

Industrial ducting hoses

Industrial ducting hoses
Fluid transfer solutions
www.trelleborg.com/fluidhandling

Trelleborg Fluid Handling Solutions

Trelleborg Fluid Handling Solutions is part of Trelleborg Industrial Solutions.

With over 1000 employees and head office located in Clermont-Ferrand (France), Trelleborg Fluid Handling Solutions is a key leading player proposing high performance and optimal solutions for every situation with low and medium pressure Industrial Hose, Oil and Marine Hoses, Rubber Sheeting & Matting and Expansion Joint based on advanced polymer technology with production sites in France, Spain, Sweden and Brazil.

Trelleborg Fluid Handling Solutions offers a very large range of competitive products, solutions and services that meet your needs and requirements for all types of application for your different businesses.



► Your Partner for Fluid Handling

Trelleborg Fluid Handling Solutions is organized around 9 applications areas:

- Oil and Gas
- Construction and Mining Equipment
- Energy
- Chemical, Pharma and Food
- Agriculture and Farms
- Environment and Cleaning Waste Water
- Processing Equipment and Machine Tools
- Industrial Transportation
- Life Science

This enables better reactivity to adapt our offer to fast moving application or to design special solutions tailor-made for you. In all cases we follow closely legal requirements or standard evolutions.

► Our logistics platform: availability, reactivity and reliability

Over 5000 different items are stored in our 3 logistic platforms in Clermont-Ferrand (France), Trelleborg (Sweden) and Izarra (Spain) to meet your need for immediate and reliable delivery.

► Our research and development centers through continuous innovations

Located in France and Brazil for Oil & Marine Hose, France and Sweden for Industrial Hose and Spain for Rubber Sheeting/ Matting and Expansion Joint, our R&D centers provide innovating solutions for compound, finished products and customized solutions.

All production sites are well equipped with laboratory, test bench and calculation centers to provide ready-to-use solutions based on our experience of the applications and competences.

► Our couplings technical centers

With location all over Europe (Germany, Norway, Sweden and France), Brazil and China we offer a large range of rubber hose assembly, composite hose, Stainless Steel or PTFE hose with dedicated service (24 hours to 48 hours delivery) and accessories.

► Trelleborg Oil & Marine Hoses

Trelleborg Oil & Marine is the leading supplier of innovative and field-proven large-bore flexible bonded hoses for crude oil, chemicals, and LPG/LNG offshore transfer applications.

Trelleborg Oil & Marine provides full service worldwide through global life cycle – engineering studies, delivery of complete solutions (hoses and ancillary equipments), on-site supervision, and recommendations for installation, maintenance and repairs. Trelleborg Oil & Marine is a technology and innovation driven company that makes flexible bonded hoses with unrivalled and undisputed performance.

Our products are designed and built with cutting edge solutions used in tire and aerospace industry, with high resistance to extreme operating environments and severe fatigue conditions. The acquisition of a Brazilian company in 2011 in Sao Paulo enlarged and completed the range of products and technologies. In Brazil, the business focuses on specially designed oil hoses for floating and submarine applications in order to answer the strongly growing local offshore oil and gas extraction industry.

Trelleborg Oil & Marine provides a wide range of products specifically designed for demanding applications with long service life and high level of reliability:

**One team, two world class factories,
in France and Brazil,
serving the global Oil & Gas transfer and offloading business**

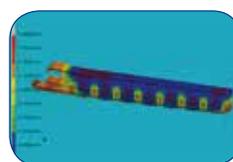
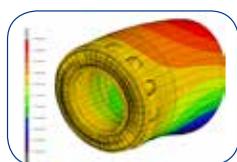


São Paulo, Brazil



Clermont-Ferrand, France

In order to help you to accelerate the development of your business, our service list also covers



| Compounding formulation | Hose configuration modeling | Finite element calculations | Hose design

| Hose testing (pressure, bending, elongation resistance, ...) | Hose certification (PED, ADR, REACH, ...) | Handling and storage instructions

| Installation instruction and supports | Hose inspection and refurbishment | Hose failure analysis

| After sales support | Training for sales team | Training for assembly workshop operators

Trelleborg group, **leader in polymer solutions**

Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments.

Its innovative engineered solutions accelerate performance for customers in a sustainable way.

The Trelleborg Group has annual sales of about SEK 21 billion (EUR 2.3 billion, USD 3.2 billion) in over 40 countries.

In addition, Trelleborg owns 50 percent of Trelleborg Vibracoustic, a global leader within

antivibration solutions for light and heavy vehicles, with annual sales of approximately SEK 14 billion (EUR 1.55 billion, USD 2.2 billion) in about 20 countries.

The Trelleborg share has been listed on the Stock Exchange since 1964 and is listed on NASDAQ OMX Stockholm, Large Cap.

www.trelleborg.com

The group comprises **5** business areas

► Trelleborg Coated Systems



► Trelleborg Offshore & Construction



► Trelleborg Wheel Systems



► Trelleborg Industrial Solutions

► Trelleborg Sealing Solutions

Applications

Air conveyance



Through a wide range of dimensions, PVC ducting hoses are the most adapted solutions for all applications as ventilation, air handling, air conditioning and dust and fumes extraction.

Abrasive material handling

Our PU ducting hoses, with an excellent resistance for abrasion and high flexibility, are mainly recommended for all applications that need abrasive material resistance as conveyance of powders and granules in food industry, drugs in pharmaceutical laboratories, dust, sawdust, metal fillings in the general industry or wood chips in woodworking industry.



Special applications



TRELLEBORG can also supply a wide range of technical ducting hoses for special applications such as:

- Highly aggressive chemical air, gas and dust.
- Conveyance of air at extreme temperature up to + 650° C.
- Military appliances.

Air conveyance at moderate temperatures

Industrial ducting hoses - PVC

		WP (bar)	Max vacuum (bar)	Temp. (°C)	ID (from/to) (mm)	
--	--	-------------	------------------------	---------------	----------------------	--

Industrial ducting hoses - PVC

KLEGAINE GCV	PVC	1.90 - 0.06	0.55 - 0.02	+ 80	20	500
---------------------	-----	-------------	-------------	------	----	-----

Good value for money, flexible and durable

Applications

- ▶ Air handling and for the conveyance of fumes, dust, and moderately abrasive materials such as sawdust.



KLEGAINE GRV	PVC	2 - 0.30	0.63 - 0.12	+ 65	20	250
---------------------	-----	----------	-------------	------	----	-----

Robust and flexible

Applications

- ▶ Ventilation, dust and fume extraction.
- ▶ Especially suitable for mobile applications: sanitary installations without pressure: mobile home, boat, caravanning, stand.
- ▶ Cables conduit.



KLEGAINE GSV	PVC	1 - 0.79	0.9 - 0.46	+ 80	25	102
---------------------	-----	----------	------------	------	----	-----

Flexible and pleasant aspect

Applications

- ▶ Many uses as air handling, dust and fumes.
- ▶ Domestic and industrial vacuum cleaners.

Accessories: black PVC fitting can be screwed into the ducting (left hand pitch).



KLEGAINE GM1V	PVC-coated glass fibre cord	0.85 - 0.02	0.32 - 0.01	+ 85	51	508
----------------------	-----------------------------	-------------	-------------	------	----	-----

M1 fire resistance

Applications

- ▶ Air conditioning, ventilation and fume extraction with flame resistant properties.



KLEGAINE GM1V-S	PVC-coated glass fibre cord	0.90 - 0.02	0.26 - 0.02	+ 100	30	500
------------------------	-----------------------------	-------------	-------------	-------	----	-----

Cheap solution, M1 fire resistance

Applications

- ▶ Ventilation of enclosed working places.
- ▶ Fumes and hot particles.
- ▶ Use when a risk of fire exists or when the french M1 standard is required.



KLEGAINE GLV	PVC-coated glass fibre cord	0.55 - 0.03	0.045 - 0.005	+ 95	125	1000
---------------------	-----------------------------	-------------	---------------	------	-----	------

Custom-made, M2 fire resistance

Applications

- ▶ Used to convey air for aeration, ventilation and heating.
- ▶ Hot air generator, navy, fire fighting, airports, etc.
- ▶ Possible options for mining and tunneling.
- ▶ Dog agility.



Carrier bag: PVC-coated polyester fibre cord.

M2 fire resistant, ID 200 to 800 mm.

Abrasive material and repeated bending

Industrial ducting hoses - Polyurethane (PUR)

WP (bar) Max vacuum (bar) Temp. (°C) ID (from/to) (mm)

Industrial ducting hoses - Polyurethane (PUR)

KLEGAINE GPU-FG	FDA 	Ether-base polyurethane	1.50 - 0.30	0.60 - 0.15	+ 80	20	250
------------------------	--	-------------------------	-------------	-------------	------	----	-----

Food grade ducting, resistant to impacts

Applications

- ▶ Suction and conveyance of abrasive materials, powders and granules in food industry, drugs in pharmaceutical laboratories, etc.
- ▶ Industrial vacuum cleaners and floor care applications, lawn movers and rock wool projection.
- ▶ Wood working industries.
- ▶ Wire conduit for robotics, X-ray machines.
- ▶ "Electric equipotentiality" (GPU-FG/EC) option



KLEGAINE GPU-M		Ester-base polyurethane	1.65 - 0.04	0.40 - 0.01	+ 100	25	500
-----------------------	--	-------------------------	-------------	-------------	-------	----	-----

Light and very flexible

Applications

- ▶ ASuction and conveyance of powders, abrasives particles, dust, sawdust, clips, textile fibers, metal filings.
- ▶ Industrial vacuum cleaners.
- ▶ Fume extraction in chemical and oil industries



KLEGAINE GPU-MS	FDA 	Ester-base polyurethane	1.70 - 0.15	0.60 - 0.08	+ 110	25	500
------------------------	---	-------------------------	-------------	-------------	-------	----	-----

Food grade ducting

Applications

- ▶ Conveyance of grains, granules, sawdust and wood chips, metal filings in humid and/or warm conditions.
- ▶ Street vacuum cleaners and lawn mowers.
- ▶ "Flame retardant" (DIN 4102 B1) option.
- ▶ "Antistatic" option.



KLEGAINE GPU-S		Ester-base polyurethane	2.30 - 0.30	0.70 - 0.10	+ 100	40	300
-----------------------	--	-------------------------	-------------	-------------	-------	----	-----

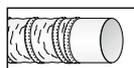
Outstanding resistance to abrasion and piercing

Applications

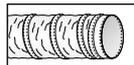
- ▶ Conveyance of highly abrasive materials such as metal filings, sand, gravel, ice, etc.
- ▶ Glass works, steel industry, mineral treatment, ports, cement works, big industrial vacuum cleaners



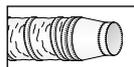
Klegaine GLV, GTLN and GTLS finish



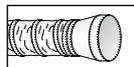
Standard cuff



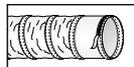
Blank end



Reduction



Increase



Quick coupling



Coupling ring



Grommets for overhead suspension



Carrier bag

Various accessories



Conductive polyurethane coupling, to screw
For ID 38, 40, 50, 60, 70 mm.

Other diameters available on request.
Especially adapted for:

Klegaine GPU-FG, Klegaine GPU-FG EC, Klegaine GPU-S.



Coupling
From 80 to 250 mm.

Galvanized steel coupling.
Other diameters available on request.



U shape clamp
From 40 mm to 920 mm.

Especially adapted for:
Klegaine GM1V, Klegaine GHT 450, Klegaine GHT 650, Klegaine GHYP, Klegaine GHYP TEF.

Special applications: extreme temperatures, vibrations, chemical attacks, etc.

Industrial ducting hoses - Elastomer-coated fibre cord

		WP (bar)	Max vacuum (bar)	Temp. (°C)	ID (from/to) (mm)	
--	--	-------------	------------------------	---------------	----------------------	--

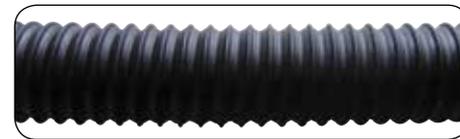
Industrial ducting hoses - Polyurethane (PUR)

KLEGAINE GTPK	TPE-coated polyester cord	1.70 - 0.06	0.45 - 0.03	+ 130	25	500
----------------------	---------------------------	-------------	-------------	-------	----	-----

Gas proof

Applications

- » Conveyance of hot air, cooling engines (cool and pure air).
- » Conveyance of gas and fumes, exhaust of solvent fumes.



KLEGAINE GTNR	Neoprene-coated glass fibre cord	1.43 - 0.26	0.50 - 0.03	+ 150	12	305
KLEGAINE GTNR +		2.17 - 0.35	0.50 - 0.07	+ 150	12	203

Highly compressible to minimise storage, maximum flexibility

Applications

- » Conveyance of hot and cold air, fumes or light non-abrasive dust at low pressures.
- » Air intake to cool motors.



KLEGAINE GTLN	Neoprene-coated glass fibre cord	0.55 - 0.03	0.06 - 0.007	+ 120	125	1000
----------------------	----------------------------------	-------------	--------------	-------	-----	------

Custom-made, M1 fire resistance

Applications

- » Conveyance of air and hot fumes, hot air generator: civil or military (NATO green option on request).

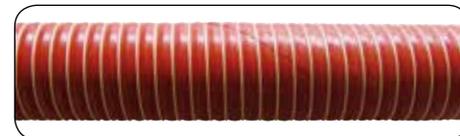


KLEGAINE GTSI	Silicone-coated glass fibre cord	1.43 - 0.49	0.50 - 0.07	+ 300	12	203
KLEGAINE GTSI +		2.17 - 0.35	0.50 - 0.07	+ 300	12	203

Excellent heat aging characteristics

Applications

- » Conveyance of air and fumes at extreme temperatures.
- » Air intake to cool motors.



KLEGAINE GTLS	Silicone-coated glass fibre cord	0.55 - 0.03	0.06 - 0.007	+ 300	125	1000
----------------------	----------------------------------	-------------	--------------	-------	-----	------

Fire proof

Applications

- » Conveyance of air and fumes at extreme temperatures.
- » M0 fire resistance.



KLEGAINE GHT 450	Coated glass fibre cord	-	0.360 - 0.001	+ 450	50	1000
KLEGAINE GHT 650		-	0.360 - 0.001	+ 650	50	1000

Extreme temperatures

Applications

- » Conveyance of air at extreme temperatures in any industrial environment: iron and steel industry, industrial incinerators, etc.



KLEGAINE GHYP	Hypalon coated-polyester	0.85 - 0.02	0.40 - 0.001	+ 175	50	1000
----------------------	--------------------------	-------------	--------------	-------	----	------

Chemical resistance

Applications

- » Ducting for chemical air, gas and dust in any industrial environment.



KLEGAINE GHYP TEF	Hypalon coated-polyester with conductive Teflon liner	0.85 - 0.02	0.40 - 0.001	+ 175	50	1000
--------------------------	---	-------------	--------------	-------	----	------

Chemical resistance, antistatic

Applications

- » Ducting for chemical air, gas and dust in any industrial environment, where electrical conductivity is mandatory.





BU Fluid Handling Solutions
Trelleborg Industrie SAS
ZI La Combaude - Rue de Chantemerle - CS 10725
63050 Clermont-Ferrand cedex 2 France
Tel +33 (0)4 73 25 81 00 - Fax +33 (0)4 73 25 82 17
tes.serviceclients@trelleborg.com - www.trelleborg.com/fluidhandling
SAS au capital de 10 412 700 € - RCS Clermont-Ferrand B 391 933 397
SIRET 391 933 397 00013 - APE 2219Z - TVA FR 56 391 933 397