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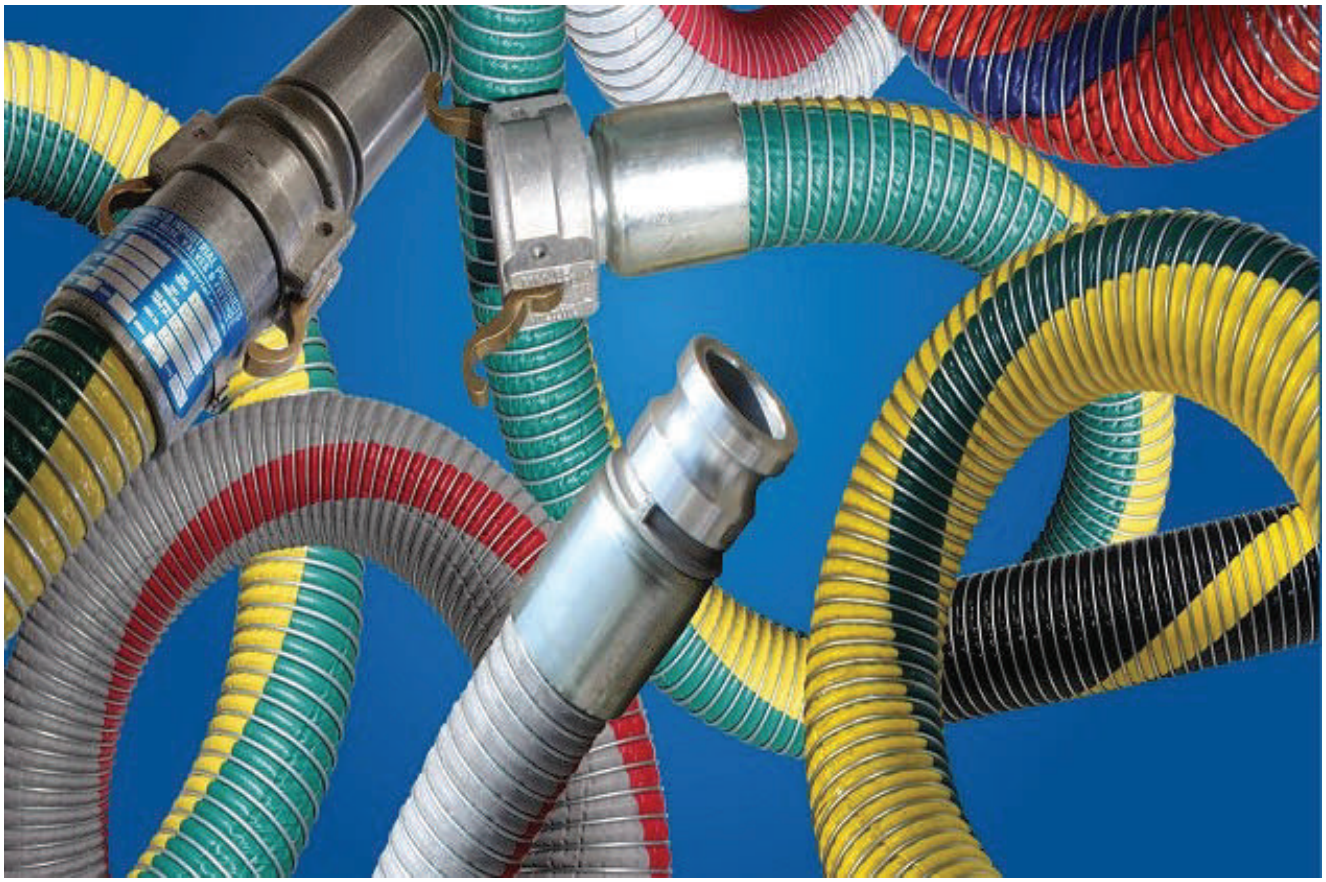


Composite Hoses Catalog

2026

Composite hoses are built for tough jobs—moving aggressive aromatic chemicals and cryogenic liquefied gases—while staying lighter and more flexible than traditional rubber hoses. That flexibility is their strength… and their weakness.

Inside, they're layered: thermoplastic films for chemical resistance, reinforcement for strength, and an outer cover for protection. This structure handles a wide range of fluids and temperatures, but it depends heavily on correct handling.

Know Your Hoses

Composite hoses used for transferring hydrocarbons, solvents, and chemicals are manufactured in accordance with EN 13765:2018. This standard specifies:

- Bore sizes from 25 mm to 300 mm
- Working pressures up to 14 bar
- Operating temperatures from 30°C to 150°C

These hoses are divided into four types:

- Type 1: for vapor applications
- Type 2, 3, and 4: for liquid applications
- Type 3 and Type 4: suitable for ship-to-ship (STS) transfers

Composite hoses designed for liquefied gases such as LPG and LNG follow EN 13766. This standard includes:

- Bore sizes from 25 mm to 250 mm
- Working pressures from 10.5 bar to 25 bar
- Operating temperatures from -196°C to +45°C

They are classified into:

- Type 1 and Type 2, based on pressure and temperature ratings

Additionally, these hoses are grouped into two classes:

- Class A: for onshore use
- Class B: for offshore (STS) operations

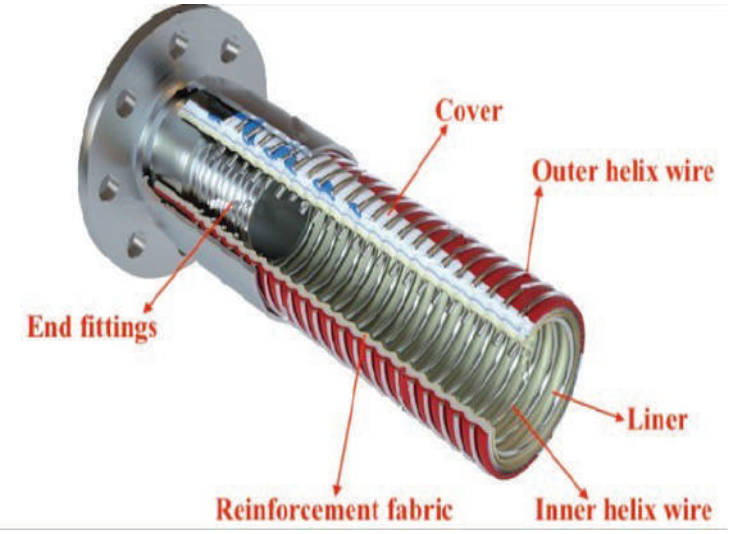
Construction

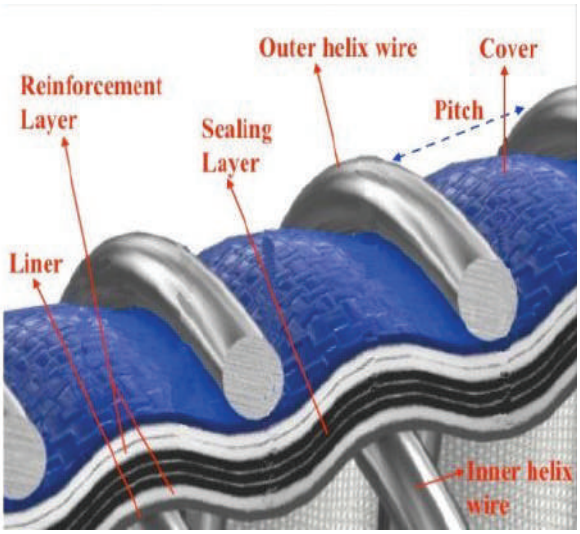
A composite hose is made of three main parts:

- Inner high-tensile wire helix
- Reinforcement and liquid-tight protective layers
- Outer high-tensile wire helix

The inner helix is made from a metal compatible with the cargo. Its spacing matches the outer helix and provides internal support, preventing the hose from collapsing under vacuum while supporting the liner and reinforcement layers.

The outer helix interlocks with the inner helix, giving the hose strength and structural stability. It holds the internal layers together and protects the hose from external damage such as abrasion.





Components of a Hose

Liner:
The innermost layer that comes into direct contact with the product. It must always be compatible with the substance being transferred.

Reinforcement/Sealing Layers:
These layers are made from thermoplastics and reinforcing materials selected based on the application. Common materials include PVC, PTFE, polypropylene, polyamide, and acrylic.

End Fittings:
Composite hoses are fitted with end connections that are either epoxy (wet-sealed) or mechanically crimped (dry-sealed). In marine applications, they are typically fitted with fixed or floating flanges.

Flange Standards and Design

Composite hose flanges are made from stainless steel (e.g., SUS 316L) or mild carbon steel, chosen based on:

- Hose diameter
- Operating pressure
- Standing pressure
- Operating temperature

Typical applications:

- ANSI Class 150 flanges for hydrocarbons, solvents, and chemicals
- ANSI Class 300 flanges for higher-pressure liquids like LPG

Most composite hoses use raised face floating flanges, unlike rubber hoses, which usually have flat face fixed flanges.

Identification Markings

The operational specifications of a composite hose must be permanently marked on its outer cover, usually with a tape or band. For hoses used at very low temperatures, such as LPG or LNG transfers, the specifications may be stamped or etched onto the flange.

Common Hose Markings:

- Manufacturer's name
- Hose material and diameter
- Construction standard (EN 13765 / EN 13766)
- Type number
- Maximum working pressure (MWP)
- Permissible working temperature
- Year and quarter of manufacture

Operators must ensure every hose in service meets the appropriate design standards for the cargo. Each hose should be accompanied by the manufacturer's test certificate, type -approved by the vessel's classification society, and compliant with local regulations where applicable.

Manufacturers provide a cargo grade compatibility chart, and users must verify the chemical compatibility of the product with the hose before use

Factors Affecting the Integrity of a Composite Hose

The strength and reliability of a composite hose depend on several key factors:

Operating Temperature:
Each hose has a specified temperature range. Using it outside this range—especially at higher temperatures—can weaken the liner.

Temperatures above about 60°C may cause the hose to stretch, requiring proper support. Without support, this can lead to deformation, movement of the internal wire helix, and possible failure.

Operating Pressure:
The hose must be used within its Maximum Working Pressure (MWP). High pressure, especially when combined with high temperature, increases the risk of damage. Sudden pressure surges can stretch the hose and disturb its internal structure.

Minimum Bend Radius (MBR):
The manufacturer defines the minimum bend radius. Bending the hose beyond this limit can damage the internal helix and lead to rupture.

The hose should always be properly supported and never kinked or tightly coiled, particularly near the end fittings.

Flow Rate:
Allowed flow rates depend on:

- Hose length
- Hose diameter
- Cargo viscosity

Because of the internal helix, composite hoses create more friction and pressure loss than smooth-bore rubber hoses. High flow rates or thick fluids increase pressure drop, which can destabilize the hose and cause collapse.

Any unusual rise in pressure or drop in flow rate should be treated as a warning. Operations must be stopped immediately and the hose inspected.

Typical recommended flow velocities range from 7 to 9 m/s.

Pressure Testing

Composite hoses must be tested in line with ISGOTT 18.2.6.3, with intervals not exceeding 12 months. If temporary elongation exceeds 10% during testing, the hose must be withdrawn from service.

Electrical continuity must be checked both before and after testing.

Key Terms:

Maximum Working Pressure (MWP):
The maximum pressure the hose can handle, including surge effects. Used for design under BS and EN standards.

Rated Working Pressure (RWP):
The normal operating pressure under standard conditions. It does not account for pressure surges.

Factory Test Pressure:
Defined in BS EN 1765 as equal to the MWP.

Maximum Allowable Working Pressure (MAWP):
A limit used by bodies such as the US Coast Guard and terminals to define safe operating conditions.

Hydrostatic Test Pressure:
The pressure applied during routine (usually annual) testing.

Proof Pressure:
A one-time test after manufacture to confirm integrity, typically set at 1.5 times the MWP.

Burst Test Pressure:
A design test on a prototype hose, requiring it to withstand at least four times the factory test pressure for 15 minutes without failure.

Burst Pressure:
The actual pressure at which the hose fails. For a compliant design, this exceeds the required burst test pressure

Product

- Oil & Fuel Hose
- General Chemical Hoses
- Aggressive Chemical Hoses
- Oilfield Hoses
- Vapor Hoses
- Cryogenic Hoses
- High-Temp Hoses
- Food Hoses
- Fittings
- Accessories
- LNG Hoses

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GG OIL AND FUEL

Category:

OIL & FUEL HOSE

Product description

GG composite hose is recommended for use in delivery and/or suction of fuels, oils and lubricants in cistern trucks, rail-cars or fixed deposits. With good mechanical strength, galvanized wire is economical choice for hose.

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c+80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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GS PETROL HOSE

Category:

OIL & FUEL HOSE

Product description

GS composite hose is recommended for use in delivery and/or suction of fuels, oils and lubricants in cistern trucks, rail-cars or fixed deposits. With excellent chemical resistance, best mechanical strength, stainless steel wire is the pre-mium choice to reduce corrosion

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m

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AG OIL HOSE

Category:

OIL & FUEL HOSE

Product description

AG composite hose is designed for applications such as rail car loading and unloading, road tanker bottom loading, lubricating oil plant hose exchanges. Due to the combination of its spirals in aluminum and galvanized steel is significantly lighter, making it possible to use even in marine applications with large diameters.

Construction

Inner Wire spiral: Aluminum (A)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 4"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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SS CHEMICAL HOSE

Category:

GENRAL CHEMICAL HOSE

Product description

SS chemical composite hose is recommended for delivery and / or aspiration of a great variety of chemical products with a good behavior with PP such as acids, fatty acids, alkaline and solvents even in corrosive environments It is suitable for use in loading and unloading of tank trucks, wagons, in plants and Marine applications.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m

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SS CHEMICAL HOSE

Category:

GENRAL CHEMICAL HOSE

Product description

SG chemical hose is recommended for delivery and / or aspiration of a great variety of chemical products that do not have a good behavior with PP, such as Toluene found in non-corrosive environment. It is suitable for use in loading and unloading of tank trucks, wagons, in plants and Marine applications.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m

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PTFE-SS Chemical

Category:

AGGRESSIVE CHEMICAL HOSE

Product description

PTFE-SS chemical hose is recommended for delivery and / or aspiration of a large variety of highly corrosive and compatible with PTFE and Stainless Steel such as Phosphoric Acid, Naphtha or Nitric Acid in low concentration among others It is suitable for use in loading and unloading of tank trucks, wagons, in plants and Marine applications.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: PTFE
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m

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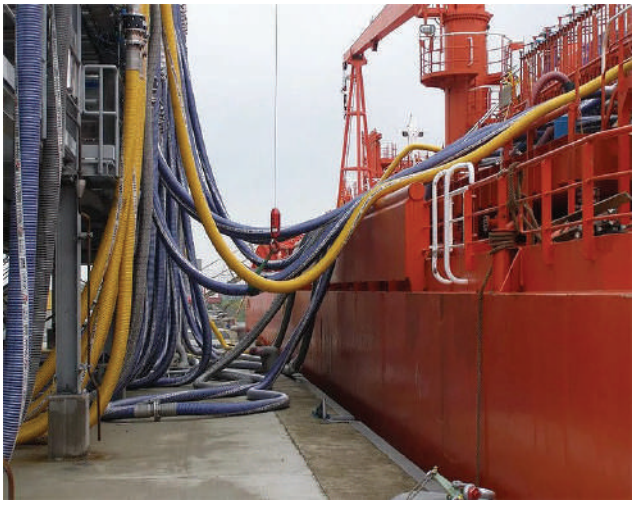
PTFE-SG

Category:

AGGRESSIVE CHEMICAL HOSE

Product description

PTFE-SG chemical hose is used for conveying and/or suction of various highly corrosive materials compatible with PTFE and stainless steel, such as low concentrations of phosphoric acid, naphtha, or nitric acid. It is suitable for loading and unloading in applications such as oil tankers, trucks, and factories



Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: PTFE
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c+80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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SG OIL FIELD HOSE

Category:

OILFIELD HOSE

Product description

SG composite hose is recommended for use in delivery and/or suction of fuels, oils and lubricants in cistern trucks, rail-cars or fixed deposits. With excellent chemical resistance, best mechanical strength, stainless steel wire is the premium choice to reduce corrosion.

Construction

Inner Wire spiral:Stainless Steel 304/316L (S)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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GG OIL FIELD HOSE

Category:

OILFIELD HOSE

Product description

GG composite hose is widely used in oil-field.

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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GS OIL FIELD HOSE

Category:

OILFIELD HOSE

Product description

GS composite hose is recommended for use in delivery and/or suction of fuels, oils and lubricants in cistern trucks, rail-cars or fixed deposits. With excellent chemical resistance, best mechanical strength, stainless steel wire is the pre-mium choice to reduce corrosion.

Construction
Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features
Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

AG VAPOUR RECOVERY HOSE

Category:

VAPOUR HOSE

Product description

AG Vapour Recovery Hose has been specially designed for the vapour recovery of hydrocarbon products in marine road and rail tanker operations. It is manufactured with a polypropylene liner and galvanized steel inner and outer wire spiral.

Construction

Inner Wire spiral: Aluminium (A)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

GG VAPOUR HOSE

Category:

VAPOUR HOSE

Product description

Vapour-GG has been specially designed for the vapour recovery of hydrocarbon products in marine road and rail tanker operations. It is manufactured with a polypropylene liner and galvanized steel inner and outer wire spiral.

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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SS VAPOUR HOSE

Category:

VAPOUR HOSE

Product description

Vapour-SS it's designed for the vapour recovery of general chemical products. It is also manufactured with a polypropylene liner but is available with inner wire spiral in 316 stainless steel or polypropylene coated steel. The outer wire spiral is available in 316 stainless steel and galvanised steel.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1" to 12"
Norms: EN 13765:2010 /CCS
Temperature range: -30c +80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

GS HIGH-TEMP COMPOSITE HOSE

(High Temprature Hose)

Category:

HIGH-TEMP HOSE

Product description

High-temp composite hose is designed for applications such as Bitumen, Hot air, Hot oil, etc. for loading / unloading trucks, wag-ons, plants and even Marine applications.
The internal and external spirals in stainless steel 316 can be used in the most extreme ex-ternal conditions and corrosive environment.
Its light weight makes it an alternative to heavy rubber hoses.

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c + 150c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

GG HIGH-TEMP COMPOSITE HOSE

(High Temprature Hose)

Category:

HIGH-TEMP HOSE

Product description

High-temp composite hose is specifically designed as an hose for the transfer of hot oil and bitumen under positive or negative pressures. The hose are used in such applications as transfer for rail and road tanker loading and unloading, storage tank and in-plant use. Extremely flexible, easy to handle and bend, even at very high or very low outdoor temperatures.

Construction

Inner Wire spiral: Galvanized Steel (G)
Outer Wire spiral: Galvanized Steel (G)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c + 150c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

SS HIGH-TEMP COMPOSITE HOSE

(High Temprature Hose)

Category:

HIGH-TEMP HOSE

Product description

High-temp composite hose is designed for applications such as bitumen, hot air, hot oil, etc. for loading / unloading trucks, wagons, plants and even Marine applications.
The internal and external spirals in stainless steel 316 can be used in the most extreme external conditions and corrosive environment. Its light weight makes it an alternative to heavy rubber hoses.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c + 150c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

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SS FOOD HOSE

Category:

FOOD HOSE

Product description

Food hoses are used in such applications as transfer for rail and road tankers, loading and unloading, storage tank and in-plant use. Particularly recommended in all the edible oils transfer, including Palm, Coconut, Sunflower, seeds or olive oils. It is widely used as well for chocolate, jam, edible or pure alcohol, isopropyl, ethyl, methyl or alcoholic spirits, wine and liquors.

Construction

Inner Wire spiral: Stainless Steel 304/316L (S)
Outer Wire spiral: Stainless Steel 304/316L (S)
Inner Lining: Polypropylene
Cover: PVC Coated Polyester Cloth

Features

Size: 1” to 12”
Norms: EN 13765:2010 /CCS
Temperature range: -30c + 80c
Safety factor: 5:1
Vacuum: 0.9 bar
Max. Length : 30 m.

FLANGES

Category:

FITTINGS

Product description

Novartis composite hose body is composed of multi-layer functional polymer membrane material and high-performance fiber fabric tensile layer winding, and is firmly supported by two layers of spiral steel wire inside and outside.
Inner spiral steel wire: stainless steel, galvanized carbon steel, aluminum alloy, PP coated steel wire
External spiral steel wire: stainless steel, galvanized carbon steel, aluminum alloy
Contact layer: functional high (ultra-high) molecular film
Sealing layer: multi-layer high-barrier polymer film
Tensile layer: multi-layer high-performance fiber fabric
Outer layer: wear-resistant, aging-resistant, UV-resistant, high-temperature-resistant polymer sheet
Features: light weight, good flexibility, strong compressive ability, high safety (multiple), (working condition) pertinence + strong adapta-

FLANGS TYPE

COUPLINGS	IMAGE	TYPE	SIZE	MATERIAL
FLOATING FLANGE		ANSI / JIS / DIN	1" TO 12"	STAINLESS STEEL CARBON STEEL
A		ANSI / JIS / DIN		

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CAMLOCK

Category:

FITTINGS

Product description

MATERIALS

All the hose fittings may be obtained in a variety of materials according to the compatibility with various media, including Stainless Steel, Brass, Aluminium, Carbon steel, Polypropylene, PVDF, PTFE, and for special application, metal fittings can be coated with Ebanite, or a special PTFE flake-on coating.

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CAMLOCK

Category:

FITTINGS

COUPLINGS	IMAGE	TYPE	SIZE	MATERIAL
PART A		MALE COUPLING (FEMALE NPT/PT)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART B		FEMALE COUPLING (MALE NPT/PT)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART C		FEMALE COUPLING (HOSE SHANK)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART D		FEMALE COUPLING (FEMALE NPT/PT)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART E		MALE COUPLING (HOSE SHANK)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART F		MALE COUPLING (MALE NPT/PT)	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART DC		DUST CAP	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE
PART DP		DUST PLUG	1 " TO 6"	STAINLESS STEEL CARBON STEEL BRASS POLYPROPYLENE

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PASCO INTERNATIONAL TRADING LLC.

30 N. GOULD STREET, STE 33354, SHERIDAN, WYOMING 82801
UNITED STATES OF AMERICA (USA)
USA : +1- (307) 392 - 0949

PASCO INTERNATIONAL TRADING WLL.

P.O.BOX: 47158, OFFICE# 750 ST. 63 BUILDING NUMBER
71 ZONE UMM SALAL, DOHA
QATAR MOB : 00974 - 7787 1414, 00974 - 7047 9386