal Diameter
SUBMARINE HOSE & TANKER RAIL HOSE	: 4 × Nominal Diameter
ALLOWABLE FLOW VELOCITY	: 21 m/sec (70 ft/sec)
FLUID	: Crude Oil, Liquid Petroleum Products
ALLOWABLE AROMATIC CONTENT	: Max. 60%
ALLOWABLE TEMPERATURE	: Min. -20°C to Max. 82°C (Min. -4°F to Max. 180°F)
ALLOWABLE AMBIENT TEMPERATURE	: Min. -29°C to Max. 52°C (Min. -20°F to Max. 125°F)
PROTECTION FOR THE EXPOSED INTERNAL AND EXTERNAL SURFACES OF THE NIPPLES AND FLANGES INCLUDING FLANGE FACES	: Galvanizing
APPLICABLE STANDARDS	: OCIMF GUIDE 5th Edition - GMPHOM 2009
INSPECTION OF WELDS BETWEEN NIPPLES AND FLANGES	: To be 100 % radiographed in accordance with GMPHOM 2009

» MATERIAL

INNER LINING	: NBR (Vulcanized seamless tube)
REINFORCEMENT CORD	: Polyester cord
BODY WIRE	: Steel wire
FLOATING MEDIUM (FLOATING HOSE)	: Closed cell foam
OUTER COVER	: Fabric reinforced elastomer cover
FLANGE	: ASTM A-105 (Max. Carbon 0.25%) ASME B16.5
NIPPLE	: API 5L Grade A or B or ASTM A-285C or Equivalent (Max. Carbon 0.23%)

SUPER 300-15 TYPE

15 BARS / KINK RESISTANCE
FLOATING & SUBMARINE HOSES

Seaflex "SUPER300-15" type is designed for 15 bars rated pressure, and accepted by lots of customers world wide.

In each hose model, customers can choose from both **SINGLE CARCASS** and **DOUBLE CARCASS**.

► SPECIFICATION

PRESSURE RATING	: 15 Bars gauge (225 psig)
FACTORY TEST PRESSURE	: 15 Bars gauge (225 psig)
PROOF TEST PRESSURE	: 22.5 Bars gauge (337.5 psig)
MINIMUM BURST PRESSURE	
SINGLE CARCASS	: 75 Bars gauge (1125 psig)
DOUBLE CARCASS	
Primary Carcass	: 75 Bars gauge (1125 psig)
Secondary Carcass	: 30 Bars gauge (450 psig)
ALLOWABLE OPERATING PRESSURE	: -0.85 bars (25" HG) Vacuum
MINIMUM BENDING RADIUS	
FLOATING HOSE (Except for tanker rail hose)	: 5 × Nominal Diameter
SUBMARINE HOSE & TANKER RAIL HOSE	: 4 × Nominal Diameter
ALLOWABLE FLOW VELOCITY	: 21 m/sec (70 ft/sec)
FLUID	: Crude Oil, Liquid Petroleum Products
ALLOWABLE AROMATIC CONTENT	: Max. 60%
ALLOWABLE TEMPERATURE	: Min. -20°C to Max. 82°C (Min. -4°F to Max. 180°F)
ALLOWABLE AMBIENT TEMPERATURE	: Min. -29°C to Max. 52°C (Min. -20°F to Max. 125°F)
PROTECTION FOR THE EXPOSED INTERNAL AND EXTERNAL SURFACES OF THE NIPPLES AND FLANGES INCLUDING FLANGE FACES	
	: Galvanizing
APPLICABLE STANDARDS	: OCIMF GUIDE 5th Edition - GMPHOM 2009
INSPECTION OF WELDS BETWEEN NIPPLES AND FLANGES	
	: To be 100 % radiographed in accordance with GMPHOM 2009

► MATERIAL

INNER LINING	: NBR (Vulcanized seamless tube)
REINFORCEMENT CORD	: Polyester cord
BODY WIRE	: Steel wire
FLOATING MEDIUM (FLOATING HOSE)	: Closed cell foam
OUTER COVER	: Fabric reinforced elastomer cover
FLANGE	: ASTM A-105 (Max. Carbon 0.25%) ASME B16.5
NIPPLE	: API 5L Grade A or B or ASTM A-285C or Equivalent (Max. Carbon 0.23%)

SUPER 300 TYPE

21 BARS / KINK RESISTANCE
FLOATING & SUBMARINE HOSES

Seaflex “SUPER 300” type is designed for 21 bars rated pressure, and accepted by lots of customers world wide.

In each hose model, customers can choose from both SINGLE CARCASS and DOUBLE CARCASS.

» SPECIFICATION

PRESSURE RATING	: 21 Bars gauge (300 psig)
FACTORY TEST PRESSURE	: 21 Bars gauge (300 psig)
PROOF TEST PRESSURE	: 31.5 Bars gauge (450 psig)
MINIMUM BURST PRESSURE	
SINGLE CARCASS	: 105 Bars gauge (500 psig)
DOUBLE CARCASS	
Primary Carcass	: 105 Bars gauge (1500 psig)
Secondary Carcass	: 42 Bars gauge (600 psig)
ALLOWABLE OPERATING PRESSURE	: -0.85 bars (25" HG) Vacuum
MINIMUM BENDING RADIUS	
FLOATING HOSE (Except for tanker rail hose)	: 5 × Nominal Diameter
SUBMARINE HOSE & TANKER RAIL HOSE	: 4 × Nominal Diameter
ALLOWABLE FLOW VELOCITY	: 21 m/sec (70 ft/sec)
FLUID	: Crude Oil, Liquid Petroleum Products
ALLOWABLE AROMATIC CONTENT	: Max. 60%
ALLOWABLE TEMPARATURE	: Min. -20°C to Max. 82°C (Min. -4°F to Max. 180°F)
ALLOWABLE AMBIENT TEMPERATURE	: Min. -29°C to Max. 52°C (Min. -20°F to Max. 125°F)
PROTECTION FOR THE EXPOSED INTERNAL AND EXTERNAL SURFACES OF THE NIPPLES AND FLANGES INCLUDING FLANGE FACES	
	: Galvanizing
APPLICABLE STANDARDS	: OCIMF GUIDE 5th Edition - GMPHOM 2009
INSPECTION OF WELDS BETWEEN NIPPLES AND FLANGES	
	: To be 100 % radiographed in accordance with GMPHOM 2009

» MATERIAL

INNER LINING	: NBR (Vulcanized seamless tube)
REINORCEMENT CORD	: Polyester cord
BODY WIRE	: Steel wire
FLOATING MEDIUM (FLOATING HOSE)	: Closed cell foam
OUTER COVER	: Fabric reinforced elastomer cover
FLANGE	: ASTM A-105 (Max. Carbon 0.25%) ASME B16.5
NIPPLE	: API 5L Grade A or B or ASTM A-285C or Equivalent (Max. Carbon 0.23%)