

Tecalemit flexibles™



Tenir au Temps

HYDRAULIC HOSES
PROTECTION SHEATHS





Tecalemit flexibles™



Tenir au Temps

Tecalemit Flexibles®, with its strong brand name and patents, driven and supported by professionals, is your security-guaranteed supplier of flexible pipes and tubes, hoses and fittings provided by three departments.

SEL Tecalemit™



Rubber hoses, PVC hoses,
protection sheaths, fittings SEL
TECALEMIT®

flexibles Tecalemit™



Hydraulic hoses, protection sheaths,
systeme of flexibles reassured
Protocalan

tubes Tecalemit™



Technical tubes, spiralled tubes,
multitubes, connectors &
accessories tubes





Historic TECALEMIT FLEXIBLES®



E. Piquerez



J. Christe

Emile Piquerez had invented his famous forced lubrication with a simply attached coupler clip and given it the name "THÉCLA".

As for Joseph Christe, he had struck an agreement in the United States with the company "ALEMITE" through which the Piquerez patents were sold to this company for America in exchange for its own lubrication patents with bayonet connector for Europe.

This was the starting point of the company TECALEMIT, its offices, shops, workshops and service stations were set up by its two founders 18 Rue de Brunel in Paris in May 1922.

The name "TECALEMIT", a combination of "THÉCLA" and "ALEMITE", was to remind users of forced lubrication that they would find here devices by both brands.

Car owners came in their droves to get their lubricators replaced in only 15 or 20 minutes for just 100 Francs, which at the time was about £5 or \$20.

But TECALEMIT did not rest on its laurels. From the lubrication pump with a flexible hose and coupler clip, they moved on to the pushing pump with rigid hose and articulated clip, then onto LUB and ZERK lubrication, and finally to an even more perfected system that is still used today in almost all cars and machines built anywhere in the world: the "Hydraulic" system.

1946 saw the first "TELECAMIT" rubber hoses with crimped connections, then the flexible pipework "TECALEMIT-AEROQUIP" with dismountable connections were released in 1950, followed by flexible polyamide 11 pipes or flexible polyurethane 12 pipes that were manufactured in the Orly plant under the brand name Tecalan® from 1961.

In 1972, a factory fully dedicated to these products was built in Blois, where TECALEMIT FLEXIBLES® (brand registered in 1980) had its head office Avenue de Châteaudun.

In January 2006, all activities, except those dedicated to aerospace, were transferred to Pont l'Abbé, Route de Combrit, in Brittany.

Tecalemit Flexibles, ISO 9001 certified and with its approved economic operator status, offers a complete range of pipework and hoses with dismountable or crimped connections for remote hydraulic controls in addition to all the pneumatic tubes manufactured in Pont l'Abbé under the brands MANURIL®, MANULAN® and MALUFORM®.

All these devices were primarily designed for the automotive market but have also conquered aviation, railways, the marine, civil engineering and the industry as a whole.



Y. Tromelin , the President of TECALEMIT FLEXIBLES®

The sister companies Sel-Tecalemit and Tecamec are located only 800m away from the complete technical and sales offer.

Sel-Tecalemit designs and manufactures flexible elastomer hoses used to transfer fluids in industry. The company has approved economic operator status and is ISO 9001 certified and also benefits from authorisations from DREAL (French Environment, Development, and Housing Directorate) via its AFNOR certification to manufacture hoses for dangerous substances for clients in civil defence.

Tecamec manufactures connectors, hose caps and standoffs, as well as flexible hoses in stainless steel. These products are aimed at civil defence, welding, and energy industry (oil & gas, nuclear, off-shore rigs, FPSO LNG), civil engineering, sewers, and the steel industry.




Aerial view of the town of Pont l'Abbé



Photo Credit Claude BUHANNIC



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TECHNICAL GUIDE TECALEMIT FLEXIBLES®

This technical guide is intended for the selection, storage, use and maintenance of TECALEMIT FLEXIBLES® hoses.

Introduction

This guide gives TECALEMIT FLEXIBLES® recommendations concerning choice and conservation of elastomer and thermoplastic hose as much before as during use, in order to obtain maximum life span in conditions of optimum safety.

Moreover, TECALEMIT FLEXIBLES® is at customers' disposal for information concerning the evolution of pertinent standards and rules.

Preface : reminder on hose structure

A hose has 3 main components :

- An inner tube, for oiltightness, is made from homogenous polymer with excellent resistance to the product conveyed.
- A reinforcement giving the hose its physical and mechanical properties : resistance to pressure, to vacuum, resistance to kinking, tensile strength.

This reinforcement can combine several technical solutions to adapt to conditions of use : textile or metal braiding or spirals, plastic or metal spirals, cable spirals, electrical conductors.

More over, it guarantees the dimensional shape of the inner tube, thereby contributing to tightness of the hose.

- The outer cover is made from homogenous polymer and destined to isolate the reinforcement from the environment.

1 Selection of a hose

1 1 General criteria :

The user or prescriber should take the following aspects into consideration :

Environment :

- Safety of operators.
- Protection of the environment.
- Ambient temperature.
- Atmospheric conditions.
- Risk of impacts or abrasion.
- Presence of corrosive products.

State of product conveyed :

Liquid, gaseous, solid or a combination of same.

Method of use :

By suction, pressure or assisted.

Conditions of use :

Pressure and temperature of fluid, pressure surges, pressure peaks, frequency of use.

Characteristics of installation :

- Imposed bend radius.
- Vibrations.
- Strains.
- Flexions.
- Acceptable fittings.

The rest of this guide deals more with hydraulic hose up to inner diameter 2" (50,8mm) for oleo-hydraulic power applications and transport of gaseous fluids under high pressure.



TECHNICAL GUIDE TECALEMIT FLEXIBLES®

1 2 Inner diameter of a hose :

Expressed in millimetres and fractions of an inch as well as in Dashes (dash-sizes). These are equal to 1/16 of an inch for all our hoses except for hose type SAE100 R5 (our hose types T510 and T511).

The inner diameter of a hose is without doubt the first criterion to choose.

Choosing a diameter too small would have for effect :

- heating of the installation via the joule effect due to overspeeding of the hydraulic fluid flow.
- important pressure drops.
- loss of efficiency and premature wear of hydraulic pumps (suction).

Choosing a diameter too large would unnecessarily increase weight, size and cost of the installation.

Choosing the right inner diameter of hose is therefore primordial.

The table on page 15 is destined to help you determine hose inner diameter. It gives pressure drops for standard oil.

The abacus on page 16 (standard diameter) : speed of fluid / inner diameter / flow rate reinforces it and indicates recommended values for suction and delivery.

Part of the energy necessary for the transfer of fluid in the hose is lost through friction : it is called pressure drop. This is proportional to the speed of the fluid at low speeds. At higher speeds it becomes proportional to the square root of the speed and therefore excessive.

The limit between these two possibilities is identifiable by the Reynolds number which must be inferior to 2300 for the flow to be satisfactory.

$$\text{Reynolds number} = \text{Re} = v \cdot D / \nu < 2300$$

v = speed of fluid in millimeters per second

D = inner diameter of hose in millimeters

ν = kinematic viscosity in centistokes

When the Reynolds number is lower than 2300, it is said to be laminary, when it is between 2300 and 3000 it is called transitory and for values above, it is said to be turbulent.

1 3 Working pressure :

Expressed in bar with the abbreviation WP

Tecalemit Flexibles hoses are designed and produced to work continuously at the working pressures indicated on each data sheet and repeated in the table by diameter and type.

As an indication, it is considered that using a hose at 20% higher pressure than recommended reduces life span by half. The table on page 17 and 22 facilitates the choice of the hose according to working pressure.

1 4 Test pressure :

Expressed in bar with the abbreviation TP

Test pressure is generally twice the working pressure, it should be maintained for over 30 seconds without exceeding 15 minutes.

1 5 Overpressure, pressure surges :

Hydraulic circuits generally present pressure surges and/or temporary overpressures whose values exceed the nominal admissible pressures for the majority of the circuits components.

In this case, it is necessary to increase the safety factor, which is usually 4, between the working pressure and the theoretical burst pressure.

This safety factor can be reduced to 3.15 if no pressure surges are present.



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1 6 Burst pressure :

Expressed in bar with the abbreviation of BP

The values indicated on TECALEMIT FLEXIBLES® data sheets are before bursting.

They are guaranteed for hoses having never been in use and equipped with fittings in the preceeding month.

1 7 Working temperatures :

The temperatures specified in TECALEMIT FLEXIBLES® data sheets are the maximum admissible working temperatures for the hose with standard hydraulic oil.

It can be considered that 10°C higher in temperature can halve the life span.

For other fluids, please contact our technical department, as the maximum admissible temperature could be higher or lower than indicated.

It is strongly advised not to use hoses at maximum pressures and temperatures at the same time.

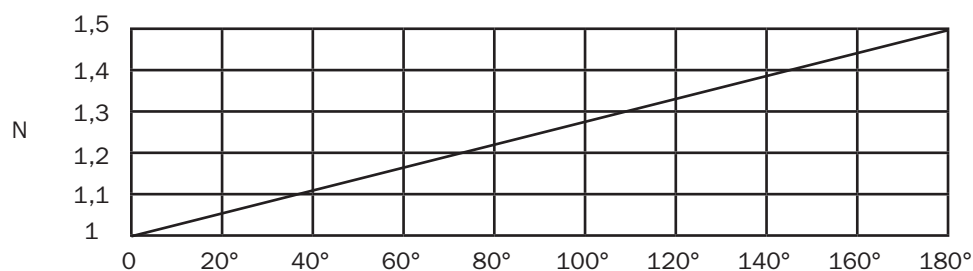
Hose assemblies can be used in different ambient temperatures after having been protected by an adequate heat-resistant sheath, without which the outer cover would be subjected to premature aging, harden and become brittle.

1 8 Bend radius :

Expressed in millimeters, bend radii are indicated by measuring from the centreline of the hose, at maximum working pressure and without flexing of the hose.

Should there be flexing of the hose, minimum bend radius should be increased by the multiplication factor N in the table below.

A lower bend radius can be acceptable, provided the working pressure is lowered.



1 9 Tensile strength :

Any pulling forces must be made in the centreline of end-fittings.

Only hoses with metal reinforcement can sufficiently resist off-centreline pulling forces.

Pulling forces should be avoided on suction hoses incorporating a wire spiral as well as hoses intended to transmit power via hydraulic oil.

Effect to reduce admissible working pressure and the internal dimension of the hose.

1 10 Vacuum resistance :

All our suction hoses have maximum vacuum resistance. Also, our data sheets indicate maximum admissible vacuum values for high pressure hoses with metal reinforcement, as well as the EN NF R3 hose with textile reinforcement.

Accidental kinking or flattening are particularly detrimental to vacuum resistance of hoses.



TECHNICAL GUIDE TECALEMIT FLEXIBLES®

1 11 Vibrations :

TECALEMIT FLEXIBLES® hoses are manufactured to withstand vibrations. In order to optimise their life span, it is recommended to avoid them in as much as possible, as vibrations (and flexions) are the main sources of wear and heating, particularly at end-fittings.

1 12 Twisting :

Twisting must be avoided. They give way to a rapid deterioration of hoses.

1 13 Chemical resistance :

Compatibility of the hose inner tube with the fluid conveyed must be ascertained. In the same respect, the outer cover and its environment should be taken into consideration.

The table of chemical resistance found in this catalogue gives the main information, but please contact our technical department in case of doubt.

1 14 Gaseous fluids :

Hoses must be adapted to conveying gaseous fluids when necessary.

The hose outer cover must be micro-perforated, in order to eliminate any gas build-up in the hose reinforcement structure.

Other precautions should be taken in assembling and installing the hose. These are detailed in the technical handbook. Metal spiral hose cannot convey gaseous fluids (microperforation is not possible).

1 15 Electrical conductivity :

In general, it can be said that metal-reinforced hoses are conductive and that textile-reinforced hoses are not.

Resistance per metre of hose inner tube and outer cover should be taken into consideration, and also that between the inner tube and the cover.

For special application, please consult the technical department.

1 16 Dimensional stability :

TECALEMIT FLEXIBLES® high pressure hose is manufactured with a braid angle which geometrically cancels any dimensional modifications due to pressure, that is : stretching with reduction of diameter or, alternatively, retraction accompanied by an increase in diameter.

Even so, it is strongly advised to check measurements during pressure tests.

2 Storage

Over long periods, particularly when exposed to certain factors described herebelow, hoses can be modified in such a way as to no longer have their initial physical properties.

The right storage conditions can give maximum protection and reduce deterioration of the polymers.

2 1 Storage time :

Bulk hose :

Indicated life spans are valid only if hose is stored in the conditions described in the following paragraphs.

Elastomer hose :

- Up to 3 years old : can be used without restrictions.
- Between 3 and 6 years : visual inspection, test samples at 2 times working pressure.



TECHNICAL GUIDE TECALEMIT FLEXIBLES®

- 6 to 8 years : full visual inspection, carry out destructive and impulse tests on samples.
- Over 8 years : do not use thermoplastic hose.
- For polyurethane cover hoses (SAE100R7 and R8, Tecalemit hoses TTAF and TTKF) please refer to elastomer hose recommendations above.
- TECALEMIT FLEXIBLES® hoses TTA and TTK, life span is twice as long in normal use. It can be longer in certain cases : please contact our technical department (BS ISO 2230:2002).

Hose assemblies installed on equipment :

Hoses containing the usual liquid and installed on equipment unused for over 3 years should be tested at twice the working pressure and should be replaced if over 5 years.

In every case, a careful visual inspection should be made, particularly where hose bends and at connections between hose and swage ferrule.

All TECALEMIT FLEXIBLES® hoses carry a number used to identify date of manufacture and the date at which hose was placed in stock.

2 2 Temperature :

The ideal storage temperature is 15°C and the acceptable range is between 0°C and 35°C.

Hoses should therefore not be placed near a source of heat. In any case, stored hoses should not be subjected to temperatures in excess of 50°C or lower than - 30°C.

Moreover, any important fluctuations of temperature during storage could lead to premature aging of the hose. Any cracking of the outer cover due to ozone effects increase with temperature.

2 3 Ultraviolet rays :

Direct light is a major source of aging. items should not be subjected to sunlight or strong artificial light.

Should the storage area have windows, these should be covered with protective red, orange or white film, or use opaque packing on the items.

2 4 Humidity :

It is recommended to avoid humidity in excess of 65%.

2 5 Ozone :

Ozone is a factor of aging that must be taken into account.

Storage areas should not contain any ozone generators such as mercury lamps or electrical equipment producing sparks such as AC electrical motors.

Moreover, circulation of air around and inside the hoses should be limited, for instance by leaving the original packing on the hose and plugging the hose ends.

2 6 Environment :

Storage areas should be separated from workshops where the items could be subjected to projections of oil, solvants, detergents...

2 7 Storage bend radius :

Ozone is major factor of aging which, in particular, causes cracking in the rubber outer cover. When the hose is bent, the strain on the outer cover has a tendency to increase the cracks.

Consequently, the smaller the bend radius, more likely the risk of cracks appearing.



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2 8 Storage method :

Ideally, hoses should be stored by laying them straight on a flat support with ends plugged. Should hoses have to be stored in rolls, these should not be piled one on top of the other, and in no case should there be any permanent flattening of the structure due to piling. Hoses should not be hung on hooks and generally should not be subjected to any flexion or traction.

3 Use and maintenance :

During use, a hose can be subjected to many effects for which it has not been foreseen. Obviously, it is recommended to use a hose according to data sheets concerning working pressure, temperature, bend radius... Please contact us in case of doubt on the combination of the different factors.

3 1 Protection in service :

Accessories destined to protect hoses can be found at the end of this catalogue. The GA sheath is made from braided fibre glass with silicon induction, available in various thicknesses and a large range of diameters for heat protection of hose. The GC sheath is in SBR/EPDM on a textile support affording mechanical and ultraviolet protection.

3 2 Manipulation :

Hoses should be handled with precaution, must not be dragged over abrasive or sharp surfaces, avoid knotting, trampling or flattening under vehicles.

3 3 Products conveyed :

Please consult us should the hose be used for a product different than the one foreseen. A chemical compatibility chart for hose inner tubes can be found on page 18.

3 4 Torsion :

Should the relative movement result in a torsion of the hose, end connections should be modified to give way to a flexion of the hose rather than torsion.

3 5 Tensile strength :

Please consult us with details of any pulling forces that our hoses could be subjected to.

3 7 Protection of operators :

High pressure hoses, when used in the presence of operators, should be equipped with our patented PROTECALAN® sheathing, combining anti-whip cables and spray-guard. The combination of these two devices ensures the total protection of operators in conformity with NF EN ISO 4413 which defines the general rules relative to hydraulic installations. Once per year, it is recommended that hoses be visually inspected after cleaning.

The following defects should impose the replacement of the hose :

- Leaks or traces thereof.
- Ripped or torn outer cover.
- Slipping of end-fitting.
- Abrasion or notches leaving reinforcement exposed.

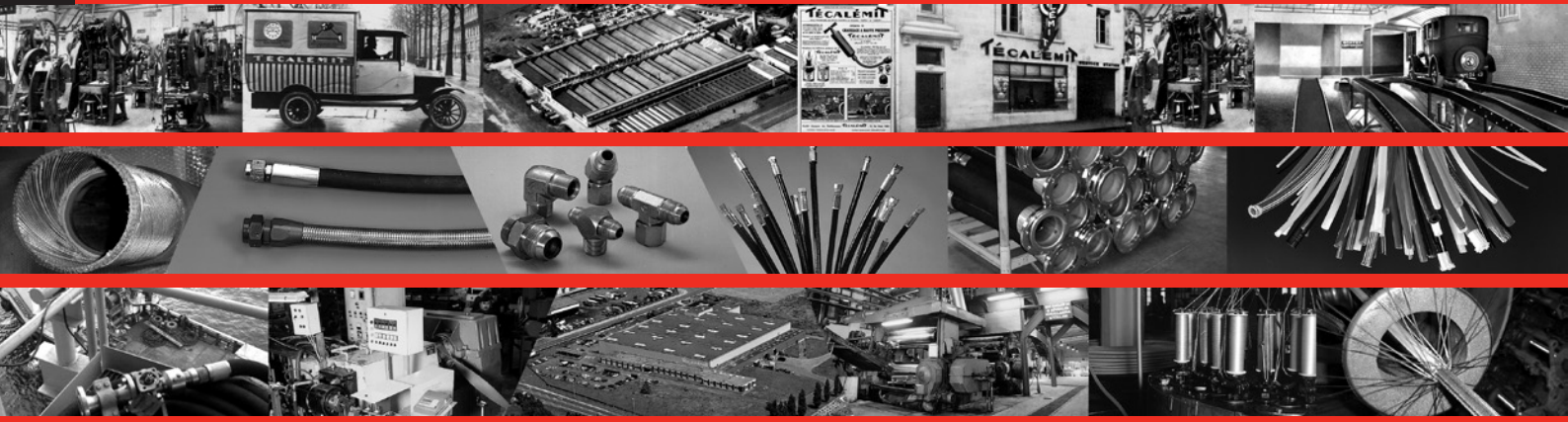


TABLE OF TECALEMIT FLEXIBLES® HOSE

| Hose | Working pressure (bar) | | | | | | | | | | | | | | | | | | |
|-------|------------------------|------|-----|------|------|-----|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| | Dash | | | | | | | | | | | | | | | | | | |
| | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 24 | 32 | 40 | 48 | 50 | 56 | 64 | 80 | 96 |
| TTA | 245 | 225 | 180 | 160 | 140 | | | | | | | | | | | | | | |
| TTAF | 245 | 225 | 180 | 160 | 140 | | | | | | | | | | | | | | |
| TTK | 530 | 450 | 370 | 300 | 230 | | | | | | | | | | | | | | |
| TKKF | 530 | 450 | 370 | 300 | 230 | | | | | | | | | | | | | | |
| T710 | 230 | 200 | 190 | 175 | 150 | 125 | 100 | | 75 | | | | | | | | | | |
| T711 | 293 | 287 | 217 | 212 | 185 | 150 | 125 | | 100 | | | | | | | | | | |
| T712 | 293 | 287 | 217 | 212 | | | | | | | | | | | | | | | |
| T713 | | 390 | | 315 | | | | | | | | | | | | | | | |
| T810 | 345 | 345 | 310 | 275 | 240 | 190 | 155 | 138 | | | | | | | | | | | |
| T111 | 287 | 242 | 237 | 203 | 171 | 142 | 123 | | 91 | 68 | 61 | 49 | | | | | | | |
| T113 | 287 | 242 | 237 | 203 | 171 | 142 | 123 | | 91 | 68 | 61 | | | | | | | | |
| T116 | 350 | 453 | 412 | 282 | 338 | 262 | 225 | | 157 | 100 | | | | | | | | | |
| T117 | | 263 | 275 | 236 | 286 | 296 | 243 | | 214 | | | | | | | | | | |
| T121 | | 261 | 236 | 212 | 183 | 169 | 111 | | 95 | | | | | | | | | | |
| T211 | 463 | 453 | 379 | 365 | 304 | 270 | 219 | | 173 | 133 | 96 | 88 | 69 | 50 | | | | | |
| T213 | 463 | 453 | 379 | 365 | 304 | 270 | 219 | | 173 | 133 | 96 | 88 | | | | | | | |
| T214 | | 453 | 379 | 365 | 304 | 270 | 219 | | 173 | | | | | | | | | | |
| T221 | | 450 | 384 | 357 | 310 | 276 | 236 | | 181 | | | | | | | | | | |
| T261 | | | 400 | 400 | | | | | | | | | | | | | | | |
| T263 | | 400 | 400 | 400 | 400 | | | | | | | | | | | | | | |
| T331 | 103 | 86 | 83 | 78 | 69 | 60 | 52 | | 39 | 26 | | | | | | | | | |
| T381 | 276 | | | | | | | | | | | | | | | | | | |
| T410 | | | | | | | 21 | | 17 | 14 | 10 | 10 | 10 | 10 | | 10 | 10 | | |
| T462 | | 25 | 25 | 25 | 25 | 25 | 25 | | 25 | | | | | | | | | | |
| T510 | | 207 | 207 | 155 | 138 | 121 | 103 | | 55 | 43 | 34 | 24 | 24 | | | | | | |
| T513 | | 207 | 207 | 155 | 138 | 121 | 103 | | 55 | 43 | 34 | 24 | 24 | 14 | | | | | |
| T532 | | | | 43 | 43 | 43 | 43 | | 43 | 43 | 43 | 43 | 43 | 43 | | | 43 | | |
| T610 | | 28 | 28 | 28 | 28 | 24 | 22 | | | | | | | | | | | | |
| THTH | | 28 | 28 | 28 | 28 | 24 | 22 | | | | | | | | | | | | |
| T611 | 34 | 28 | 28 | 28 | 28 | 24 | 21 | | 20 | | | | | | | | | | |
| T613 | 34 | 28 | 28 | 28 | 28 | 24 | 21 | | | | | | | | | | | | |
| T622 | 80 | 75 | 68 | 63 | 58 | 50 | 45 | | 40 | 35 | | | | | | | | | |
| T623 | 160 | 145 | 130 | 110 | 93 | 80 | 70 | | 55 | 45 | 40 | 33 | 25 | | 18 | | 18 | | |
| T911 | | 540 | | 501 | 448 | 384 | 456 | | 357 | 305 | 279 | 252 | | | | | | | |
| T912 | | | | | | 521 | 456 | | 452 | 365 | 361 | 295 | | | | | | | |
| T914 | | | | | | | 456 | | 452 | 365 | | | | | | | | | |
| T915 | | | | | | | 420 | | 420 | 420 | 420 | 420 | | | | | | | |
| T961 | | 1000 | | 850 | 800 | | 750 | | 700 | | | | | | | | | | |
| T962 | | | | 1200 | 1100 | | 1000 | | | | | | | | | | | | |
| T1362 | | | | 1450 | 1450 | | 1350 | | 900 | | | | | | | | | | |
| VKI | 207 | 190 | 172 | 155 | 138 | 103 | 86 | | 69 | | | | | | | | | | |
| VI | | 110 | 100 | 90 | 97 | 85 | 78 | | 65 | | | | | | | | | | |
| TH P1 | 276 | 224 | 207 | 183 | 161 | 115 | 103 | 92 | 80 | | | | | | | | | | |
| TH P2 | 310 | 253 | 237 | 206 | 189 | 133 | 126 | 115 | 93 | | | | | | | | | | |
| TH P3 | | 172 | 100 | 133 | 103 | 83 | 69 | 57 | 46 | 34 | 30 | 23 | | 14 | | | | | |



PRESSURE DROPS FOR STANDARD OIL

| Litre/ minute | Inner diameter (mm) | | | | | | | | | | | | | | | | | | |
|------------------|---------------------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 6 | 8 | 10 | 12 | 13 | 16 | 19 | 22 | 25 | 29 | 32 | 35 | 38 | 46 | 51 | 63 | 76 | 89 | 102 |
| 1 | 146 | | | | | | | | | | | | | | | | | | |
| 2 | 291 | 92 | | | | | | | | | | | | | | | | | |
| 4 | 548 | 185 | 75 | | | | | | | | | | | | | | | | |
| 8 | 1168 | 370 | 151 | 73 | | | | | | | | | | | | | | | |
| 12 | 1752 | 555 | 227 | 109 | 80 | | | | | | | | | | | | | | |
| 16 | 2335 | 739 | 302 | 146 | 106 | | | | | | | | | | | | | | |
| 20 | 2927 | 924 | 378 | 182 | 133 | | | | | | | | | | | | | | |
| 25 | 7496 | 1157 | 473 | 228 | 166 | 72 | | | | | | | | | | | | | |
| 30 | 10223 | 2626 | 567 | 274 | 199 | 87 | | | | | | | | | | | | | |
| 40 | 16751 | 4332 | 1429 | 366 | 265 | 115 | | | | | | | | | | | | | |
| 50 | 24649 | 6362 | 2173 | 921 | 633 | 145 | 72 | | | | | | | | | | | | |
| 60 | | 8705 | 2966 | 1252 | 860 | 325 | 87 | 48 | 29 | | | | | | | | | | |
| 75 | | | 4346 | 1832 | 1254 | 471 | 211 | 60 | 36 | 20 | 13 | | | | | | | | |
| 90 | | | | 2502 | 1711 | 643 | 286 | 143 | 79 | 24 | 16 | | | | | | | | |
| 100 | | | | | 2049 | 767 | 341 | 172 | 94 | 47 | 18 | 13 | 9 | | | | | | |
| 120 | | | | | | 1047 | 465 | 233 | 128 | 64 | 40 | 15 | 11 | | | | | | |
| 140 | | | | | | | 605 | 303 | 166 | 83 | 52 | 34 | 23 | 5,9 | | | | | |
| 160 | | | | | | | 760 | 380 | 208 | 104 | 65 | 43 | 29 | 12 | 4,5 | | | | |
| 180 | | | | | | | 931 | 465 | 254 | 126 | 80 | 52 | 36 | 15 | 9 | 2,2 | | | |
| 200 | | | | | | | 1117 | 557 | 304 | 151 | 95 | 62 | 42 | 17 | 11 | 2,4 | 1,1 | | |
| 240 | | | | | | | | 761 | 416 | 206 | 130 | 85 | 57 | 24 | 15 | 5,4 | 1,4 | 0,7 | |
| 280 | | | | | | | | | | 268 | 168 | 110 | 75 | 31 | 19 | 7 | 2,9 | 1 | 0,5 |
| 320 | | | | | | | | | | | 212 | 139 | 94 | 38 | 24 | 8,7 | 3,6 | 1,7 | 0,6 |
| 360 | | | | | | | | | | | | 170 | 115 | 47 | 28 | 11 | 4,4 | 2,1 | 1,1 |
| 400 | | | | | | | | | | | | 203 | 138 | 56 | 34 | 13 | 5,3 | 2,5 | 1,3 |
| 450 | | | | | | | | | | | | | 169 | 69 | 42 | 16 | 6,4 | 3,1 | 1,6 |
| 500 | | | | | | | | | | | | | 202 | 82 | 50 | 19 | 7,7 | 3,7 | 1,9 |
| 600 | | | | | | | | | | | | | | 112 | 69 | 25 | 10 | 5 | 2,6 |
| 700 | | | | | | | | | | | | | | 146 | 90 | 3,3 | 14 | 6,5 | 3,4 |
| 800 | | | | | | | | | | | | | | 184 | 113 | 42 | 17 | 8,1 | 4,3 |
| 900 | | | | | | | | | | | | | | 227 | 139 | 51 | 21 | 10 | 5,2 |
| 1000 | | | | | | | | | | | | | | | 167 | 61 | 25 | 12 | 6,3 |
| 1200 | | | | | | | | | | | | | | | 230 | 84 | 35 | 16 | 8,6 |

Laminary flow

Transitory flow

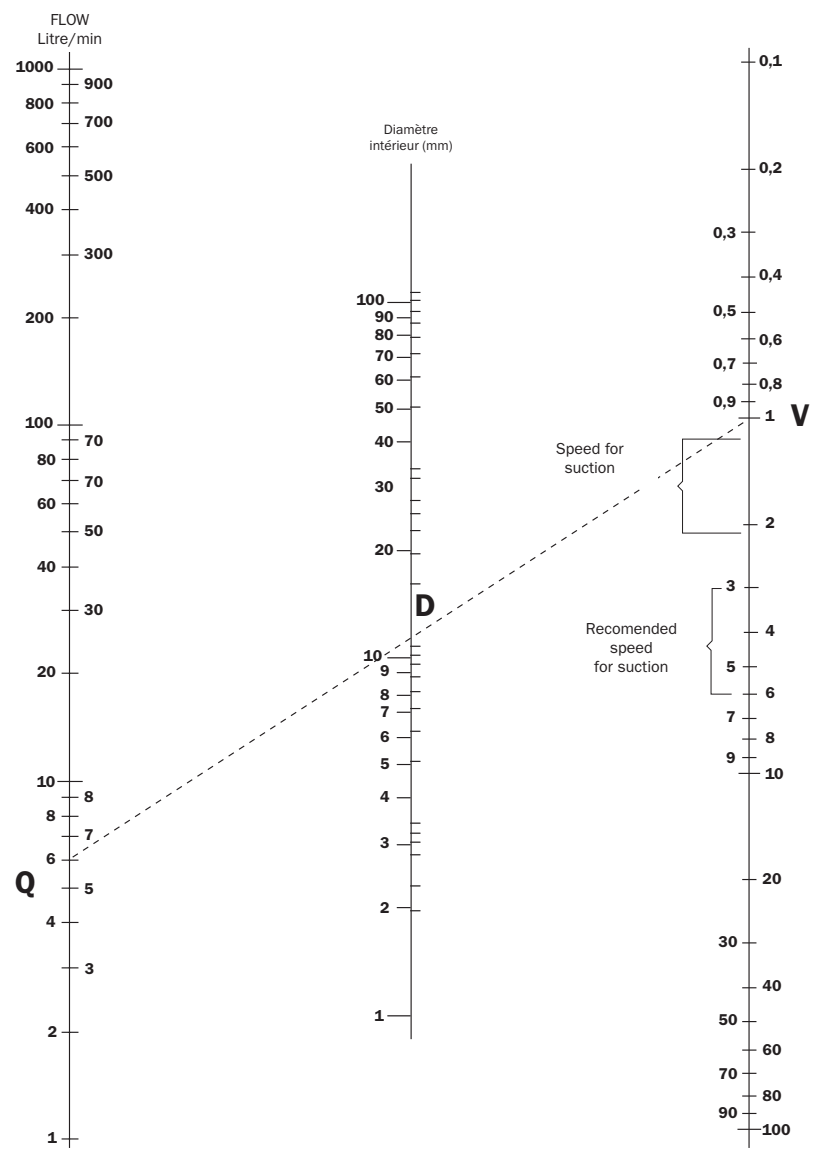
Turbulent flow

Table of pressure drop in millibars (mb) per metre of rubber hose without end-fittings by inner diameter in millimetres and by flow rate in litres per minute (l/m) for a standard hydraulic oil of 31,8 centistokes (mm²/s) and with a density of 878 kg/m³.



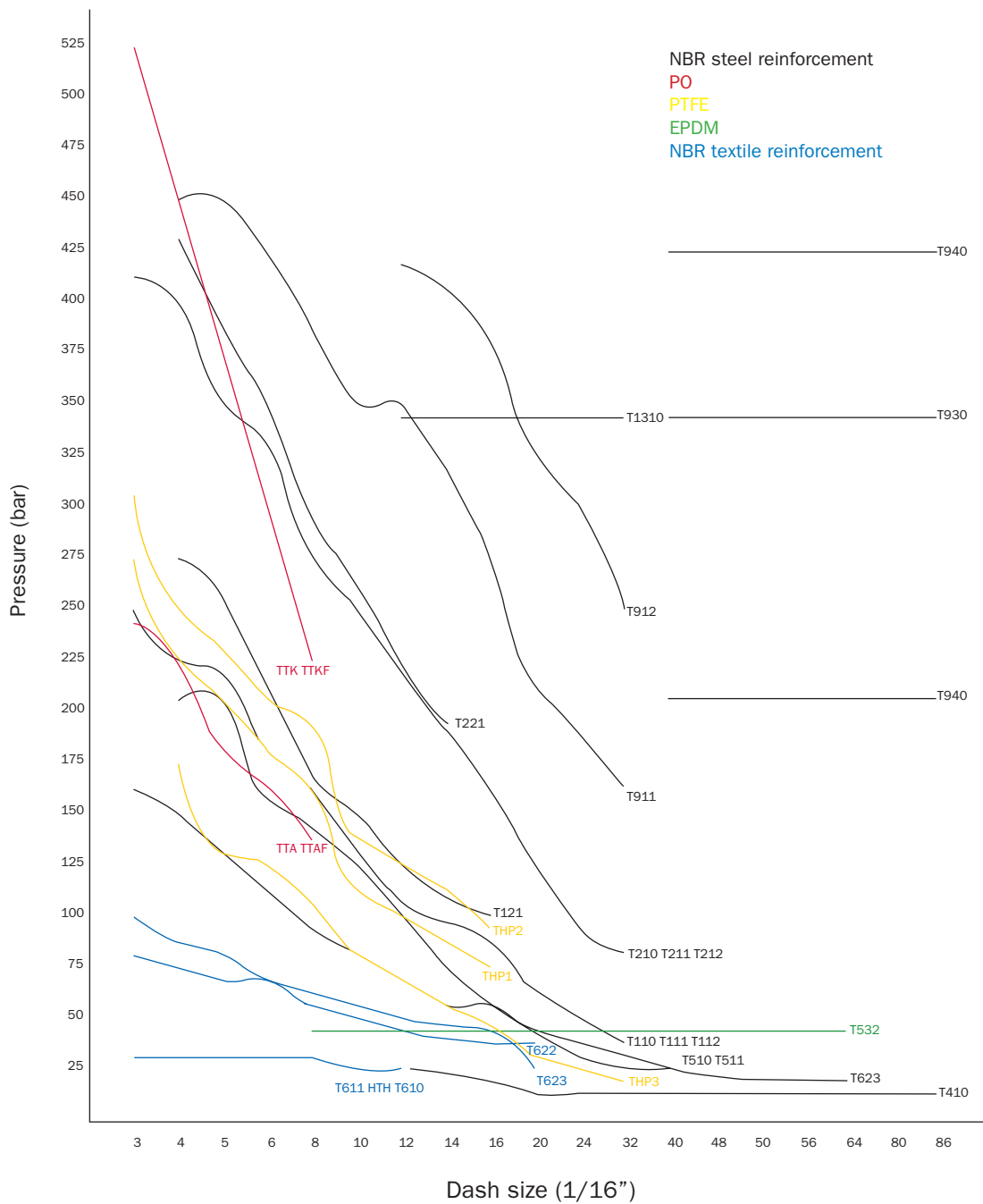
ABACUS

The following abacus corresponds the flow rate (in litres per minute), the inner diameter (in millimeters) and the speed (in meters per second) of a fluid within a hose.
 It is just necessary to trace a straight line through two known values to obtain the third.
 In the example shown by a dotted line, for a flow **Q** of 6 l/m, to have a speed **V** of 1 m/s, it is necessary to have an inner diameter **D** of roughly 12mm.





GRAPHICAL CHART OF WORKING PRESSURES ACCORDING TO HOSE





TABLEAUX DES RÉSISTANCES CHIMIQUES

1 : Little or no effect

2 : Minor effect

3 : Moderate effect

4 : Ambient temperature

| Chemical product | conc % | temp. °C | EPDM | NBR | POLYAMIDE | PTFE |
|-----------------------------|------------|----------|------|-----|-----------|------|
| Acetic acid | 10 | 50 | 3 | 4 | 4 | 1 |
| Acetic acid | 50 | 50 | 4 | 3 | 4 | 1 |
| Acetic acid | | 100 | 4 | 4 | 4 | 1 |
| Acetic acid, vapor | 100 | 70 | 1 | 2 | 4 | 1 |
| Acetic anhydride | | AT | 2 | 2 | 1 | 1 |
| Acetone | | AT | 1 | 4 | 1 | 1 |
| Acetylene | | | | 1 | 1 | 1 |
| Air with oil up | | | | 90° | 120° | 200° |
| Air without oil | | | 150° | 70° | 120° | 200° |
| Allylic alcohol | | AT | | 1 | | |
| Ammoniac gas | | cold | 1 | 2 | 1 | 1 |
| Ammoniac gas | | hot | 2 | 2 | 1 | 1 |
| Ammoniac liquid | | AT | 1 | 2 | 1 | 1 |
| Ammonium carbonate | Sat | 70 | 1 | 4 | 2 | 1 |
| Ammonium hydroxide | 10 | AT | 1 | 1 | 1 | 1 |
| Ammonium hydroxide | | Conc. | | AT | 1 | 2 |
| Amyl acetate | | AT | 2 | 4 | 1 | 1 |
| Amyl alcohol | | 50 | 1 | 2 | | |
| Aniline | | AT | 1 | 4 | 1 | 1 |
| Aniline | | 100 | 1 | 4 | 1 | 1 |
| Animal oil | | 50 | 2 | 1 | 1 | 1 |
| Aqueous lead sulfamate | | | 1 | 2 | | 1 |
| Aqua regia | | AT | | 4 | 4 | 1 |
| Asphalt | | 100 | 4 | 2 | 1 | 1 |
| Baryum hydroxide | Conc. | 100 | | 1 | 1 | 1 |
| Benzene | | AT | 4 | 4 | 1 | 1 |
| Benzene ether | | AT | 4 | 4 | | 1 |
| Benzyl alcohol | | AT | 1 | 4 | 3 | 1 |
| Benzyl benzoate | | | 2 | 4 | | 1 |
| Boric acid | 10 | 100 | 1 | 1 | 1 | 1 |
| Bromic acid | 37 | AT | 1 | 4 | 1 | 1 |
| Bromine | | AT | | 4 | 4 | 1 |
| Bromobenzene | | | 4 | 4 | 4 | 1 |
| Butadiene | | AT | 3 | 4 | | 1 |
| Butane liquid | | AT | 4 | 1 | 1 | 1 |
| Butter (dehydrated) | | 100 | 3 | 1 | 1 | 1 |
| Butylacetate | | AT | 2 | 4 | 1 | 1 |
| Butylbutylic aldehyde | | | 2 | 2 | 1 | 1 |
| Butyle stearate | | 70 | 3 | 1 | 1 | 1 |
| Butyric acid | | AT | 2 | 4 | 1 | 1 |
| Calcium hydroxide | | 100 | | 2 | 1 | 1 |
| Calcium hypochlorite | | AT | 1 | 3 | | 1 |
| Carbolic acid | 15 | | | | | |
| Carbon dioxide | See Phenol | | | | | |
| Carbon tetrachloride | | AT | 1 | 1 | 1 | 1 |
| Chloric acid | 20 | AT | 4 | 3 | 1 | 1 |
| Chlorine (gas) | | | 1 | 4 | 4 | 1 |
| Chlorine (water) | | | 3 | 3 | 4 | 1 |
| Chlorine water | Sat | AT | 4 | 4 | 4 | 1 |
| Chlorhydric acid | 10 | 100 | 4 | 3 | 4 | 1 |
| Chlorhydric acid | 21 | 50 | 2 | 2 | 4 | 1 |
| Chlorobenzene | | 50 | 4 | 4 | 1 | 1 |
| Chlorobromomethane | | AT | 3 | 4 | | |
| Chlorodiphenyl | | AT | 4 | 4 | 1 | 1 |
| Chlorododecane | | | 4 | 4 | | |
| Chloroform | | AT | 4 | 4 | 3 | 1 |
| Chlorohydric acid (glacial) | 37 | AT | 1 | 3 | 4 | 1 |
| Chromic acid | 40 | 50 | 3 | 4 | 4 | 1 |
| Citric acid | Sat | 70 | 1 | 2 | 1 | 1 |
| Cod-liver oil | | AT | 2 | 1 | 1 | 1 |
| Coke oven gas | | | 4 | 2 | | |
| Cotton oil | | AT | 2 | 1 | 1 | 1 |
| Creosote | | | 4 | 2 | 1 | 1 |
| Dibutyl phtalate | | AT | 1 | 4 | 1 | 1 |



1 : Little or no effect

2 : Minor effect

3 : Moderate effect

4 : Ambient temperature

| Chemical product | conc % | temp. °C | EPDM | NBR | POLYAMIDE | PTFE |
|-----------------------------|------------------------|----------|------|-----|-----------|------|
| Dimethyl phtalate | | | 2 | 4 | | 1 |
| Dimethylamine | | AT | 3 | 4 | 1 | 1 |
| Dimethylamine | | AT | 2 | 4 | | 1 |
| Dioctyl phtalate | | 100 | 2 | 3 | 1 | 1 |
| Dioxane | | AT | | 4 | 1 | 1 |
| Distilled water | | 100 | 1 | 2 | 1 | 1 |
| Epichlorhydrine | | 50 | 2 | 4 | 4 | 1 |
| Ethane | | | 4 | 1 | 1 | 1 |
| Ethanol | | 50 | 1 | 1 | | 1 |
| Ether | | AT | 3 | 2 | 1 | 1 |
| Ethyl acetate | | AT | 1 | 4 | 1 | 1 |
| Ethyl acylate | | AT | 2 | 4 | 1 | 1 |
| Ethyl chloride | | AT | 1 | 2 | 1 | 1 |
| Ethylene glycol | | 100 | 1 | 1 | 1 | 1 |
| Ethylene oxide | | AT | 3 | 4 | 1 | 1 |
| Ethylenediamine | | AT | 1 | 2 | 1 | 1 |
| Ethylmercaptan | | | 4 | 4 | | 1 |
| Fluorobenzene | | | 4 | 4 | | 1 |
| Fluorochloroethylene | | | | 4 | | |
| Formaldehyde | 40 | AT | 2 | 1 | 1 | 1 |
| Formaldehyde | 40 | 70 | 2 | 4 | 1 | 1 |
| Formic acid | Sat | AT | 2 | 3 | 4 | 1 |
| Formic acid | Sat | 70 | 2 | 3 | 4 | 1 |
| Furfural | | AT | 2 | 4 | 1 | 1 |
| Furfurylic alcohol | | AT | 3 | 4 | 1 | 1 |
| Gallic acid | | | 2 | 3 | | 1 |
| Gas-oil | | 70 | 4 | 1 | 1 | 1 |
| Gelatin | | 40 | 1 | 1 | 1 | 1 |
| Glucose (liquid) | | 80 | 1 | 1 | 1 | 1 |
| Glycerine | | 100 | 1 | 1 | 1 | 1 |
| Glycolic acid | 37 | AT | 1 | 1 | | |
| Heaxane | | AT | 4 | 1 | 1 | 1 |
| Hexane | | AT | 4 | 1 | 1 | 1 |
| Hydrazine (solution) | | AT | 1 | 4 | | 1 |
| Hydrocyanic acid | 20 | | 1 | 3 | | |
| Hydrofluoric acid, hot | 48 | AT | 1 | 3 | 4 | 1 |
| Hydrogen | | 100 | 1 | 1 | 1 | 1 |
| Hydrogen peroxide | 30 | AT | 1 | 1 | 4 | 1 |
| Hydrogen peroxide | 10 | AT | 3 | 4 | 4 | 1 |
| Hydrogen sulfide (solution) | Sat | AT | 1 | 4 | 1 | 1 |
| Iso-butyl alcohol | | AT | 1 | 2 | 1 | 1 |
| Isooctane (solvant A) | | AT | 4 | 1 | 1 | 1 |
| Isooctane / toluene | See solvants B et C | | | | 1 | 1 |
| Isopropanol | | 40 | 1 | 2 | 1 | 1 |
| Isopropyl ether | | AT | | 4 | 1 | 1 |
| Isopropyl acetate | | | 2 | 4 | 1 | 1 |
| Kerosene | | 70 | | 1 | 1 | 1 |
| Lactic acid | 10 | 70 | 1 | 1 | | 1 |
| Lard | | 70 | 3 | 1 | 1 | 1 |
| Linseed oil | | AT | 1 | 1 | 1 | 1 |
| Liquid fluorine | | | 3 | | | 1 |
| Maleic acid | | | 4 | 1 | 1 | 1 |
| Maleic acid solution | Sat | AT | 3 | 2 | | 1 |
| Mercury | | | | 1 | 1 | 1 |
| Methane | | AT | 4 | 1 | 1 | 1 |
| Methanol | | 50 | 1 | 1 | 1 | 1 |
| Methyl acetate | | AT | 2 | 4 | 1 | 1 |
| Methyl chloride | | | 3 | 4 | 1 | 1 |
| Methylene chloride | | AT | 3 | 4 | 2 | 1 |
| Methylamine | 32 | AT | 1 | 4 | 1 | 1 |
| Methylbutylketone | | | 2 | 4 | 1 | 1 |
| Methylcyclopentane | | | 4 | | | |
| Methylisobutylketone | | AT | 2 | 4 | 1 | 1 |
| Milk | | AT | 1 | 1 | 1 | 1 |
| Mineral oil N° 1 | | 100 | 4 | 1 | 1 | 1 |
| Mineral oil N° 2 | | 100 | 4 | 1 | 1 | 1 |



1 : Little or no effect

2 : Minor effect

3 : Moderate effect

4 : Ambient temperature

| Chemical product | conc % | temp.°C | EPDM | NBR | POLYAMIDE | PTFE |
|--|----------------|--------------|------|------|-----------|------|
| Mineral oil N° 3 | | 100 | 4 | 1 | 1 | 1 |
| N -octane | | | 4 | | 1 | 1 |
| Nitric acid concentrated | | AT | 4 | 4 | 4 | 1 |
| Nitric acid diluted | 10 | 50 | 1 | 2 | 4 | 1 |
| Nitric acid fuming | 100 | 20 | 4 | 4 | 4 | 1 |
| Nitrobenzene | | 50 | 1 | 4 | 1 | 1 |
| Nitrogen | | | 1 | 1 | 1 | 1 |
| Octanol | | | 1 | 2 | 1 | 1 |
| Oleic acid | | AT | 3 | 1 | 1 | 1 |
| Olive oil | | 50 | 3 | 1 | 1 | 1 |
| Oxalic acid | 25 | 70 | 1 | 3 | 1 | 1 |
| Oxidizing salt solution (based on K Mn O4) | 25 | 70 | 4 | | 1 | 1 |
| Oxygen up to | | | | AT | 120° | 4 |
| Ozone | 50 ppm | 40 | 1 | 4 | 3 | 1 |
| Palmitic acid | | 70 | 2 | 2 | 4 | 1 |
| Perchlorethylene | | AT | 4 | 3 | 1 | 1 |
| phenol | | 100 | 2 | 4 | | 1 |
| Phosphoric acid | 60 | 50 | 1 | 3 | 4 | 1 |
| Phtalic acid | Sat | AT | 1 | 4 | | |
| Picric acid | 10 | 100 | 1 | 2 | 1 | 1 |
| Pine oil | | 70 | 4 | 2 | 1 | 1 |
| Potassium permanganate | 25 | 70 | 4 | 3 | | 1 |
| Premium gas (4-star petrol) | See solvants B | | | | | |
| Propane liquid | | AT | 4 | 1 | 1 | 1 |
| Propanol | | 50 | 1 | 2 | 1 | 1 |
| Propyl acetate | | AT | 2 | 4 | | 1 |
| Propylene | | | 4 | 3 | | 1 |
| Propylene oxide | | AT | 2 | 4 | 1 | 1 |
| Pyridine | | AT | 2 | 4 | 1 | 1 |
| Silicon grease | | | 1 | 1 | 1 | 1 |
| Soap solution | | | 1 | 1 | 1 | 1 |
| Sodium bicarbonate | | | 1 | 1 | 1 | 1 |
| Sodium carbonate | 20 | 100 | 1 | 1 | 1 | 1 |
| Sodium hydroxide | 10 | 100 | 1 | 1 | 1 | 1 |
| Sodium hydroxide | 25 | 100 | 1 | 4 | 2 | 1 |
| Sodium hypochlorite | 10 | 50 | 1 | 3 | | 1 |
| Sodium peroxide | | | 1 | | 1 | 1 |
| Solvent B (NFT46013) 70% isooctane -30% toluene | | AT | 4 | 2 | | |
| Solvant C 50 % isooctane 50 % Toluène (NF1 46-013) | | AT | 4 | 2 | 1 | 1 |
| Soybean oil | | AT | 3 | 1 | 1 | 1 |
| Steam up to | | Above à 100° | 230° | 100° | 120° | 200° |
| Stearic acid | | 70 | 2 | 2 | 1 | 1 |
| Styrene | | AT | 4 | 4 | 1 | 1 |
| sucrose solution | | 80 | 1 | 1 | 1 | 1 |
| Sulfuric acid | 10 | 100 | 1 | 3 | 4 | 1 |
| Sulfuric acid | 50 | 100 | 1 | 4 | 4 | 1 |
| Sulfuric acid | | 75 | | 100 | 3 | 4 |
| Sulfuric acid | 96 | AT | 4 | 4 | 4 | 1 |
| Sulfurous acid | Sat | AT | 1 | 3 | 4 | 1 |
| Sulphur | | | 1 | 4 | 1 | 1 |
| Tartric acid | 10 | 100 | 2 | 1 | 3 | 1 |
| Tetrachlorethane | | AT | | 4 | 1 | 1 |
| Tetraline | | AT | 4 | 4 | 1 | 1 |
| Tetrahydrofurane | | AT | 4 | 4 | 1 | 1 |
| Toluene | | AT | 4 | 4 | 1 | 1 |
| Transformer oil | | | 4 | 1 | 1 | 1 |
| Tributyl phosphate | | 100 | 1 | 4 | | 1 |
| Trichloroethane | | AT | 4 | 4 | 1 | 1 |
| Tricresylphosphate | | 70 | 1 | 4 | 2 | 1 |
| Triethanolamine | | AT | 2 | 3 | 1 | 1 |
| Triethylamine | | AT | 4 | 4 | | 1 |
| Trioctyl phosphate | | | 1 | 4 | | 1 |
| Vegetable oil | | 60 | 2 | 1 | 1 | 1 |
| xylene | | AT | 4 | 4 | 1 | 1 |



HYDRAULIC HOSES WITH TEXTILE BRAID REINFORCEMENT



T 331

T 331 SAE 100 R3 - HYDRAULIC HOSE MEDIUM PRESSURE 2 TEXTILE BRAIDS

Intended to convey hydraulic oil under mid-range pressures, hose type T331 is textile braided. It can be used over a wide temperature range and its neoprene outer cover has excellent ozone resistance. It has a fine tape-wrapped outer finish. Particularly robust, its outer cover thickness is superior to other textile braided hoses. This hose can accept a negative pressure of 0.6 bars.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 2 textile braids

Outer cover : abrasion and weather-resistant neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +120°C

Colour : black

Production lengths : variable

| Part N° | Dash | Inner diameter | | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|-------------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9933403 | 3 | 4,8 | 3/16" | 12,7 | 0,8 | 103 | 206 | 414 | 76 | 0,14 |
| 9933603 | 4 | 6,4 | 1/4" | 14,3 | 0,8 | 86 | 172 | 345 | 76 | 0,16 |
| 9931103 | 5 | 7,9 | 5/16" | 17,5 | 0,8 | 83 | 166 | 331 | 102 | 0,25 |
| 9931003 | 6 | 9,5 | 3/8" | 19,1 | 0,8 | 78 | 156 | 310 | 102 | 0,28 |
| 9931203 | 8 | 12,7 | 1/2" | 23,8 | 0,8 | 69 | 138 | 276 | 127 | 0,41 |
| 9931603 | 10 | 15,9 | 5/8" | 27 | 0,8 | 60 | 120 | 241 | 140 | 0,47 |
| 9931703 | 12 | 19,1 | 3/4" | 31,8 | 0,6 | 52 | 104 | 207 | 152 | 0,65 |
| 9932503 | 16 | 25,4 | 1" | 38,1 | 0,6 | 39 | 78 | 155 | 203 | 0,78 |
| 9933203 | 20 | 31,7 | 1"1/4 | 44,5 | 0,6 | 26 | 52 | 103 | 254 | 1,00 |



T 410

TEXTILE BRAIDS

T 410 SAE 100 R4 - HYDROCARBON AND OIL SUCTION HOSE 4 TEXTILE BRAIDS AND 1 STEEL SPIRAL

Intended for suction of oil in hydraulic applications, hose type T410 has 4 textile braids and a metal spiral. its specifications exceed SAE100 R4 standards. it is a very robust hose. It can be used over a wide range of temperature and its neoprene outer cover is very ozone resistant. It is used for delivery when a low bend radius is required. It accepts maximum vacuum in all sizes.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 4 textile braids and 1 steel spiral

Outer finish : wrapped

Temperature : - 40°C to +70°C

Particularity : 1 copper braid ensuring electrical conductivity

Colour : black

Production lengths : 40 metres

| Part N° | Dash | Inner diameter | | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|-------------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9935410 | 12 | 19,0 | 3/4" | 30 | 0,9 | 21 | 41 | 83 | 127 | 0,87 |
| 9935411 | 16 | 25,4 | 1" | 36 | 0,9 | 17 | 34 | 69 | 152 | 1,15 |
| 9935412 | 20 | 31,8 | 1"1/4 | 43 | 0,9 | 14 | 28 | 55 | 203 | 1,37 |
| 9935413 | 24 | 38,1 | 1"1/2 | 49 | 0,9 | 10 | 20 | 41 | 254 | 1,75 |
| 9935414 | 32 | 50,8 | 2" | 62 | 0,9 | 10 | 15 | 30 | 305 | 2,21 |
| 9935415 | 40 | 63,5 | 2"1/2 | 77 | 0,9 | 10 | 15 | 30 | 356 | 2,54 |
| 9935416 | 48 | 76,2 | 3" | 90 | 0,9 | 10 | 15 | 30 | 457 | 3,52 |
| 9935417 | 56 | 88,9 | 3"1/2 | 103 | 0,9 | 10 | 15 | 30 | 533 | 4,10 |
| 9935418 | 64 | 101,6 | 4" | 116 | 0,9 | 10 | 15 | 30 | 610 | 4,70 |

T 610

T 610 SAE 100 R6C - HYDRAULIC HOSE LOW PRESSURE, COTTON BRAID OUTER COVER 1 TEXTILE BRAID

A low pressure textile reinforced hydraulic hose, the T610 is flexible and light. Its external cotton braiding increases resistance to wear and abrasion. It is intended for common hydraulic and mineral oils.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : textile braid

Outer cover : neoprene rubber impregnated cotton braid

Outer finish : braided

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | mm | bar | bar | bar | mm | Kg/m |
| 9930204 | 4 | 6,4 | 1/4" | 12,7 | 28 | 56 | 112 | 65 | 0,15 |
| 9930104 | 5 | 7,9 | 5/16" | 14,3 | 28 | 56 | 112 | 80 | 0,18 |
| 9930304 | 6 | 9,5 | 3/8" | 15,9 | 28 | 56 | 112 | 80 | 0,20 |
| 9930504 | 8 | 12,7 | 1/2" | 19,8 | 28 | 56 | 112 | 100 | 0,26 |
| 9930604 | 10 | 15,9 | 5/8" | 23,0 | 24 | 48 | 96 | 125 | 0,32 |
| 9930704 | 12 | 19,1 | 3/4" | 27,0 | 22 | 44 | 88 | 150 | 0,38 |



T 611

T 613
HIGH
TEMPERATURE

TEXTILE BRAIDS

T 611 SAE 100 R6 - HYDRAULIC HOSE LOW PRESSURE, NEOPRENE OUTER COVER 1 TEXTILE BRAID

A low pressure textile-reinforced hydraulic hose, the T611 is flexible and light. It can be used over a wide temperature range and its neoprene outer cover affords excellent ozone resistance. It is intended for common hydraulic and mineral oils, but can be found in miscellaneous applications in industry and automotive repairs where its versatility is appreciated.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : textile braid

Outer cover : neoprene

Outer finish : wrapped or smooth according to production quantities

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9930103 | 3 | 4,8 | 3/16" | 10,7 | 34 | 68 | 136 | 50 | 0,090 |
| 9930203 | 4 | 6,4 | 1/4" | 12,3 | 28 | 56 | 112 | 65 | 0,105 |
| 9930403 | 5 | 8 | 5/16" | 13,9 | 28 | 56 | 112 | 80 | 0,125 |
| 9930303 | 6 | 9,5 | 3/8" | 15,5 | 28 | 56 | 112 | 80 | 0,150 |
| 9930503 | 8 | 12,7 | 1/2" | 19,5 | 28 | 56 | 112 | 100 | 0,215 |
| 9930603 | 10 | 16 | 5/8" | 22,6 | 24 | 48 | 96 | 125 | 0,25 |
| 9930703 | 12 | 19 | 3/4" | 25,8 | 21 | 42 | 83 | 150 | 0,300 |
| 9930903 | 16 | 25,4 | 1" | 33,2 | 20 | 40 | 80 | 170 | 0,450 |

T 613 HT SAE 100 R6 - HYDRAULIC HOSE LOW PRESSURE, NEOPRENE OUTER COVER 1 TEXTILE BRAID, HIGH TEMPERATURE

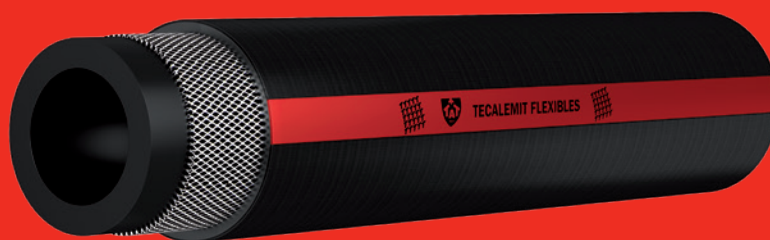
It is intended for hydraulic control lines, discharge under low pressure of hydraulic fluids, air and water, where operating temperatures are up to 150°C.

Temperature : - 40°C to + 135° C / +150 ° C discontinuous

Colour : blue

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9930806 | 3 | 4,8 | 3/16" | 10,7 | 34 | 68 | 136 | 50 | 0,100 |
| 9930205 | 4 | 6,4 | 1/4" | 12,3 | 28 | 56 | 112 | 65 | 0,115 |
| 9930405 | 5 | 8 | 5/16" | 13,9 | 28 | 56 | 112 | 80 | 0,140 |
| 9930305 | 6 | 9,5 | 3/8" | 15,5 | 28 | 56 | 112 | 80 | 0,165 |
| 9930505 | 8 | 12,7 | 1/2" | 19,5 | 28 | 56 | 112 | 100 | 0,240 |
| 9930605 | 10 | 16 | 5/8" | 22,6 | 24 | 48 | 96 | 125 | 0,285 |
| 9930705 | 12 | 19 | 3/4" | 25,8 | 21 | 42 | 83 | 150 | 0,335 |

T 622



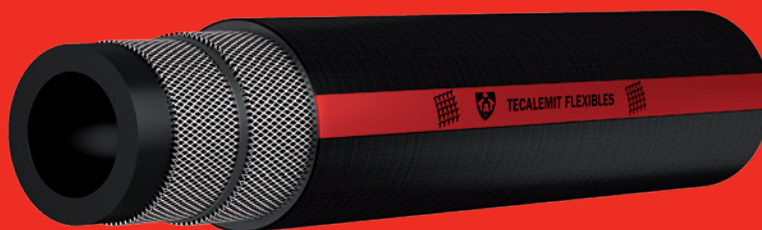
T 622 NF EN 854 2TE - HYDRAULIC HOSE LOW PRESSURE 1 TEXTILE BRAID

Intended for conveying hydraulic oil at low pressures, the T622 hose is textile braided. It can be used over a wide temperature range and its neoprene outer cover affords excellent ozone resistance. It has a fine tape-wrapped finish. It is compatible for use with common hydraulic and mineral oils. It meets the EN 854 & ISO 4079 standard.

Technical specifications :

Inner tube : black nitrile rubber
 Reinforcement : 2 textile braids
 Outer cover : abrasion and weather-resistant neoprene rubber
 Outer finish : wrapped
 Temperature : - 40°C to +100°C
 Production lengths : variable, dia. 38 and dia. 50 : 40 metres
 Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | mm | bar | bar | bar | mm | Kg/m |
| 9930804 | 3 | 4,8 | 3/16" | 11,8 | 80 | 160 | 410 | 25 | 0,115 |
| 9930904 | 4 | 6,4 | 1/4" | 13,4 | 75 | 150 | 400 | 40 | 0,150 |
| 9931004 | 5 | 8 | 5/16" | 14,9 | 68 | 136 | 380 | 50 | 0,170 |
| 9931104 | 6 | 9,5 | 3/8" | 16,5 | 63 | 126 | 310 | 60 | 0,195 |
| 9931204 | 8 | 12,7 | 1/2" | 19,7 | 58 | 116 | 280 | 70 | 0,240 |
| 9931304 | 10 | 16 | 5/8" | 23,9 | 50 | 100 | 260 | 90 | 0,325 |
| 9931404 | 12 | 19 | 3/4" | 27,0 | 45 | 90 | 230 | 110 | 0,380 |
| 9931504 | 16 | 25,4 | 1" | 34,4 | 40 | 80 | 200 | 150 | 0,545 |
| 9931604 | 20 | 31,8 | 1"1/4 | 41,0 | 35 | 70 | 180 | 170 | 0,740 |
| 9931704 | 24 | 38,1 | 1"1/2 | 48,1 | 30 | 60 | 180 | 190 | 0,870 |



T 623

TEXTILE BRAIDS

T 623 NF EN 854 3TE - HYDRAULIC HOSE MEDIUM PRESSURE 2 TEXTILE BRAIDS

Intended for conveying hydraulic oil at mid-range pressures, the T623 is textile braided. Its neoprene outer cover has excellent ozone resistance and has a fine tape-wrapped finish. It has the highest working pressure for standard textile braided rubber hoses. It is available in sizes up to and including 4".

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 2 textile braids

Outer cover : abrasion and weather-resistant neoprene rubber

Outer finish : wrapped

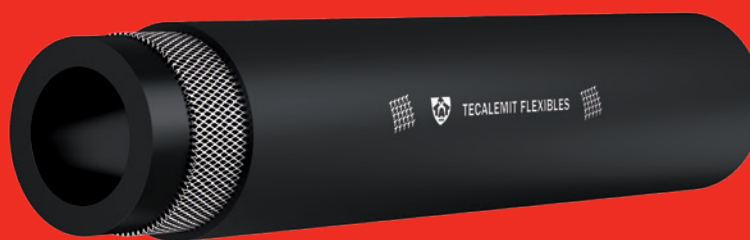
Temperature : - 40°C to +70°C

Production lengths : variable, dia. 38 and dia. 50 : 40 metres

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|--------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9930805 | 3 | 4,8 | 3/16" | 12,8 | 160 | 320 | 640 | 40 | 0,15 |
| 9930905 | 4 | 6,4 | 1/4" | 14,4 | 145 | 290 | 580 | 45 | 0,18 |
| 9931005 | 5 | 7,9 | 5/16" | 16,9 | 130 | 260 | 520 | 55 | 0,24 |
| 9931105 | 6 | 9,5 | 3/8" | 18,5 | 110 | 220 | 440 | 70 | 0,27 |
| 9931205 | 8 | 12,7 | 1/2" | 21,7 | 93 | 186 | 370 | 85 | 0,32 |
| 9931305 | 10 | 15,9 | 5/8" | 25,9 | 80 | 160 | 320 | 105 | 0,45 |
| 9931405 | 12 | 19,1 | 3/4" | 29,0 | 70 | 140 | 280 | 130 | 0,49 |
| 9931505 | 16 | 25,4 | 1" | 35,9 | 55 | 110 | 220 | 150 | 0,69 |
| 9931605 | 20 | 31,7 | 1"1/4 | 42,3 | 45 | 90 | 180 | 190 | 0,78 |
| 9931705 | 24 | 38,1 | 1"1/2 | 49,6 | 40 | 80 | 160 | 240 | 1,03 |
| 9931805 | 32 | 50,8 | 2" | 62,3 | 33 | 66 | 130 | 300 | 1,29 |
| 9931920 | 28 | 60 | 2"3/8 | 74,0 | 25 | 50 | 100 | 400 | 2,20 |
| 9932021 | 50 | 80 | 3"5/32 | 95,0 | 18 | 36 | 72 | 600 | 3,40 |
| 9932122 | 64 | 100 | 4" | 118,0 | 18 | 36 | 72 | 700 | 4,10 |

T 462



T 462 - MULTIPURPOSE HOSE TEXTILE BRAID 25 BAR 1 TEXTILE BRAID

The T462 hose is particularly appreciated by industrial maintenance services : it can accept hot glycol water, compressed air, oil as well as hydrocarbons up to 40% aromatics.
Its static electric conductivity, its reinforcement and its thickness give it an excellent bend radius.

Technical specifications :

Inner tube : antistatic NBR rubber

Reinforcement : textile braid

Outer cover : CR/SBR rubber

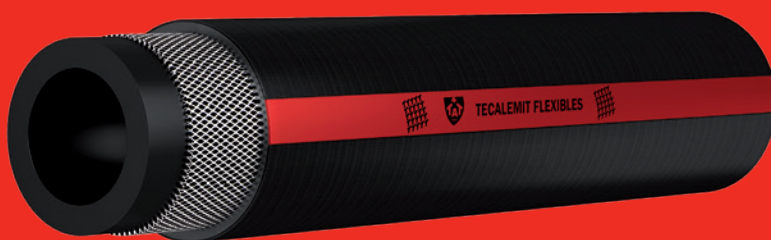
Outer finish : wrapped - smooth in dia. 25

Temperature : - 30°C to +70°C

Production lengths : 50 metres, - 40 metres in dia. 25

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9936205 | 4 | 6 | 1/4" | 14 | 25 | 85 | 20 | 0,16 |
| 9936206 | 5 | 8 | 5/16" | 16 | 25 | 85 | 25 | 0,21 |
| 9936207 | 6 | 10 | 3/8" | 18 | 25 | 85 | 30 | 0,26 |
| 9936208 | 8 | 13 | 1/2" | 21 | 25 | 85 | 45 | 0,33 |
| 9936209 | 10 | 16 | 5/8" | 25 | 25 | 85 | 65 | 0,40 |
| 9936210 | 12 | 19 | 3/4" | 29 | 25 | 85 | 100 | 0,55 |
| 9936211 | 16 | 25 | 1" | 35 | 25 | 85 | 180 | 0,60 |


T HTH
TEXTILE BRAIDS
**T HTH - HYDRAULIC HOSE LOW PRESSURE FOR HOT ATMOSPHERES
1 TEXTILE BRAID, CSM OUTER COVER**

The HTH hose is intended to convey oil in hot atmospheres created by thermal engines. Moreover, the hypalon outer cover has exceptional resistance to air, light, ozone and weather.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : textile braid

Outer cover : hypalon rubber

Outer finish : wrapped

Temperature : - 40°C to +125°C - exterior 135°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9939113 | 4 | 6,4 | 1/4" | 12,7 | 28 | 56 | 112 | 65 | 0,15 |
| 9939213 | 5 | 7,9 | 5/16" | 14,3 | 28 | 56 | 112 | 80 | 0,17 |
| 9939313 | 6 | 9,5 | 3/8" | 15,9 | 28 | 56 | 112 | 80 | 0,20 |
| 9939413 | 8 | 12,7 | 1/2" | 19,8 | 28 | 56 | 112 | 100 | 0,30 |
| 9939513 | 10 | 15,9 | 5/8" | 23,0 | 24 | 48 | 96 | 125 | 0,35 |
| 9930619 | 12 | 19,1 | 3/4" | 27,0 | 22 | 44 | 88 | 150 | 0,41 |

T 381

T 381 SAE J1401 - THYDRAULIC HOSE FOR BRAKE FLUID 2 HIGH TENSILE TEXTILE BRAIDS

Intended for hydraulic brake system in automotive, hose type T381 has 2 textile braids. its special synthetic rubber outer cover is very abrasion, ozone and weather resistant. It has standard SAE J1401 and agreements DOT & US FMVSS 106.

Technical specifications :

Inner tube : Hydraulic brake fluid resistant special synthetic rubber resistant special synthetic rubber

Reinforcement : High tensile synthetic rubber

Outer cover : brasion, ozone and weather resistant special synthetic rubber

Outer finish : Longitudinal streaks

Temperature : - 45° C à +80° C

Colour : black

Production lengths : variable

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|--------|
| | | mm | Inch | | | | |
| 9930001 | 2 | 3,2 | 1/8" | 10,5 | 276 | 900 | 0,09 |
| 9930002 | 3 | 4,8 | 3/16" | 13 | 276 | 620 | 0,130 |



HYDRAULIC HOSES WITH STEEL BRAID REINFORCEMENT



T 261**T 263**
**T 261 - HIGH PRESSURE WASHER HOSE 120°C
2 STEEL BRAIDS**

Intended for high pressure washing up to 400 bars, this hose is available in two different outer finishes : a very resistant black and a non-marking blue.

In both cases, the outer cover is resistant to animal fats and a wide range of detergents and the thickness of its outer cover is very wear-resistant.

Technical specifications :

Inner tube : black high temperature nitrile rubber

Reinforcement : 2 metal braids

Outer cover : abrasion resistant neoprene rubber

Outer finish : wrapped

Temperature : -30°C to +120°C, intermittent +150°C

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | mm | bar | bar | bar | mm | Kg/m |
| 9935308 | 5 | 7,9 | 5/16" | 14,3 | 17,3 | 400 | 1600 | 114 | 0,45 |
| 9935310 | 6 | 10,0 | 3/8" | 16,7 | 19,7 | 400 | 1495 | 127 | 0,57 |

**T 263 - HIGH PRESSURE WASHER HOSE 120°C
2 STEEL BRAIDS**

Colour : Blue

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | mm | bar | bar | bar | mm | Kg/m |
| 9939244 | 4 | 6,4 | 1/4" | 12,7 | 15,7 | 400 | 1820 | 102 | 0,37 |
| 9937244 | 5 | 7,9 | 5/16" | 14,3 | 17,3 | 400 | 1600 | 114 | 0,45 |
| 9939444 | 6 | 10,0 | 3/8" | 16,7 | 19,7 | 400 | 1495 | 127 | 0,57 |
| 9939544 | 8 | 12,7 | 1/2" | 19,8 | 23,1 | 400 | 1200 | 178 | 0,65 |



T 111

T 113
HIGH
TEMPERATURE

T 111 NF EN 853 1SN - HYDRAULIC HOSE MEDIUM PRESSURE, THIN OUTER COVER 1 STEEL BRAID

Intended for mi-range pressure hydraulic applications, the T111 is frequently used on handling and industrial equipment for pilot and drain lines.

With its dimensions reduced to the standard's limits, it can accept all hydraulic fittings with ease and rapidity. The quality of its neoprene outer cover complies with MSHA requirements.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 1 steel braid

Outer cover : abrasion and weather-resistant neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 120°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|---------------------------------|-------------------|----------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | | |
| 9937102 | 3 | 4,8 | 3/16" | 9,5 | 11,8 | - 0,8 | 287 | 574 | 1148 | 89 | 0,17 |
| 9936202 | 4 | 6,4 | 1/4" | 11,1 | 13,4 | - 0,8 | 242 | 483 | 967 | 102 | 0,21 |
| 9935202 | 5 | 7,9 | 5/16" | 12,7 | 15,0 | - 0,8 | 237 | 474 | 948 | 114 | 0,25 |
| 9935302 | 6 | 9,5 | 3/8" | 15,1 | 17,4 | - 0,8 | 203 | 407 | 814 | 127 | 0,34 |
| 9934502 | 8 | 12,7 | 1/2" | 18,3 | 20,6 | - 0,8 | 171 | 342 | 685 | 178 | 0,42 |
| 9934602 | 10 | 15,9 | 5/8" | 21,4 | 23,7 | - 0,8 | 142 | 285 | 570 | 203 | 0,49 |
| 9933602 | 12 | 19,1 | 3/4" | 25,4 | 27,7 | - 0,8 | 123 | 246 | 493 | 241 | 0,64 |
| 9933802 | 16 | 25,4 | 1" | 33,3 | 35,6 | - 0,8 | 91 | 182 | 364 | 305 | 0,97 |
| 9932912 | 20 | 31,7 | 1"1/4 | 40,5 | 43,5 | - 0,6 | 68 | 137 | 274 | 419 | 1,26 |
| 9931922 | 24 | 38,1 | 1"1/2 | 46,8 | 50,6 | - 0,6 | 61 | 122 | 244 | 508 | 1,59 |
| 9931932 | 32 | 50,8 | 2" | 60,2 | 64,0 | - 0,6 | 49 | 98 | 196 | 630 | 2,22 |

T 113 HT NF EN 853 1SN - HYDRAULIC HOSE MEDIUM PRESSURE, THIN OUTER COVER HIGH TEMPERATURE - 1 STEEL BRAID

Temperature : -50°C to +135° C, peaks to 150°C

Colour : blue

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|---------------------------------|-------------------|----------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | | |
| 9937107 | 3 | 4,8 | 3/16" | 9,5 | 11,8 | - 0,8 | 287 | 574 | 1148 | 89 | 0,17 |
| 9936203 | 4 | 6,4 | 1/4" | 11,1 | 13,4 | - 0,8 | 242 | 483 | 967 | 102 | 0,21 |
| 9935203 | 5 | 7,9 | 5/16" | 12,7 | 15,0 | - 0,8 | 237 | 474 | 948 | 114 | 0,25 |
| 9935305 | 6 | 9,5 | 3/8" | 15,1 | 17,4 | - 0,8 | 203 | 407 | 814 | 127 | 0,34 |
| 9934505 | 8 | 12,7 | 1/2" | 18,3 | 20,6 | - 0,8 | 171 | 342 | 685 | 178 | 0,42 |
| 9933605 | 12 | 19,1 | 3/4" | 25,4 | 27,7 | - 0,8 | 123 | 246 | 493 | 241 | 0,64 |
| 9933805 | 16 | 25,4 | 1" | 33,3 | 35,6 | - 0,8 | 91 | 182 | 364 | 305 | 0,97 |
| 9932915 | 20 | 31,7 | 1"1/4 | 40,5 | 43,5 | - 0,6 | 68 | 137 | 274 | 419 | 1,26 |
| 9931905 | 24 | 38,1 | 1"1/2 | 46,8 | 50,6 | - 0,6 | 61 | 122 | 244 | 508 | 1,59 |

T 211**T 213**
HIGH
TEMPERATURE**T 211 NF EN 853 2SN - HYDRAULIC HOSE HIGH PRESSURE, THIN OUTER COVER
2 METAL BRAIDS**

Hose type T211, intended to convey hydraulic oil at high pressure, has two metal braids. Its fine tape wrapped thin outer cover can accept swaging without skiving, using the appropriate ferrules. Polyvalent and easy to use, it is always readily available throughout our distribution network.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 2 metal braids

Outer cover : abrasion and weather-resistant neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 120°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|-------------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | | |
| 9939109 | 3 | 4,8 | 3/16" | 11,1 | 13,4 | - 0,95 | 463 | 927 | 1854 | 90 | 0,30 |
| 9939209 | 4 | 6,4 | 1/4" | 12,7 | 15,0 | - 0,95 | 454 | 907 | 1815 | 100 | 0,37 |
| 9939309 | 5 | 7,9 | 5/16" | 14,3 | 16,6 | - 0,95 | 379 | 759 | 1519 | 115 | 0,45 |
| 9939409 | 6 | 9,5 | 3/8" | 16,7 | 19,0 | - 0,95 | 365 | 730 | 1460 | 130 | 0,53 |
| 9939509 | 8 | 12,7 | 1/2" | 19,8 | 22,2 | - 0,95 | 304 | 608 | 1217 | 180 | 0,62 |
| 9937609 | 10 | 15,9 | 5/8" | 23,0 | 25,4 | - 0,95 | 270 | 541 | 1083 | 200 | 0,79 |
| 9937709 | 12 | 19,1 | 3/4" | 27,0 | 29,3 | - 0,8 | 219 | 438 | 876 | 240 | 0,98 |
| 9936809 | 16 | 25,4 | 1" | 34,9 | 38,1 | - 0,8 | 173 | 347 | 695 | 300 | 1,47 |
| 9935909 | 20 | 31,8 | 1"1/4 | 44,5 | 48,3 | - 0,8 | 133 | 267 | 535 | 420 | 2,38 |
| 9933909 | 24 | 38,1 | 1"1/2 | 50,8 | 54,6 | - 0,8 | 96 | 191 | 383 | 500 | 2,51 |
| 9932909 | 32 | 50,8 | 2" | 63,5 | 67,6 | - 0,8 | 88 | 177 | 354 | 630 | 3,19 |
| 9931909 | 40 | 63,5 | 2"1/2 | | 79 | | 69 | 138 | 276 | 760 | 3,79 |
| 9930909 | 48 | 76,2 | 3" | | 91 | | 50 | 100 | 200 | 900 | 4,01 |

**T 213 HT NF EN 853 2SN - HYDRAULIC HOSE HIGH PRESSURE, THIN OUTER COVER
HIGH TEMPERATURE, 2 METAL BRAIDS**

Temperature : -50°C to +135° C, peaks to 150° C

Colour : blue

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|-------------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | | |
| 9939103 | 3 | 4,8 | 3/16" | 11,1 | 13,4 | - 0,95 | 463 | 927 | 1854 | 90 | 0,30 |
| 9939203 | 4 | 6,4 | 1/4" | 12,7 | 15,0 | - 0,95 | 454 | 907 | 1815 | 100 | 0,37 |
| 9939303 | 5 | 7,9 | 5/16" | 14,3 | 16,6 | - 0,95 | 379 | 759 | 1519 | 115 | 0,45 |
| 9939403 | 6 | 9,5 | 3/8" | 16,7 | 19,0 | - 0,95 | 365 | 730 | 1460 | 130 | 0,53 |
| 9939503 | 8 | 12,7 | 1/2" | 19,8 | 22,2 | - 0,95 | 304 | 608 | 1217 | 180 | 0,62 |
| 9937603 | 10 | 15,9 | 5/8" | 23,0 | 25,4 | - 0,95 | 270 | 541 | 1083 | 200 | 0,79 |
| 9937703 | 12 | 19,1 | 3/4" | 27,0 | 29,3 | - 0,8 | 219 | 438 | 876 | 240 | 0,98 |
| 9936803 | 16 | 25,4 | 1" | 34,9 | 38,1 | - 0,8 | 173 | 347 | 695 | 300 | 1,47 |
| 9935903 | 20 | 31,8 | 1"1/4 | 44,5 | 48,3 | - 0,8 | 133 | 267 | 535 | 420 | 2,38 |
| 9933903 | 24 | 38,1 | 1"1/2 | 50,8 | 54,6 | - 0,8 | 96 | 191 | 383 | 500 | 2,51 |
| 9932903 | 32 | 50,8 | 2" | 63,5 | 67,6 | - 0,8 | 88 | 177 | 354 | 630 | 3,19 |



T 214
SUPER-ABRA

T 214 SUPER-ABRA NF EN 853 2SN - HYDRAULIC HOSE HIGH PRESSURE, SUPER HIGH ABRASION RESISTANT COVER, THIN OUTER COVER - 2 METAL BRAIDS

Hose T214 is intended to be used with mid and high pressure hydraulic systems in industrial and agricultural applications.

It is especially resistant to abrasion, oil, fuel and atmospheric agents thanks to its special synthetic rubber coating.

Furthermore, it is very well suited to maritime applications thanks to its sea water resistance.

Technical specifications :

Inner tube : Special synthetic rubber resistant to hydraulic and mineral oils and lubricants.

Reinforcement : 2 steel braids

Outer cover : Special synthetic rubber resistant to high levels of abrasion, oils, fuels and atmospheric agents.

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 120°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Negative pressure | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|-------------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | | |
| 9939259 | 4 | 6,4 | 1/4" | 12,7 | 15,0 | - 0,95 | 453 | 907 | 1815 | 100 | 0,37 |
| 9939359 | 5 | 7,9 | 5/16" | 14,3 | 16,6 | - 0,95 | 379 | 759 | 1519 | 115 | 0,45 |
| 9939459 | 6 | 9,5 | 3/8" | 16,7 | 19,0 | - 0,95 | 365 | 730 | 1460 | 130 | 0,53 |
| 9939559 | 8 | 12,7 | 1/2" | 19,8 | 22,2 | - 0,95 | 304 | 608 | 1217 | 180 | 0,62 |
| 9937659 | 10 | 15,9 | 5/8" | 23,0 | 25,4 | - 0,95 | 270 | 541 | 1083 | 200 | 0,79 |
| 9937759 | 12 | 19,1 | 3/4" | 27,0 | 29,3 | - 0,8 | 219 | 438 | 876 | 240 | 0,98 |
| 9936859 | 16 | 25,4 | 1" | 34,9 | 38,1 | - 0,8 | 173 | 347 | 695 | 300 | 1,47 |

T 121



T 121 NF EN 857 1SC - HYDRAULIC HOSE MEDIUM PRESSURE 1 STEEL BRAID

Produced according to the standard EN 857 1SC, the T121 hose has reduced dimensions and low bend radius. Requiring care during assembly, it is preferred by OEMs and appreciated for its cost. Produced on request.

The quality of its neoprene outer cover complies with MSHA requirements.

Technical specifications :

Inner tube : nitrile rubber

Reinforcement : metal braid

Outer cover : neoprene rubber

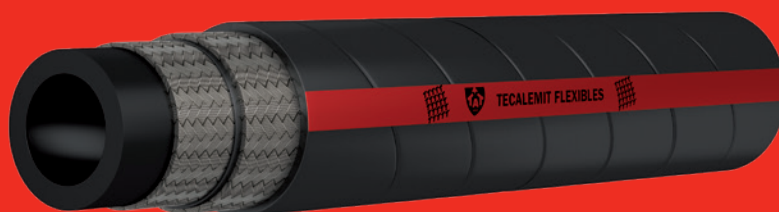
Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 120°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9936240 | 4 | 6,4 | 1/4" | 10,1 | 13,6 | 261 | 522 | 1045 | 45 | 0,20 |
| 9935240 | 5 | 7,9 | 5/16" | 11,8 | 14,0 | 236 | 472 | 944 | 55 | 0,22 |
| 9935340 | 6 | 9,5 | 3/8" | 14,0 | 16,4 | 212 | 424 | 849 | 60 | 0,28 |
| 9934540 | 8 | 12,7 | 1/2" | 17,3 | 19,5 | 183 | 367 | 734 | 70 | 0,34 |
| 9934640 | 10 | 15,9 | 5/8" | 20,4 | 22,6 | 169 | 338 | 676 | 90 | 0,42 |
| 9933640 | 12 | 19,0 | 3/4" | 24,0 | 26,2 | 111 | 222 | 445 | 100 | 0,50 |
| 9933840 | 16 | 25,4 | 1" | 31,2 | 34,0 | 95 | 190 | 380 | 160 | 0,73 |



T 221

T 221 NF EN 857 2SC - HYDRAULIC HOSE HIGH PRESSURE 2 STEEL BRAIDS

Hose T221 exceeds the requirements of standard NF-EN 857 2SC which sets out the characteristics of so-called "compact" hydraulic hoses.

These hoses are lighter, offer a better bend radius and a greater pressure burst resistance than hydraulic hoses compliant with the previous standard.

Furthermore, the standard version also meets MSHA (Mining and Safety Health Administration) standards. But upon request, it can also be manufactured with a standard neoprene coating or an anti-abrasion coating in reticulated polyethylene.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 2 steel braids

Outer cover : neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 120°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9939240 | 4 | 6,4 | 1/4" | 11,4 | 13,6 | 450 | 900 | 1800 | 50 | 0,29 |
| 9939340 | 5 | 7,9 | 5/16" | 13,0 | 15,2 | 384 | 769 | 1538 | 60 | 0,33 |
| 9939440 | 6 | 9,5 | 3/8" | 15,2 | 17,5 | 357 | 714 | 1428 | 70 | 0,42 |
| 9939540 | 8 | 12,7 | 1/2" | 18,7 | 20,9 | 310 | 621 | 1242 | 80 | 0,54 |
| 9937640 | 10 | 15,9 | 5/8" | 21,9 | 24,0 | 276 | 553 | 1106 | 100 | 0,67 |
| 9937740 | 12 | 19,0 | 3/4" | 25,8 | 27,8 | 236 | 472 | 945 | 140 | 0,80 |
| 9936840 | 16 | 25,4 | 1" | 32,8 | 35,6 | 181 | 363 | 726 | 180 | 1,15 |

T 510


**T 510 SAE 100 R5 - HYDRAULIC HOSE MEDIUM PRESSURE
1 STEEL BRAID - 1 TEXTILE BRAID**

Hose intended for hydraulic oil and greases under mid-range pressures, the T510 has a textile braid, a steel braid and covered by neoprene impregnated cotton braiding increasing its resistance to wear and abrasion.

Its weight, dimensions and bend radius are very low.

It is produced in specific diameters.

It is preferred in specific industrial applications for these qualities.

It is used with reusable hydraulic fittings and is widely used on handling and lubrication equipment.

With the same specifications but with a neoprene wrapped-effect finish, T511 can be manufactured on request.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : textile and metal braids

Outer cover : neoprene rubber impregnated cotton braid

Outer finish : textile braid

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|---------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9938101 | 4 | 4,8 | 3/16" | 12,9 | 210 | 410 | 1100 | 75 | 0,24 |
| 9938201 | 5 | 6,4 | 1/4" | 14,5 | 210 | 410 | 1000 | 85 | 0,28 |
| 9937301 | 6 | 8 | 5/16" | 16,8 | 157 | 314 | 800 | 100 | 0,35 |
| 9936401 | 8 | 10,3 | 13/32" | 19,1 | 140 | 280 | 700 | 115 | 0,40 |
| 9936501 | 10 | 12,7 | 1/2" | 22,9 | 122 | 244 | 600 | 140 | 0,56 |
| 9935601 | 12 | 16 | 5/8" | 27,1 | 105 | 210 | 520 | 165 | 0,69 |
| 9933701 | 16 | 22,2 | 7/8" | 30,8 | 56 | 112 | 380 | 185 | 0,69 |
| 9932801 | 20 | 28,6 | 1"1/8 | 37,6 | 43 | 83 | 300 | 230 | 0,91 |
| 9932901 | 24 | 34,9 | 1"3/8 | 44,5 | 35 | 70 | 250 | 265 | 1,13 |
| 9931901 | 32 | 46 | 1"13/16 | 56,4 | 24 | 48 | 200 | 335 | 1,37 |
| 9931904 | 40 | 60 | 2"3/8 | 73,0 | 24 | 48 | 150 | 610 | 2,27 |



T 513
HIGH
TEMPERATURE

**T 513 HT SAE 100 R5 - HYDRAULIC HOSE MEDIUM PRESSURE , COTTON BRAID OUTER COVER
1 STEEL BRAID - 1 TEXTILE BRAID, HIGH TEMPERATURE**

T513 can convey hot fluids under mid-range pressures.

It is compatible with hydraulic oils up to a temperature of 135°C with peaks to 150°C and compressed air/oil mixture up to 120°C.

It can be equipped with tecalemit flexibles® original reusable fittings.

Technical specifications :

Inner tube : synthetic rubber

Reinforcement : textile and metal braids

Outer cover : rubber impregnated textile braid

Outer finish : textile braid

Temperature : - 50°C to +135°C - peaks to 150°C

Production lengths : variable

Colour : blue

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|---------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9938125 | 4 | 4,8 | 3/16" | 12,9 | 207 | 414 | 828 | 75 | 0,26 |
| 9938225 | 5 | 6,4 | 1/4" | 14,5 | 207 | 414 | 828 | 85 | 0,30 |
| 9937325 | 6 | 8 | 5/16 | 16,8 | 155 | 310 | 620 | 100 | 0,37 |
| 9936425 | 8 | 10,3 | 13/32" | 19,1 | 138 | 276 | 552 | 115 | 0,43 |
| 9936525 | 10 | 12,7 | 1/2" | 22,9 | 121 | 242 | 484 | 140 | 0,59 |
| 9935625 | 12 | 16 | 5/8" | 27,1 | 103 | 206 | 412 | 165 | 0,74 |
| 9933725 | 16 | 22,2 | 7/8" | 30,8 | 55 | 110 | 220 | 185 | 0,73 |
| 9932825 | 20 | 28,6 | 1"1/8 | 37,6 | 43 | 86 | 172 | 230 | 0,97 |
| 9932925 | 24 | 34,9 | 1"3/8 | 44,5 | 34 | 68 | 136 | 265 | 1,21 |
| 9931925 | 32 | 46 | 1"13/16 | 56,4 | 24 | 48 | 96 | 335 | 1,47 |
| 9931935 | 40 | 60 | 2"3/8 | 73 | 24 | 48 | 96 | 610 | 2,43 |
| 9931945 | 48 | 76,2 | 3" | 90,5 | 14 | 28 | 56 | 840 | 3,23 |

T 116



T 116 SAE 100 R16 - HYDRAULIC HOSE HIGH PRESSURE, THIN OUTER COVER 1 STEEL BRAID

This hose combines great physical properties, in terms of working pressure and bend radius, with reduced dimensions.

The quality of its neoprene outer cover complies with MSHA requirements.

Technical specifications :

Inner tube : nitrile rubber

Reinforcement : metal braid

Outer cover : neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|--------|------------------------------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9939116 | 3 | 4,8 | 3/16" | 9,7 | 11,7 | 350 | 700 | 1400 | 44 | 0,14 |
| 9939216 | 4 | 6,4 | 1/4" | 11,2 | 13,6 | 453 | 905 | 1811 | 51 | 0,25 |
| 9939316 | 5 | 7,9 | 5/16" | 12,5 | 14,5 | 412 | 824 | 1648 | 57 | 0,27 |
| 9939416 | 6 | 9,5 | 3/8" | 14,6 | 16,6 | 282 | 565 | 1130 | 63 | 0,33 |
| 9939516 | 8 | 12,7 | 1/2" | 17,6 | 19,6 | 338 | 675 | 1351 | 89 | 0,41 |
| 9934516 | 10 | 15,9 | 5/8" | 20,6 | 22,8 | 262 | 525 | 1050 | 102 | 0,47 |
| 9937716 | 12 | 19,1 | 3/4" | 24,4 | 26,7 | 225 | 450 | 900 | 121 | 0,57 |
| 9933816 | 16 | 25,4 | 1" | 32,5 | 35,5 | 157 | 313 | 627 | 152 | 0,72 |
| 9935916 | 20 | 31,7 | 1"1/4" | 39,6 | 43,0 | 100 | 200 | 400 | 210 | 1,12 |



T 117

T 117 SAE 100 R17 - ISOBARIC HYDRAULIC HOSE, THIN OUTER COVER 1 STEEL BRAID

Hose type T117 according to SAE 100 R17 is an “isobaric” hose.
The minimum working pressure defined by the standard is 210 bar irrespective of its diameter.
The hose has a 1 steel wire braid reinforcement up to diameter 3/8” and 2 steel wire braids above.
Working pressures are indicated for the hose as such.
The quality of its neoprene outer cover complies with MSHA requirements.

Technical specifications :

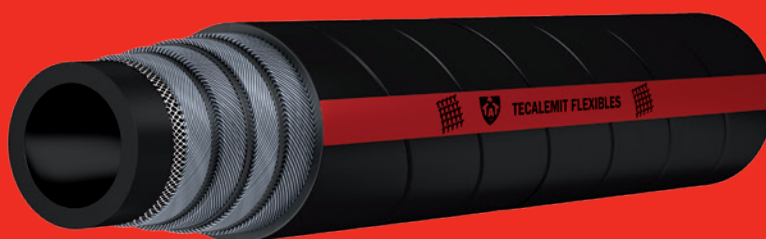
Inner tube : nitrile rubber
Reinforcement : metal braid
Outer cover : neoprene rubber
Outer finish : wrapped
Temperature : - 40°C to +100°C - peaks to 125°C
Production lengths : variable
Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9939217 | 4 | 6,4 | 1/4” | 12,4 | 263 | 526 | 1053 | 50 | 0,18 |
| 9939317 | 5 | 7,9 | 5/16” | 14,1 | 275 | 450 | 900 | 55 | 0,22 |
| 9939417 | 6 | 9,5 | 3/8” | 16,1 | 236 | 471 | 943 | 65 | 0,28 |
| 9939517 | 8 | 12,7 | 1/2” | 20,3 | 286 | 572 | 1144 | 90 | 0,45 |
| 9937617 | 10 | 15,9 | 5/8” | 24,0 | 296 | 591 | 1183 | 105 | 0,59 |
| 9937717 | 12 | 19,1 | 3/4” | 27,7 | 243 | 485 | 971 | 125 | 0,78 |
| 9933817 | 16 | 25,4 | 1” | 34,6 | 214 | 428 | 856 | 150 | 1,14 |



HYDRAULIC HOSES WITH STEEL WIRE SPIRALS REINFORCEMENT





T 911

T 911 NF EN 856 4SP - HYDRAULIQUE HOSE VERY HIGH PRESSURE 4 STEEL WIRE SPIRALS

Produced on rigid mandrils from 3/4" up, these hoses are vulcanised in a very long autoclave.

This hose is usually intended for power transmission at high pressures.

It is used in industry, shipping and on earth-moving equipment.

Hoses can be supplied equipped with swaged fittings and test certificates.

It meets the NF EN 856 4SP standard.

The quality of its neoprene outer cover complies with MSHA (Mine Safety and Health Administration) requirements.

Technical specifications :

Inner tube : black synthetic rubber

Reinforcement : 4 steel wire spirals

Outer cover : oil and weather resistant neoprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : 61 metres and variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|---------------------------------|-------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | |
| 9939108 | 4 | 6,4 | 1/4" | 14,6 | 17,9 | 540 | 1080 | 2160 | 150 | 0,62 |
| 9939308 | 6 | 9,5 | 3/8" | 17,5 | 22,2 | 501 | 1002 | 2004 | 180 | 0,85 |
| 9939508 | 8 | 12,7 | 1/2" | 20,2 | 25,2 | 448 | 896 | 1792 | 230 | 0,95 |
| 9939608 | 10 | 15,9 | 5/8" | 23,8 | 28,6 | 384 | 769 | 1538 | 250 | 1,14 |
| 9939708 | 12 | 19,1 | 3/4" | 28,2 | 32,0 | 456 | 911 | 1823 | 300 | 1,48 |
| 9939808 | 16 | 25,4 | 1" | 35,3 | 41,0 | 357 | 714 | 1428 | 340 | 2,06 |
| 9937900 | 20 | 31,8 | 1"1/4 | 46,0 | 51,2 | 305 | 611 | 1222 | 460 | 3,22 |
| 9936900 | 24 | 38,1 | 1"1/2 | 52,4 | 58,0 | 279 | 559 | 1118 | 560 | 3,74 |
| 9936910 | 32 | 50,8 | 2" | 65,3 | 70,4 | 252 | 504 | 1008 | 660 | 4,50 |

T 912



T 912 NF EN 856 4SH - HYDRAULIQUE HOSE VERY HIGH PRESSURE 4 STEEL WIRE SPIRALS

Produced on rigid mandrils, these hoses are vulcanised in long length autoclaves.

This hose is usually employed for power transmission at high pressures.

T912 is used in industry, shipping and on earth-moving equipment.

It meets NF EN 856 4SH standards.

The quality of its neoprene outer cover complies with MSHA (Mine Safety and Health Administration) requirements.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 4 or 6 metal spirals

Outer cover : oil and weather resistant neoprene rubber

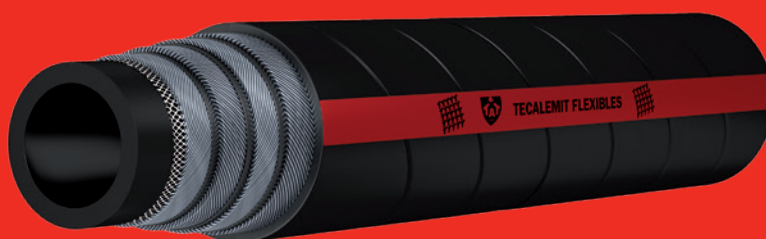
Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : 61 metres

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|------------------------------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | | |
| 9939807 | 10 | 15,9 | 5/8" | 23,6 | 28,4 | 521 | 1042 | 2084 | 250 | 1,10 |
| 9939809 | 12 | 19,1 | 3/4" | 28,4 | 32,2 | 456 | 912 | 1825 | 280 | 1,56 |
| 9939810 | 16 | 25,4 | 1" | 35,2 | 38,7 | 452 | 903 | 1807 | 340 | 2,09 |
| 9939811 | 20 | 31,8 | 1"1/4 | 41,9 | 45,5 | 365 | 729 | 1459 | 460 | 2,57 |
| 9939812 | 24 | 38,1 | 1"1/2 | 48,8 | 53,5 | 361 | 721 | 1443 | 560 | 3,42 |
| 9939813 | 32 | 50,8 | 2" | 63,2 | 68,1 | 295 | 589 | 1179 | 700 | 4,73 |



T 914
SUPER-ABRA

**T 914 NF EN 856 4SH SUPER ABRA - HYDRAULIQUE HOSE VERY HIGH PRESSURE
4 STEEL WIRE SPIRALS**

Produced on rigid mandrils, these hoses are vulcanised in long length autoclaves.

This highly abrasion resistant hose is normally intended for high pressure delivery.

Thanks to its special synthetic rubber outer cover, it is particularly resistant to abrasion, oils, fuels and atmospheric agents.

T914 is used in industry, shipping and on earth-moving equipment.

It meets NF EN 856 4SH standards.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 4 or 6 metal spirals

Recouvrement : Special synthetic rubber outer cover resistant to abrasion, oils, fuels and atmospheric agents.

Outer finish : wrapped

Temperature : - 40°C to +100°C - peaks to 125°C

Production lengths : 61 metres

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|---------------------------------|-------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | |
| 9939849 | 12 | 19,1 | 3/4" | 28,4 | 32,2 | 456 | 912 | 1825 | 280 | 1,56 |
| 9939850 | 16 | 25,4 | 1" | 35,2 | 38,7 | 452 | 903 | 1807 | 340 | 2,09 |
| 9939851 | 20 | 31,8 | 1"1/4 | 41,9 | 45,5 | 365 | 729 | 1459 | 460 | 2,57 |

T 915



T 915 NF EN 856 R15 - HYDRAULIQUE HOSE VERY HIGH PRESSURE , ISOBARIC 420 BAR 4 OR 6 STEEL WIRE SPIRALS

T915 is among the toughest hydraulic hoses of the range.

It is produced on rigid mandrils and vulcanised in straight lengths.

Its working pressure is 420 bars for all diameters.

Swaging of fittings is carried out after internally and externally skiving the hose.

The metal structure of the hose is then perfectly in cohesion with the metal fitting.

The quality of its neoprene outer cover complies with MSHA (Mine Safety and Health Administration) requirements.

Technical specifications :

Inner tube : black nitrile rubber

Reinforcement : 4 high tensile steel spirals up to 1", 6 high tensile steel spirals from 1"1/4 up

Outer cover : neoprene rubber

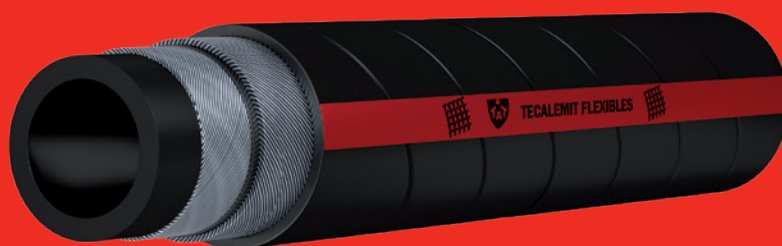
Outer finish : wrapped

Temperature : - 40°C to +120°C - peaks to 125°C

Production lengths : 61 metres

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9939002 | 12 | 19,1 | 3/4" | 32 | 420 | 840 | 1680 | 265 | 1,54 |
| 9939003 | 16 | 25,4 | 1" | 38,4 | 420 | 840 | 1680 | 330 | 2,14 |
| 9939004 | 20 | 31,7 | 1"1/4 | 49,3 | 420 | 840 | 1680 | 445 | 3,97 |
| 9939005 | 24 | 38,1 | 1"1/2 | 57,3 | 420 | 840 | 1680 | 530 | 4,98 |
| 9939006 | 32 | 50,8 | 2" | 74 | 420 | 840 | 1680 | 635 | 7,32 |



T 532

T 532 - HOSE FOR AVIATION OIL 2 STEEL WIRE SPIRALS

In the field of power transmission by hydraulic oil, T532 can convey Skydrol up to 43 bars. It can also be used for superheated steam up to 18 bars at 232°C. It is possible to manufacture the ISO 6134-2B certified hose 533 with an oil-resistant outer cover. Its structure reinforced by metal spirals gives excellent bend radius. The EPDM rubber ensures long service life. It meets ISO 6134-2A standards.

Technical specifications :

Inner tube : black EPDM rubber

Reinforcement : metal spirals

Outer cover : black EPDM rubber

Outer finish : fine tape-wrapped

Temperature : - 40°C to +232°C

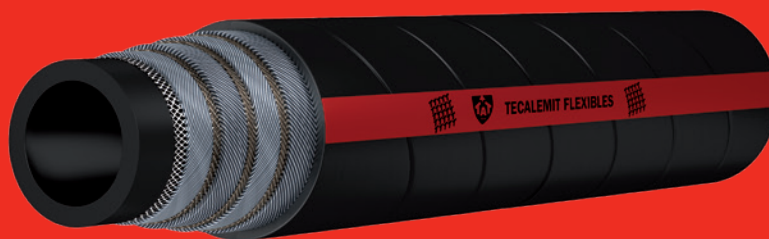
Production lengths : 40 metres except dias. 19, 25 and 53 : 60 metres

Colour : black with red lay line

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|--------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9935313 | 8 | 13 | 1/2" | 25 | 18 | 180 | 120 | 0,60 |
| 9935316 | 10 | 16 | 5/8" | 29 | 18 | 180 | 160 | 0,80 |
| 9935319 | 12 | 19 | 3/4" | 32 | 18 | 180 | 190 | 0,90 |
| 9935325 | 16 | 25 | 1" | 38 | 18 | 180 | 250 | 1,20 |
| 9935332 | 20 | 32 | 1"1/4 | 46 | 18 | 180 | 320 | 1,50 |
| 9935338 | 24 | 38 | 1"1/2 | 54 | 18 | 180 | 200 | 1,70 |
| 9935350 | 32 | 50 | 2" | 68 | 18 | 180 | 500 | 2,30 |
| 9935353 | | 55 | 2"1/16 | 71 | 18 | 180 | 532 | 2,40 |
| 9935363 | 40 | 65 | 2"1/2 | 80 | 18 | 180 | 630 | 2,60 |
| 9935376 | 48 | 75 | 3" | 96 | 18 | 180 | 750 | 3,10 |
| 9935377 | 64 | 100 | 4" | 124 | 18 | 180 | 1000 | 6,20 |

T 961

T 962



T 961 - HYDRAULIC HOSE FOR VERY HIGH PRESSURE WATERBLASTING TEXTILE LAYERS, 4 STEEL SPIRAL LAYERS

Hose types T961 and T962 are mainly intended for very high pressure waterblasting.

For example, they are used in refineries, sugar mills, paint spray booths in the automotive industry and also for decennial maintenance of engineering works.

Used with water, the safety factor between burst and working pressure is 2.5.

The hose must be internally and externally skived before mounting and swaging of end-fittings.

The metal structure of the hose is then perfectly in cohesion with the metal fitting.

Technical specifications :

Inner tube : black synthetic rubber

Reinforcement : textile layers, 4 steel spiral layers

Outer cover : chloroprene rubber

Outer finish : wrapped

Temperature : - 40°C to +100°C

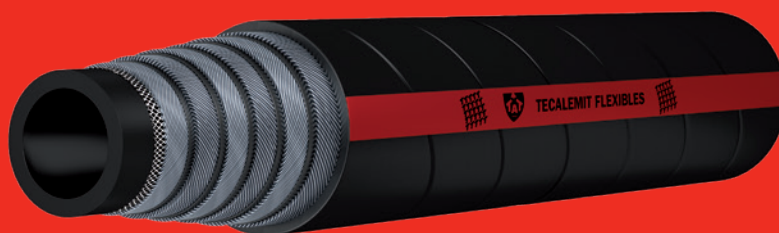
Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|---------------------------------|-------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | |
| 9937944 | 4 | 6,3 | 1/4" | 14,6 | 17,6 | 1000 | 1250 | 2500 | 130 | 0,595 |
| 9938044 | 6 | 9,5 | 3/8" | 17,5 | 21,3 | 850 | 1075 | 2125 | 155 | 0,785 |
| 9938144 | 8 | 12,7 | 1/2" | 20,2 | 24,6 | 800 | 950 | 1900 | 200 | 0,920 |
| 9938244 | 12 | 19 | 3/4" | 28,2 | 32 | 750 | 925 | 1850 | 250 | 1,930 |
| 9938344 | 16 | 25,4 | 1" | 35,1 | 38,4 | 700 | 850 | 1700 | 300 | 2,125 |

T 962 - HYDRAULIC HOSE FOR VERY HIGH PRESSURE WATERBLASTING TEXTILE LAYERS, 4 STEEL SPIRAL LAYERS

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|---------------------------------|-------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | |
| 9938444 | 6 | 9,5 | 3/8" | 18 | 20,4 | 1250 | 1580 | 3125 | 210 | 0,875 |
| 9938511 | 8 | 12,7 | 1/2" | 21,6 | 24,6 | 1100 | 1375 | 2750 | 230 | 1,215 |
| 9938644 | 12 | 19 | 3/4" | 29 | 32 | 1100 | 1375 | 2750 | 250 | 1,855 |



T 1362

T 1362 - HYDRAULIC HOSE FOR VERY HIGH PRESSURE WATERBLASTING 6 STEEL SPIRAL LAYERS

Hose type T1362 is mainly intended for very high pressure waterblasting.

For example, it is used in refineries, sugar mills, paint spray booths in the automotive industry and also for decennial maintenance of engineering works.

Used with water, the safety factor between burst and working pressure is 2.5.

The hose must be internally and externally skived before mounting and swaging of end-fittings.

The metal structure of the hose is then perfectly in cohesion with the metal fitting.

Technical specifications :

Inner tube : black synthetic rubber

Reinforcement : 6 wire spirals

Outer cover : chloroprene rubber

Outer finish : wrapped

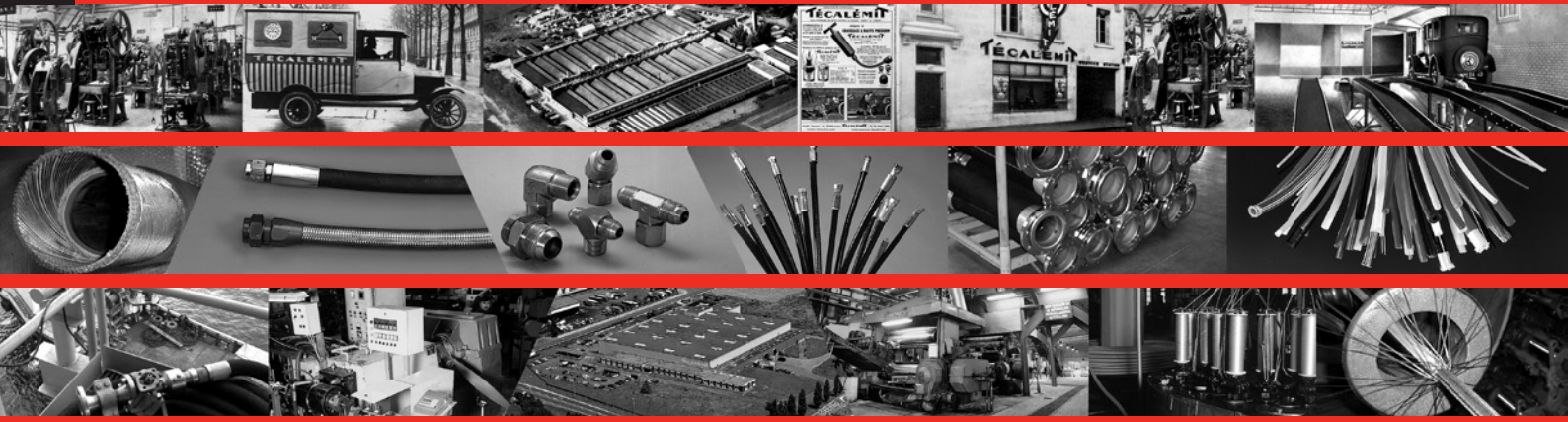
Temperature : - 40°C to +100°C

Production lengths : variable

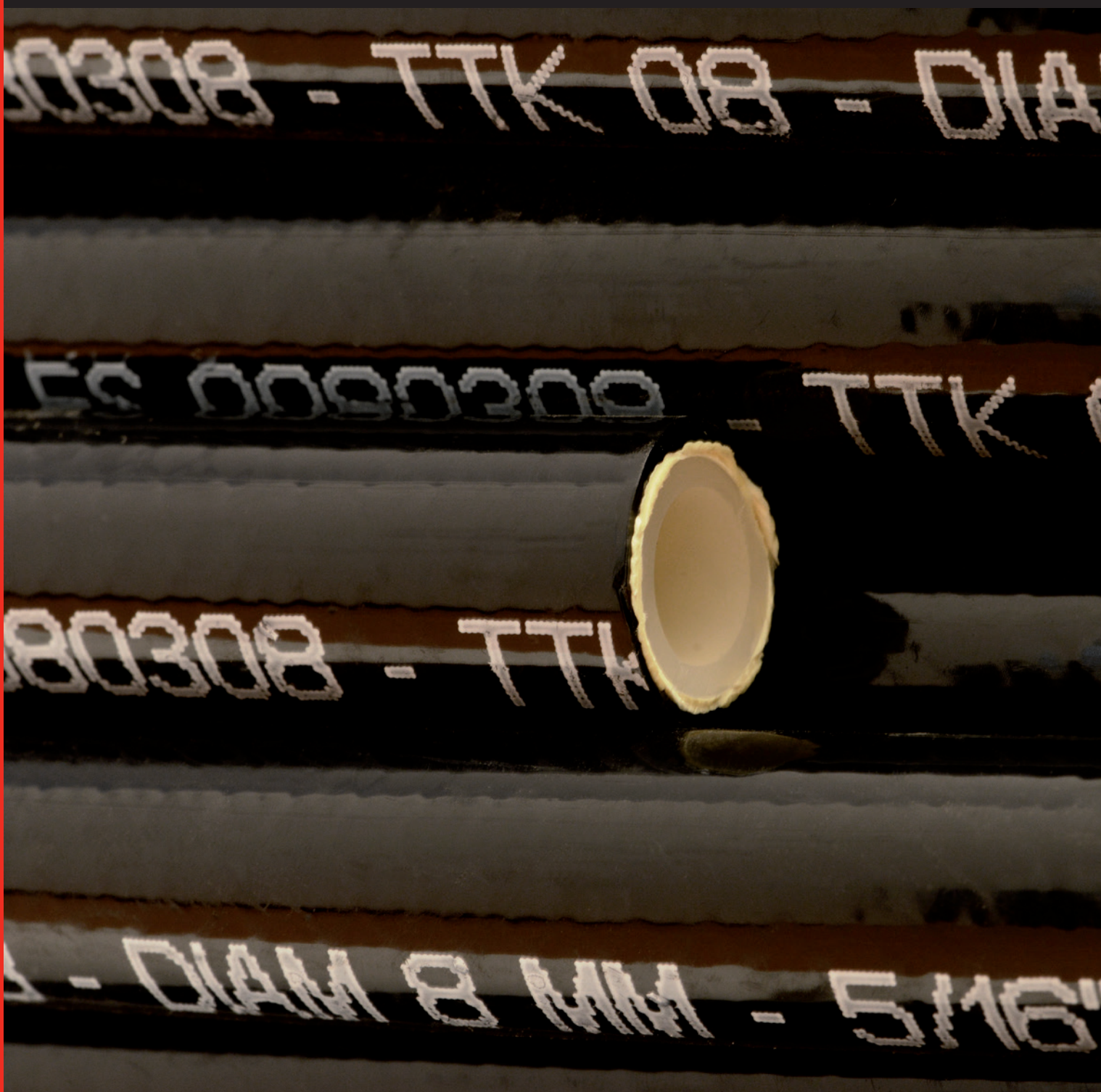
Colour : black

STEEL WIRE SPIRALS

| Part N° | Dash | Inner diameter | | Reinforcement outer diameter | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|---------------------------------|-------------------|---------------------|------------------|-------------------|----------------|--------|
| | | mm | Inch | | | | | | | |
| 9938744 | 6 | 9,5 | 3/8" | 19,6 | 24 | 1450 | 1820 | 3625 | 200 | 1,135 |
| 9938844 | 8 | 12,7 | 1/2" | 22,3 | 29 | 1450 | 1820 | 3625 | 250 | 1,420 |
| 9938944 | 12 | 19 | 3/4" | 30,8 | 34 | 1350 | 1690 | 3375 | 300 | 2,140 |
| 9939044 | 16 | 25,4 | 1" | 38,1 | 43 | 900 | 1150 | 2300 | 350 | 3,210 |



THERMOPLASTIC HOSES





T 711

T 711
TWIN

T 711 - HYDRAULIC HOSE HIGH PRESSURE, INNER TUBE POLYESTER, OUTER COVER PU 1 STEEL BRAID

The T711 hose is intended for hydraulic applications mainly on equipment for handling and farming. Lightweight, it resists high pressures and has a low bend radius for a thermoplastic hose. It is possible to produce this hose in a multitube version (up to 10 lines).

Technical specifications :

Inner tube : translucent polyester
 Reinforcement : 1 steel braid
 Outer cover : polyurethane
 Outer finish : shiny
 Temperature : - 40°C to +100°C
 Production lengths : 200 m
 Colour : shiny black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9980903 | 2 | 3,2 | 1/8" | 8,2 | 325 | 1300 | 30 | 0,110 |
| 9980904 | | 4,1 | 5/32" | 9 | 300 | 1200 | 30 | 0,113 |
| 9980905 | 3 | 5 | 3/16" | 9,5 | 293 | 1172 | 35 | 0,130 |
| 9980906 | 4 | 6,5 | 1/4" | 12 | 287 | 1148 | 40 | 0,170 |
| 9980908 | 5 | 8 | 5/16" | 13 | 217 | 868 | 50 | 0,167 |
| 9980910 | 6 | 9,7 | 3/8" | 15,5 | 212 | 848 | 60 | 0,240 |
| 9980913 | 8 | 13 | 1/2" | 18,6 | 185 | 740 | 80 | 0,286 |
| 9980916 | 10 | 16,5 | 5/8" | 22,5 | 150 | 600 | 120 | 0,384 |
| 9980920 | 12 | 19,5 | 3/4" | 25,7 | 125 | 500 | 160 | 0,423 |
| 9980925 | 16 | 25 | 1" | 31,5 | 100 | 400 | 200 | 0,496 |

THERMOPLASTIC

T 711 TWIN - HYDRAULIC HOSE HIGH PRESSURE, INNER TUBE POLYESTER, OUTER COVER PU 1 STEEL BRAID

By welding of any hoses with the same cover composition.
 For installation end-fittings, it is easy to separate the hoses using a cutting tool.
 Twin Hoses: All combination are possible from 3/16" to 1"

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9982906 | 4 | 6,5 | 1/4" | 12 | 287 | 1148 | 40 | 0,34 |
| 9982908 | 5 | 8 | 5/16" | 13 | 217 | 868 | 50 | 0,36 |
| 9982910 | 6 | 9,7 | 3/8" | 15,5 | 212 | 848 | 60 | 0,48 |
| 9982913 | 8 | 13 | 1/2" | 18,6 | 185 | 740 | 80 | 0,57 |

T 710**T 710
TWIN**

T 710 SAE 100 R7 - HYDRAULIC HOSE MEDIUM PRESSURE, INNER TUBE POLYESTER, OUTER COVER PU - 2 POLYESTER BRAIDS

Intended for mid-range pressure hydraulic applications and gases (on request - outer cover microperforated), the T710 hose is lightweight, non-polluting and used in sophisticated hydraulic circuits using servo-valves. It is also compact and impervious, reasons for which, it is appreciated on handling equipment. Its polyamide tube is compatible with many solvents and paints, according to the chemical compatibility chart. It is possible to produce this hose in a multitube version (up to 10 hose lines).

Technical specifications :

Inner tube : polyester
 Reinforcement : 2 polyester braids
 Outer cover : polyurethane
 Outer finish : shiny and smooth
 Temperature : - 40°C to +100°C
 Production lengths : variable
 Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9980705 | 3 | 4,8 | 3/16" | 10,5 | 230 | 460 | 920 | 35 | 0,08 |
| 9980706 | 4 | 6,4 | 1/4" | 12,6 | 200 | 400 | 800 | 40 | 0,11 |
| 9980708 | 5 | 7,9 | 5/16" | 14,5 | 190 | 380 | 760 | 50 | 0,12 |
| 9980710 | 6 | 9,5 | 3/8" | 16,2 | 175 | 350 | 700 | 60 | 0,14 |
| 9980713 | 8 | 12,7 | 1/2" | 20,1 | 150 | 300 | 600 | 80 | 0,20 |
| 9980716 | 10 | 15,9 | 5/8" | 23,6 | 125 | 250 | 500 | 120 | 0,27 |
| 9980720 | 12 | 19,1 | 3/4" | 27,2 | 100 | 200 | 400 | 150 | 0,30 |
| 9980725 | 16 | 25,4 | 1" | 34,5 | 75 | 150 | 300 | 200 | 0,36 |

THERMOPLASTIC

T 710 SAE 100 R7 TWIN - HYDRAULIC HOSE MEDIUM PRESSURE, INNER TUBE POLYESTER, OUTER COVER PU - 2 POLYESTER BRAIDS

By welding of any hoses with the same cover composition.
 For swaging the fittings it is easy to cut the weld with a sharpened tool.
 Twin Hoses: All combination are possible from 3/16" to 1"

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9980730 | 3 | 4,8 | 3/16" | 10,5 | 230 | 460 | 920 | 35 | 0,16 |
| 9980731 | 4 | 6,4 | 1/4" | 12,6 | 200 | 400 | 800 | 40 | 0,22 |
| 9980732 | 5 | 7,9 | 5/16" | 14,5 | 190 | 380 | 760 | 50 | 0,24 |
| 9980733 | 6 | 9,5 | 3/8" | 16,2 | 175 | 350 | 700 | 60 | 0,28 |
| 9980734 | 8 | 12,7 | 1/2" | 20,1 | 150 | 300 | 600 | 80 | 0,40 |

MARKING : TECALEMIT FLEXIBLES - PART N° - SAE 100 R7 - DN (MM/INCH) - BATCH N°



T 810

T 810 SAE 100 R8 - HYDRAULIC HOSE HIGH PRESSURE, INNER TUBE POLYESTER, OUTER COVER PU – 1 ARAMIDE BRAID

Intended for high pressure hydraulic applications and gases (with additional microperforations of outer cover), it is used on dockside handling equipment and in the offshore industry for remote controls as it is available in very long lengths and has a low volumetric expansion (2-3% at working pressure).

It is also appreciated in the chemical industry for its compatibility with many chemical products.

It is possible to produce this hose in a multitube version (up to 10 lines).

Technical specifications :

Inner tube : polyester

Reinforcement : 1 aramide braid

Outer cover : polyurethane

Outer finish : shiny

Temperature : - 40°C to +100°C

Production lengths : variable

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Test pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|---------------|----------------|-------------|--------|
| | | mm | Inch | | | | | | |
| 9980805 | 3 | 4,8 | 3/16" | 10,5 | 345 | 690 | 1380 | 89 | 0,09 |
| 9980806 | 4 | 6,4 | 1/4" | 12,6 | 345 | 690 | 1380 | 102 | 0,11 |
| 9980808 | 5 | 7,9 | 5/16" | 14,5 | 310 | 620 | 1240 | 110 | 0,12 |
| 9980810 | 6 | 9,5 | 3/8" | 16,2 | 275 | 550 | 1100 | 127 | 0,18 |
| 9980813 | 8 | 12,7 | 1/2" | 20,1 | 240 | 480 | 960 | 178 | 0,23 |
| 9980816 | 10 | 15,9 | 5/8" | 23,6 | 190 | 380 | 760 | 203 | 0,26 |
| 9980820 | 12 | 19,1 | 3/4" | 27,2 | 155 | 310 | 620 | 241 | 0,37 |
| 9980825 | 16 | 25,4 | 1" | 34,5 | 138 | 276 | 552 | 305 | 0,53 |

THERMOPLASTIC

TTA



TTA - HYDRAULIC HOSE MEDIUM AND HIGH PRESSURE, INNER TUBE PA, OUTER COVER PA 1 POLYESTER BRAID

The TTA hose is intended for hydraulic circuits in aggressive environments (spraying equipment), or for transfer of corrosive products and centralised lubrication. Reusable JIC female fittings are available.

Technical specifications :

Inner tube : polyamide

Reinforcement : 1 polyester braid

Outer cover : superpolyamide

Outer finish : smooth

Temperature : - 40°C to +100°C - peaks of 140°C

Production lengths : variable and long lengths

Colour : black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|----------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | mm | bar | bar | mm | Kg/m |
| 25210181 | | 1,8 | | 4,5 | 480 | 1200 | 18 | 0,012 |
| 25220201 | | 2 | | 4,9 | 461 | 1152 | 20 | 0,016 |
| 25210251 | | 2,5 | | 5,9 | 440 | 1100 | 25 | 0,024 |
| 9928301 | | 4,0 | | 8,1 | 370 | 925 | 40 | 0,040 |
| 9928401 | | 5,5 | 3/16" | 9,5 | 245 | 680 | 50 | 0,050 |
| 9928501 | 4 | 6,35 | 1/4" | 11,4 | 225 | 560 | 63 | 0,070 |
| 9928601 | 5 | 8 | 5/16" | 13,8 | 180 | 500 | 80 | 0,100 |
| 9928701 | 6 | 10,3 | 3/8" | 17 | 160 | 420 | 100 | 0,150 |
| 9928801 | 8 | 13 | 1/2" | 19,5 | 140 | 360 | 130 | 0,170 |

THERMOPLASTIC


TTAF
**TTAF - HYDRAULIC HOSE MEDIUM AND HIGH PRESSURE, INNER TUBE PA, OUTER COVER PU
1 POLYESTER BRAID**

Ancestor of the SAE100R7 hose, this hose retains the advantage of using reusable fittings. This medium-pressure hose can be used on circuits for hydraulics, CO₂, automatic lubrication, paint and chemical products.

Technical specifications :

Inner tube : polyamide

Reinforcement : 1 polyester braid

Outer cover : polyurethane

Outer finish : shiny

Temperature : - 40°C to +100°C

Production lengths : variable

Colour : shiny black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9984204 | | 4,0 | | 8,1 | 325 | 800 | 40 | 0,04 |
| 9984205 | 3 | 5 | | 9,5 | 245 | 680 | 50 | 0,05 |
| 9984206 | 4 | 6,35 | 1/4" | 11,4 | 225 | 560 | 63 | 0,07 |
| 9984208 | 5 | 8 | | 13,8 | 180 | 500 | 80 | 0,10 |
| 9984210 | 6 | 10,3 | | 17 | 160 | 420 | 100 | 0,15 |
| 9984213 | 8 | 13 | | 19,5 | 140 | 360 | 130 | 0,17 |

THERMOPLASTIC

TTK



TTK - HYDRAULIC HOSE HIGH AND VERY HIGH PRESSURE, INNER TUBE PA, OUTER COVER PA 1 ARAMIDE BRAID

This very high pressure hose is mainly intended for circuits in hydraulics, centralised lubrication, CO2, chemical products, test benches, even in aggressive environments.

It is used with JIC female reusable fittings.

It can be produced in very long lengths for offshore applications.

This hose can also be produced in multitube versions.

Technical specifications :

Inner tube : polyamide

Reinforcement : 1 aramide braid

Outer cover : polyamide

Outer finish : shiny

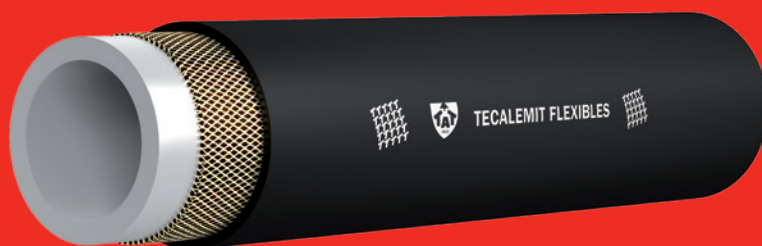
Temperature : - 40°C to +100°C - peaks of 140°C

Production lengths : variable

Colour : black

THERMOPLASTIC

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9980302 | | 2 | | 4,8 | 800 | 2000 | 30 | 0,021 |
| 9980303 | | 3 | | 5,8 | 680 | 2000 | 35 | 0,032 |
| 9980304 | | 4,0 | | 8,1 | 680 | 2000 | 40 | 0,045 |
| 9980305 | 3 | 5 | 3/16" | 9,5 | 530 | 1600 | 50 | 0,050 |
| 9980306 | 4 | 6,35 | 1/4" | 11,4 | 450 | 1300 | 63 | 0,070 |
| 9980308 | 5 | 8 | 5/16" | 13,8 | 370 | 1100 | 80 | 0,110 |
| 9980310 | 6 | 10,3 | 3/8" | 17 | 300 | 900 | 100 | 0,160 |
| 9980313 | 8 | 13 | 1/2" | 19,5 | 230 | 700 | 130 | 0,180 |


TTKF
**TTKF - HYDRAULIC HOSE HIGH AND VERY HIGH PRESSURE, INNER TUBE PA, OUTER COVER PU
1 ARAMIDE BRAID**

The TTKF hose is intended for very high pressure hydraulic applications and gases with additional microperforations similar to hose type T810, with the advantages of being equipped with reusable fittings and being produced in very long lengths.

Technical specifications :

Inner tube : polyamide

Reinforcement : 1 aramide braid

Outer cover : polyurethane

Outer finish : shiny

Temperature : - 40°C to +100°C

Production lengths : variable

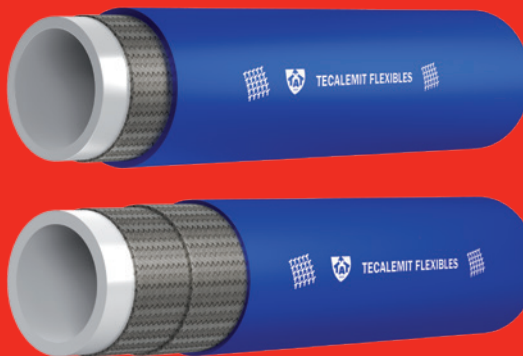
Colour : shiny black

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9983304 | | 4,0 | | 8,1 | 680 | 2000 | 40 | 0,05 |
| 9983305 | 3 | 5 | | 9,5 | 530 | 1600 | 50 | 0,05 |
| 9983306 | 4 | 6,35 | 1/4" | 11,4 | 450 | 1300 | 63 | 0,07 |
| 9983308 | 5 | 8 | | 13,8 | 370 | 1100 | 80 | 0,11 |
| 9983310 | 6 | 10,3 | | 17 | 300 | 900 | 100 | 0,16 |
| 9983313 | 8 | 13 | | 19,5 | 230 | 700 | 130 | 0,18 |

THERMOPLASTIC

T 712

T 713



T 712 - HYDRAULIC HOSE HIGH PRESSURE FOR PAINTS, INNER TUBE PA, OUTER COVER PU 1 STEEL BRAID

For water based fluids, solvents, paints and hydraulic oils at high pressure.

Technical specifications :

Inner tube : Polyamide

Reinforcement : 1 steel braid

Outer cover : polyurethane

Outer finish : shiny

Temperature : - 40°C to +100°C

Production lengths : variables

Colour : Blue

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9981005 | 3 | 5 | 3/16" | 9,5 | 293 | 1172 | 35 | 0,128 |
| 9981006 | 4 | 6,5 | 1/4" | 12 | 287 | 1148 | 40 | 0,165 |
| 9981008 | 5 | 8 | 5/16" | 13 | 217 | 868 | 50 | 0,162 |
| 9981010 | 6 | 9,7 | 3/8" | 15,5 | 212 | 848 | 60 | 0,231 |

THERMOPLASTIC

T 713 - HYDRAULIC HOSE HIGH PRESSURE FOR PAINTS, INNER TUBE PA, OUTER COVER PU 2 STEEL BRAIDS

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9981106 | 4 | 6,5 | 1/4" | 13 | 390 | 1560 | 40 | 0,274 |
| 9981110 | 6 | 9,7 | 3/8" | 17 | 315 | 1260 | 60 | 0,424 |

MARKING : TECALEMIT FLEXIBLES - PART N° - DN (MM/INCH) - BATCH N°



HYDRAULIC HOSES FLUOROCARBON FKM

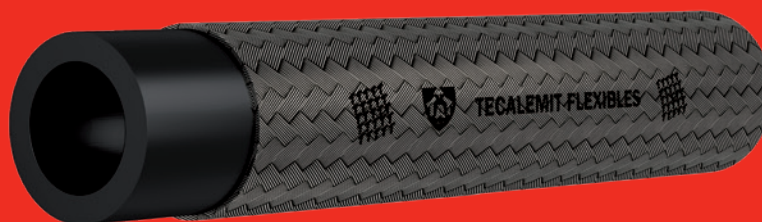


TECALEMIT FLEXIBLES® - Parc d'activités de Kermaria, 29120 Pont l'Abbé - France

Tel : (33) 02 98 82 48 48 - E-mail : info@tecalem.it

"All the specifications are given as an indication, they may be updated in the interest of our customers"

VI



VI - HIGH PRESSURE HOSE FOR THE IRON AND STEEL INDUSTRY, OUTER COVER 1 STAINLESS STEEL 316 BRAID

This hose can convey oil at a maximum temperature of 180°C as well as many hydrocarbons as indicated in the chemical compatibility chart.

Braiding with stainless steel is carried out before vulcanisation.

Its excellent mechanical properties make it a good alternative to corrugated stainless steel hoses in the presence of torsion, flexion, traction.

Technical specifications :

Inner tube : FKM synthetic rubber

Reinforcement : 1 stainless steel 316 braid

Outer finish : stainless steel

Inner tube working temperature : +35°C to +180°C

Production lengths : variables

Colour : stainless steel

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9939214 | 4 | 6,4 | 1/4" | 12 | 110 | 440 | 35 | 0,16 |
| 9939314 | 5 | 8 | 5/16" | 14 | 100 | 400 | 45 | 0,20 |
| 9939414 | 6 | 9,5 | 3/8" | 15,5 | 97 | 390 | 50 | 0,27 |
| 9939514 | 8 | 12,7 | 1/2" | 19,5 | 90 | 360 | 60 | 0,37 |
| 9939616 | 10 | 16 | 5/8" | 23 | 85 | 340 | 80 | 0,47 |
| 9939714 | 12 | 19 | 3/4" | 26,5 | 78 | 315 | 94 | 0,52 |
| 9939814 | 16 | 25,4 | 1" | 34 | 65 | 260 | 115 | 0,78 |


VKI
VKI - HIGH PRESSURE HOSE FOR THE IRON AND STEEL INDUSTRY, OUTER COVER 1 STAINLESS STEEL 316 BRAID - 1 ARAMIDE BRAID

This high quality hose is comprised of an inner tube compatible with oils up to 180°C (it is used for lubrication of automobile turbo-compressors), covered with an aramide braid acting as a thermal shield (for use in hot environments), then covered with a stainless steel braid which has two functions : mechanical protection of the aramide braid and improvement in pressure resistance.

This hose can convey fluids as per the chemical compatibility chart.
Please consult us for dynamic pressure use.

Technical specifications :

Inner tube : FKM synthetic rubber

Reinforcement : 1 aramide braid

Outer cover : 1 stainless steel 316 braid

Outer finish : shiny

Inner tube working temperature : +35°C to +180°C in 300°C continuous environment

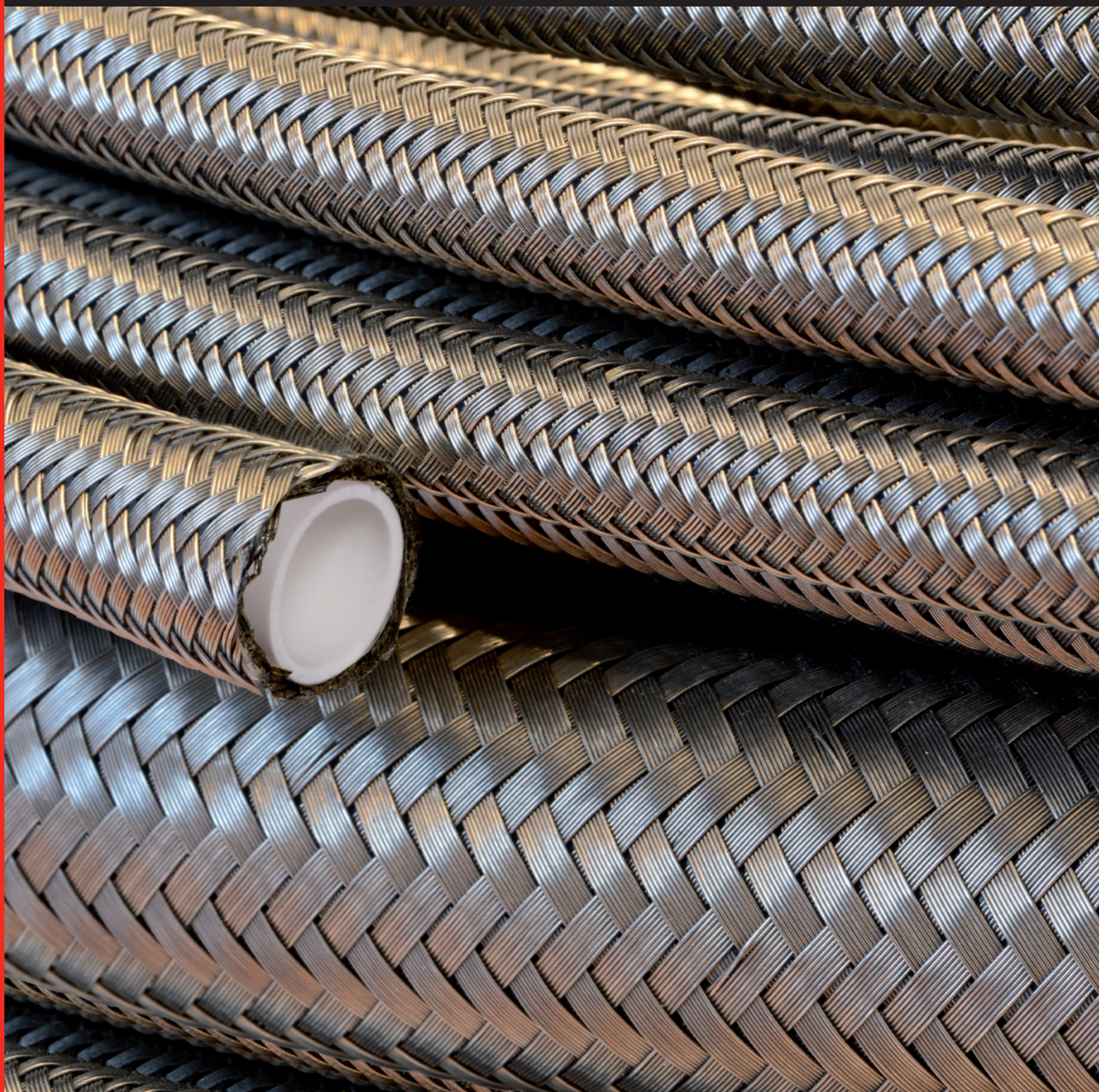
Production lengths : variables

Colour : stainless steel

| Part N° | Dash | Inner diameter | | Outer diameter | Working pressure | Burst pressure | Bend radius | Weight |
|---------|------|----------------|-------|----------------|------------------|----------------|-------------|--------|
| | | mm | Inch | | | | | |
| 9930107 | 3 | 5 | 3/16" | 11 | 207 | 827 | 51 | 0,15 |
| 9932415 | 4 | 6,4 | 1/4" | 14,1 | 190 | 759 | 76 | 0,29 |
| 9932416 | 5 | 8 | 5/16" | 14,5 | 172 | 690 | 80 | 0,24 |
| 9932414 | 6 | 9,5 | 3/8" | 15,5 | 155 | 621 | 80 | 0,30 |
| 9932417 | 8 | 12,7 | 1/2" | 19,5 | 138 | 552 | 102 | 0,34 |
| 9932418 | 10 | 16 | 5/8" | 23 | 103 | 414 | 127 | 0,42 |
| 9932419 | 12 | 19 | 3/4" | 26,6 | 86 | 345 | 241 | 0,48 |
| 9932420 | 16 | 25,4 | 1" | 35,2 | 69 | 276 | 305 | 0,76 |



HYDRAULIC HOSES PTFE





T HP1

T HP1 - PTFE HOSE WITH ONE STAINLESS STEEL BRAID

The inner tube of hose type THP1 is in pure polytetrafluorethylene (PTFE), allows use of food products. This mid-range pressure hose is compatible with a large number of fluids : hydraulic oils, high temperatures, chemical products as indicated in the fluid compatibility chart, steam, products for treating wood, steam up to 230°C, food products.

The THP1 hose can also accept swaged fittings from our range using ferrule type 5080.

Non-conductive in the standard version, it can also be supplied in another version to eliminate static electricity.

Technical specifications :

Inner tube : pure polytetrafluorethylene

Reinforcement : 1 stainless steel AISI 304 braid

Outer finish : stainless steel braid

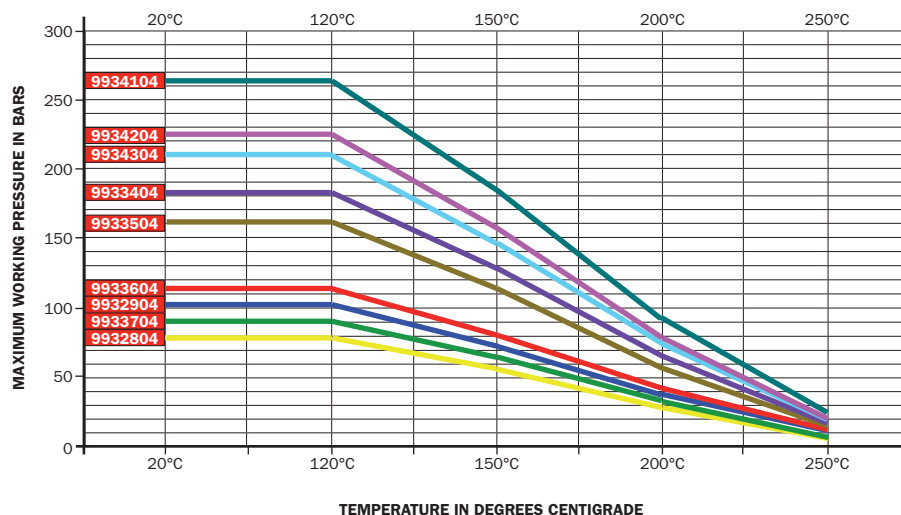
Inner tube working temperature : -70°C to +260°C

Production lengths : variable

Marking : none

| Part N° | Dash | Inner diameter (mm) | | | | Thickness mm | Reinforcement outer diameter (mm) | | Working pressure bar | Pression L.N.E bar | Bend radius mm | Weight gr/m |
|---------|------|---------------------|------|-------|-------|-----------------|---|-------|----------------------------|--------------------------|----------------------|----------------|
| | | Inch | mm | Min. | Max. | | Min. | Max. | | | | |
| 9934104 | 3 | 3/16" | 5,1 | 4,85 | 5,36 | 0,9 | 7,49 | 8,61 | 264 | 793 | 64 | 94 |
| 9934204 | 4 | 1/4" | 6,7 | 6,45 | 6,96 | 0,75 | 8,83 | 9,86 | 224 | 672 | 76 | 92 |
| 9934304 | 5 | 5/16" | 8,4 | 8,15 | 8,66 | 0,65 | 10,54 | 11,56 | 207 | 621 | 102 | 141 |
| 9933404 | 6 | 3/8" | 10,3 | 9,93 | 10,64 | 0,65 | 12,78 | 14,1 | 183 | 552 | 133 | 148 |
| 9933504 | 8 | 1/2" | 13,4 | 13,06 | 13,36 | 0,9 | 15,88 | 17,22 | 161 | 483 | 152 | 249 |
| 9933604 | 10 | 5/8" | 16,6 | 16,1 | 17,12 | 0,9 | 18,95 | 20,57 | 114 | 345 | 178 | 290 |
| 9932904 | 12 | 3/4" | 19,8 | 19,3 | 20,32 | 1 | 22,15 | 23,77 | 103 | 310 | 203 | 339 |
| 9933704 | 14 | 7/8" | 22,1 | 21,59 | 22,61 | 1 | 24,46 | 26,09 | 92 | 276 | 229 | 382 |
| 9932804 | 16 | 1" | 26,1 | 25,6 | 26,62 | 1,2 | 28,45 | 30,07 | 80 | 241 | 305 | 461 |

Table of temperature/working pressure:



MARKING : NONE

T HP2



T HP2 - PTFE HOSE WITH TWO STAINLESS STEEL BRAIDS

The inner tube of the THP2 hose is extruded from pure polytetrafluorethylene (PTFE) resins. It is then covered with two AISI 304 stainless steel braids.

It can accept the majority of chemical products and is very resistant to aging.

Our standard range of fittings can be swaged on the THP2 hose for use at static pressure values indicated in the table.

Non-conductive in the standard version, it can also be supplied in another version to eliminate static electricity.

Technical specifications :

Inner tube : pure polytetrafluorethylene

Reinforcement : 2 stainless steel AISI 304 braid

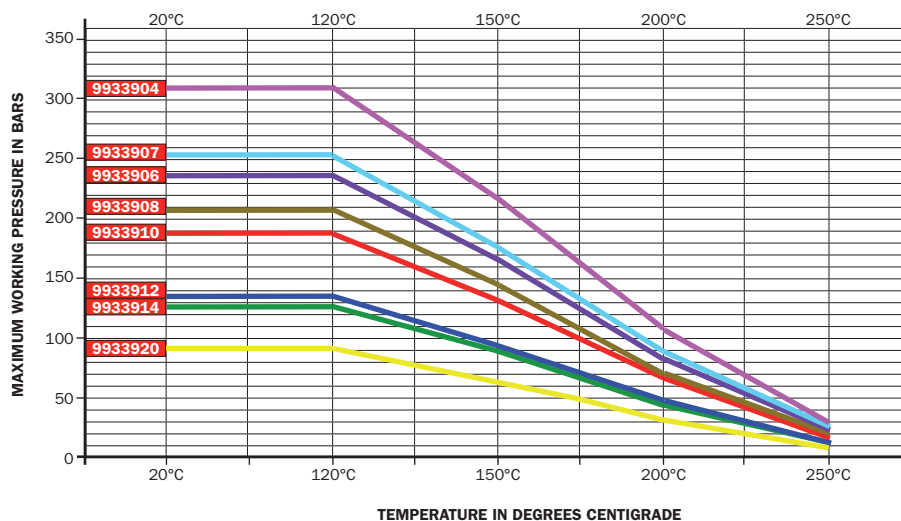
Outer finish : stainless steel braid

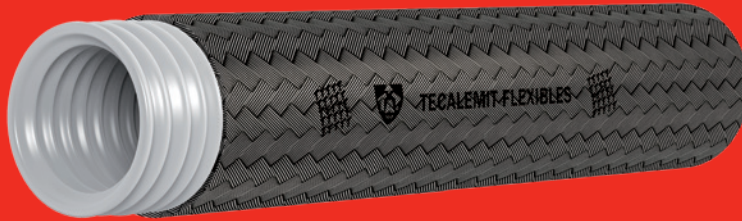
Inner tube working temperature : -70°C to +260°C

Production lengths : variable

| Part N° | Dash | Inner diameter | | | | Thickness mm | Outer diameter mm | Working pressure bar | Burst pressure bar | Bend radius mm | Weight gr/m |
|---------|------|----------------|------|-------|-------|-----------------|----------------------|-------------------------|-----------------------|-------------------|----------------|
| | | Inch | mm | Min. | Max. | | | | | | |
| 9933904 | 3 | 3/16" | 5,1 | 4,85 | 5,36 | 0,90 | 9,07 | 310 | 931 | 75 | 152 |
| 9933907 | 4 | 1/4" | 6,7 | 6,45 | 6,96 | 0,76 | 10,47 | 253 | 759 | 85 | 179 |
| 9933906 | 5 | 5/16" | 8,4 | 8,15 | 8,66 | 0,64 | 12,57 | 237 | 710 | 10 | 241 |
| 9933908 | 6 | 3/8" | 10,3 | 9,93 | 10,64 | 0,90 | 14,68 | 206 | 621 | 135 | 311 |
| 9933910 | 8 | 1/2" | 13,4 | 13,06 | 13,36 | 0,90 | 18,09 | 189 | 566 | 165 | 411 |
| 9933912 | 10 | 5/8" | 16,6 | 16,1 | 17,12 | 0,90 | 20,88 | 133 | 414 | 195 | 470 |
| 9933914 | 12 | 3/4" | 19,8 | 19,3 | 20,32 | 1,00 | 25,54 | 126 | 379 | 225 | 551 |
| 9933916 | 14 | 7/8" | 22,1 | 21,59 | 22,61 | 1,00 | 26,80 | 115 | 345 | 230 | 623 |
| 9933920 | 16 | 1" | 26,1 | 25,6 | 26,62 | 1,20 | 30,79 | 93 | 280 | 305 | 732 |

Table of temperature/working pressure:





T HP3

T HP3 - CONVOLUTED PTFE HOSE WITH ONE STAINLESS STEEL BRAID

The THP3 hose is made from a pure PTFE tube with a low amplitude helicoidal convoluted, allowing it to be swaged with our standard range of fittings with excellent flexibility and bend radius compared to smooth bore hose types THP1 and THP2.

In the same way, it accepts food products and a large range of chemical products as indicated in the chemical compatibility chart.

Non-conductive in the standard version, it can also be supplied in another version to eliminate static electricity.

Technical specifications :

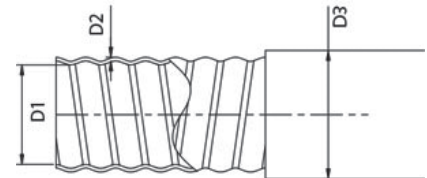
Inner tube : helicoidally convoluted pure polytetrafluorethylene

Reinforcement : 1 stainless steel AISI 304 braid

Outer finish : stainless steel braid

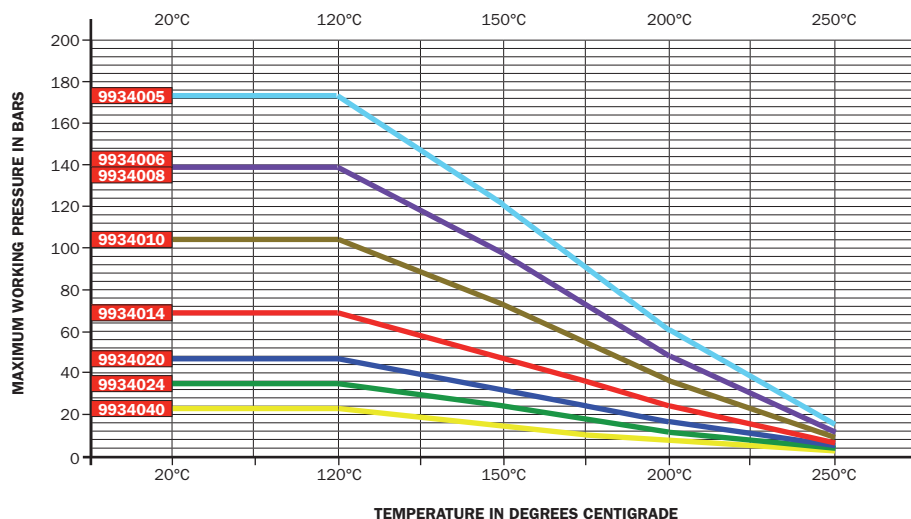
Inner tube working temperature : -70°C to +260°C

Production lengths : variable

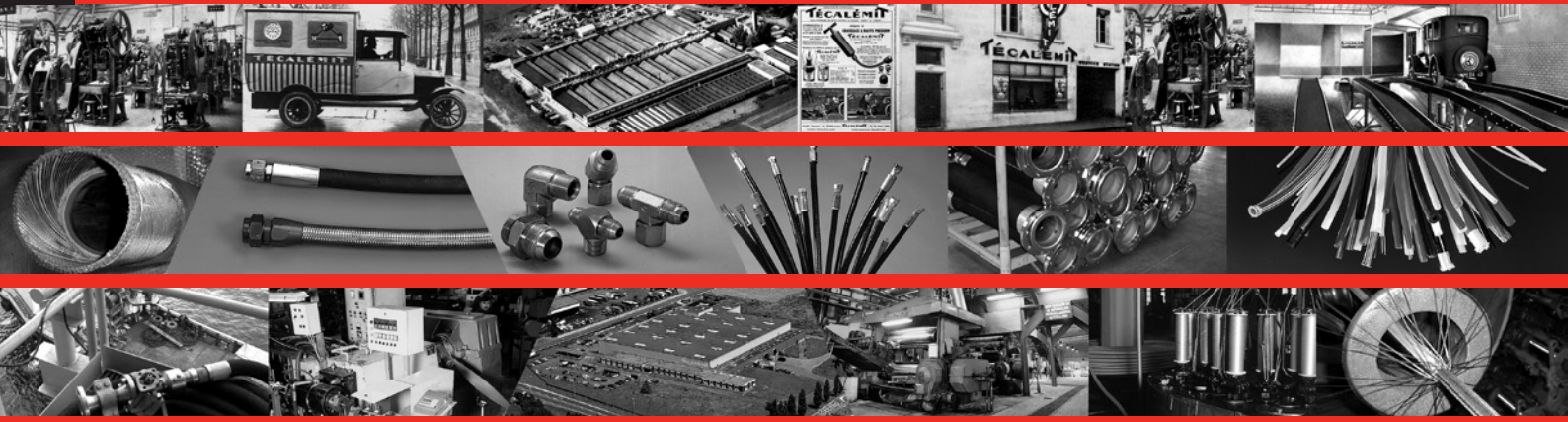


| Part N° | Dash | Inner diameter | | Tol. D1 mm | | D2 mm | D3 mm | | Working pressure 20°C bar | Burst pressure 20°C bar | Bend radius mm | Weight gr/m |
|---------|------|----------------|------|------------|-------|-------|-------|-------|---------------------------|-------------------------|----------------|-------------|
| | | Inch | mm | Mini | Maxi | | Mini | Maxi | | | | |
| 9934005 | 4 | 1/4" | 6,2 | 6,10 | 6,70 | 0,75 | 9,30 | 9,90 | 172 | 517 | 18 | 140 |
| 9934006 | 5 | 5/16" | 8,4 | 7,90 | 8,50 | 0,6 | 12,30 | 12,90 | 138 | 414 | 20 | 160 |
| 9934008 | 6 | 3/8" | 10,3 | 9,5 | 10,20 | 0,65 | 12,80 | 14,50 | 138 | 414 | 20 | 152 |
| 9934010 | 8 | 1/2" | 13,4 | 12,45 | 13,08 | 0,8 | 17,80 | 19,20 | 103 | 310 | 25 | 253 |
| 9934012 | 10 | 5/8" | 16,6 | 15,7 | 16,38 | 0,8 | 21,80 | 24,00 | 83 | 248 | 51 | 304 |
| 9934014 | 12 | 3/4" | 19,8 | 19 | 19,65 | 1 | 24,00 | 27,00 | 69 | 207 | 64 | 374 |
| 9934016 | 14 | 7/8" | 22,1 | 21,84 | 22,86 | 1 | 27,94 | 29,46 | 57 | 172 | 76 | 460 |
| 9934020 | 16 | 1" | 26,1 | 25,5 | 26,16 | 1 | 32,20 | 36,10 | 46 | 138 | 89 | 543 |
| 9934024 | 20 | 1 1/4" | 31,8 | 31,95 | 32,46 | 1 | 40,20 | 41,30 | 34 | 103 | 125 | 635 |
| 9934032 | 24 | 1 1/2" | 38,2 | 38,00 | 38,90 | 1 | 47,80 | 49,00 | 30 | 90 | 152 | 840 |
| 9934040 | 32 | 2" | 50,8 | 50,90 | 51,90 | 1,1 | 60,50 | 62,30 | 23 | 69 | 200 | 1000 |

Table of temperature/working pressure:

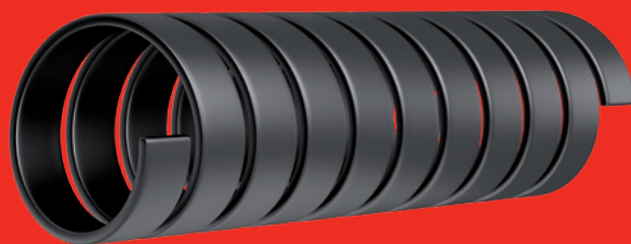


MARKING : NONE



PROTECTION SHEATH FOR HYDRAULIC HOSES & ELECTRICAL CABLES




GSP
GSP - SPIRAL GUARD

The spiral guard made from polyethylene (PE) is a very flexible protective girdle and is mainly used in bays waiters, electric cupboards, the office automation, the automobile, the public works and the aviation.

Her spiral structure allows her to be rolled up around cables or around already put flexible hoses.

She is reusable, resistant in most of the chemicals

Her temperature of continuous service is situated between -20°C in + 60°C.

Technical specifications :

Gainé : Polyethylene

Outer finish : Spiral

Temperature : -20°C à + 60°C

Colour : Black, other colours & lengths upon request

Marking : none

| Part N° | Inner diameter | Outer diameter | Wall thickness | Coil tightness | Length min. | Weight |
|---------|----------------|----------------|----------------|----------------|-------------|--------|
| | (mm) | (mm) | (mm) | (mm) | (m) | (kg/m) |
| 8607855 | 7,5 | 10 | 1,25 | 9 | 20 | 0,032 |
| 8607849 | 9,5 | 12 | 1,25 | 11 | 20 | 0,039 |
| 8607862 | 13 | 16 | 1,5 | 15 | 20 | 0,064 |
| 8607856 | 16 | 20 | 2 | 22,5 | 20 | 0,106 |
| 8607850 | 20 | 25 | 2,5 | 28 | 20 | 0,166 |
| 8607851 | 24 | 29 | 2,5 | 30 | 20 | 0,196 |
| 8607852 | 27 | 32 | 2,5 | 30 | 10 | 0,217 |
| 8607857 | 30 | 35 | 2,5 | 28 | 10 | 0,239 |
| 8607854 | 35 | 40 | 2,5 | 28 | 10 | 0,276 |
| 8607859 | 44 | 50 | 3 | 28 | 2 | 0,415 |
| 8607860 | 50 | 60 | 5 | 28 | 2 | 0,810 |
| 8607861 | 60 | 70 | 5 | 32 | 2 | 0,958 |
| 8607863 | 65 | 75 | 5 | 32 | 2 | 1,032 |
| 8607864 | 75 | 85 | 5 | 35 | 2 | 1,180 |
| 8607865 | 80 | 90 | 5 | 35 | 2 | 1,252 |
| 8607866 | 100 | 110 | 5 | 35 | 2 | 1,548 |

MARKING : NONE

PROTECALAN



PROTECALAN WOVEN SHEATH

The Protecalan woven sheath is mainly used on secured hydraulic hoses, but it is also suited to the protection of flexible electric cables and all types of flexible hoses.

Technical specifications :

Sheath: Woven with high antistatic tenacity

Maximum operation temperature: 110°C

Colour : Black

| Sheath | |
|----------------|------------------|
| Part N° | Dia. sheath (mm) |
| M7853000070036 | 41 |
| M7853000070045 | 51 |
| M7853000070057 | 64 |
| M7853000070070 | 83 |
| M7853000070075 | 95 |
| M7853000070101 | 109 |



GA

GA - SILICONE COATED FIBREGLASS SHEATHING

The GA sheathing is a mineral fibre braided sheath coated with fire-resistant silicone rubber. It is intended to protect hoses or cables, with the fibre braid ensuring thermal protection and the silicone coating ensuring impermeability and resistance to flames.

Moreover, the silicone outer cover mechanically protects the braid and increases thermal protection.

Destructive tests have indicated a life span of 15 minutes at 1100°C and one minute at 1500°C.

The GNS sheathing can be supplied in thicknesses of 4mm in any diameter for extreme applications.

It does not contain asbestos.

Technical specifications :

Inner tube : Braid of fiberglass

Outer cover : Silicone waterproof fireproof

Colour : red

Outer finish : Smooth

Temperature : - 60°C to + 260°C

| Part N° | Inner diameter | | Outer diameter | Wall thickness | Weight | Packaging |
|---------|----------------|-------|----------------|----------------|--------|-----------|
| | mm | Inch | | | | |
| 8607060 | 6 | 1/4" | 7,5 | 0,7 | 0,02 | 100 |
| 8607061 | 8 | 5/16" | 9,5 | | 0,04 | 100 |
| 8607062 | 10 | 3/8" | 11,8 | | 0,05 | 100 |
| 8607063 | 12 | | 13,8 | | 0,06 | 100 |
| 8607064 | 14 | | 15,8 | 0,9 | 0,06 | 50 |
| 8607065 | 15 | | 16,8 | | 0,07 | 50 |
| 8607066 | 18 | | 19,8 | | 0,08 | 50 |
| 8607067 | 20 | | 21,8 | | 0,09 | 50 |
| 8607068 | 22 | 7/8" | 23,8 | 1,0 | 0,11 | 25 |
| 8607069 | 25 | 1" | 27,4 | | 0,16 | 25 |
| 8607070 | 28 | | 30,6 | 1,3 | 0,18 | 25 |
| 8607071 | 30 | | 32,8 | 1,4 | 0,21 | 25 |
| 8607072 | 35 | 1"3/8 | 39 | | 0,33 | 25 |
| 8607073 | 40 | | 44 | 2,0 | 0,36 | 25 |
| 8607074 | 52 | | 56 | | 0,23 | 10 |
| 8607075 | 70 | | 74 | | 0,3 | 10 |
| 8607076 | 90 | 3"1/2 | 94 | | 0,4 | 10 |
| 8607005 | 8 | 5/16" | 16 | 4,0 | 0,18 | 30 |
| 8607008 | 10 | 3/8" | 18 | | 0,14 | 30 |
| 8607007 | 13 | 1/2" | 21 | | 0,23 | 30 |
| 8607011 | 16 | 5/8" | 24 | | 0,3 | 10 |
| 8607012 | 18 | | 26 | | 0,24 | 10 |
| 8607015 | 20 | | 28 | | 0,24 | 10 |
| 8607019 | 22 | 7/8" | 30 | | 0,31 | 10 |
| 8607021 | 25 | 1" | 33 | | 0,35 | 10 |
| 8607023 | 30 | | 38 | | 0,36 | 10 |
| 8607025 | 32 | 1"1/4 | 40 | | 0,38 | 15 |
| 8607028 | 35 | | 43 | | 0,42 | 10 |
| 8607029 | 38 | 1"1/2 | 46 | | 0,45 | 15 |
| 8607032 | 40 | | 48 | | 0,46 | 10 |
| 8607033 | 45 | 1"3/4 | 53 | | 0,49 | 10 |
| 8607037 | 50 | 2" | 58 | | 0,54 | 10 |
| 8607038 | 57 | 2"1/4 | 65 | | 0,6 | 10 |
| 8607039 | 60 | 2"3/8 | 68 | 0,65 | 10 | |
| 8607040 | 64 | 2"1/2 | 72 | 0,68 | 5 | |
| 8607043 | 76 | 3" | 84 | 0,88 | 5 | |
| 8607046 | 90 | 3"1/2 | 98 | 0,96 | 5 | |
| 8607049 | 102 | 4" | 110 | 1,17 | 5 | |

MARKING : NONE

137



137 - FLEXIBLE PROTECTION SHEATH FOR ELECTRICAL CABLES AND HOSES

Sheathing REF 137 is intended to protect flexible electrical cables and hoses. Its qualities are its great flexibility, its light weight and its thin wall. Its black rubber outer wrapped finish is abrasion and weather resistant. Produced on mandrills, it is available in a wide range of diameters.

Technical specifications :

Inner tube : beige rubber covered textile plies

Outer finish : SBR/EPDM rubber

Outer finish : wrapped

Production lengths : 40 metres

Colour : black

| Part N° | Inner diameter | | Outer diameter | Wall thickness | Working pressure | Burst pressure | Bend radius | Weight |
|---------|----------------|--------|----------------|----------------|------------------|----------------|-------------|--------|
| | mm | Inch | | | | | | |
| 137 19 | 19 | 3/4" | 22 | 1.5 | - | - | - | 0,13 |
| 137 25 | 25,4 | 1" | 28 | 1.5 | - | - | - | 0,14 |
| 137 28 | 28,5 | 1"1/8 | 31 | 1.5 | - | - | - | 0,18 |
| 137 30 | 30 | 1"1/4 | 34 | 1.5 | - | - | - | 0,26 |
| 137 35 | 35 | 1"3/8 | 38 | 1.5 | - | - | - | 0,22 |
| 137 40 | 40 | 1"9/16 | 44 | 2 | - | - | - | 0,30 |
| 137 45 | 45 | 1"3/4 | 48,5 | 1.5 | - | - | - | 0,38 |
| 137 51 | 50,8 | 2" | 54 | 1.5 | - | - | - | 0,32 |
| 137 57 | 57,1 | 2"1/4 | 60 | 1.5 | - | - | - | 0,33 |
| 137 60 | 60 | 2"3/8 | 63 | 1.5 | - | - | - | 0,42 |
| 137 63 | 63,5 | 2"1/2 | 66 | 2.0 | - | - | - | 0,31 |
| 137 70 | 70 | 2"3/4 | 74 | 2.0 | - | - | - | 0,50 |
| 137 76 | 76,2 | 3" | 80 | 2.0 | - | - | - | 0,60 |
| 137 90 | 90 | 3"9/16 | 95 | 2.5 | - | - | - | 0,70 |
| 137 100 | 101,6 | 4" | 105 | 2.5 | - | - | - | 0,80 |



| | | Rubber hoses | | Hydraulic hoses | | | |
|---------------------|--|--------------------|--|------------------------|--|---------------------------|--|
| Hydraulic couplings | | | | | | Swage fittings & ferrules | |
| | | | | | | | |
| Grease nipples | | | | | | Technical tubes | |
| | | | | | | | |
| | | Hydraulic adapters | | Rubber hoses off-shore | | | |

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SEL TECALEMIT™



Rubber hoses, PVC hoses, protection sheaths
Fittings SEL TECALEMIT®

The SEL TECALEMIT® department at TECALEMIT FLEXIBLES®, offers a full range of PVC and rubber hoses to ensure the safe conveyance of various fluids and abrasive materials.

Thanks to its official approvals, certifications, wide experience and the development of a large capacity crimping press SEL TECALEMIT® offers a wide range of large-diameter and non-standard crimped hoses.





flexibles TecaLemIt™



Hydraulic hoses, protection sheaths
Systeme of flexibles reassured Protecalan

The FLEXIBLES TECALEMIT® department at TECALEMIT FLEXIBLES® offers a full range of low, medium, high and very high pressure hydraulic hoses.

TECALEMIT FLEXIBLES® equips and crimps all types of flexible hoses in compliance with official standards.

Thanks to the Protecalan secured flexible hose system, we provide products with an additional protection for operators.





flexibles TECALEMIT™



**Swage fittings for hydraulic hoses, hydraulic adapters, hydraulic couplings
BSPT & Metric ring fittings for hydraulic tubes, grease nipples**

The FLEXIBLES TECALEMIT® department at TECALEMIT FLEXIBLES® offers a wide range of hydraulic & industrial fittings which comply with the numerous technical constraints relating to hydraulic connectors.

For a better understanding of the field of hydraulics TECALEMIT FLEXIBLES® provides a specific technical guide to our product range.





tubes TECALEMIT™



**Technical tubes, spiralled tubes, multitubes
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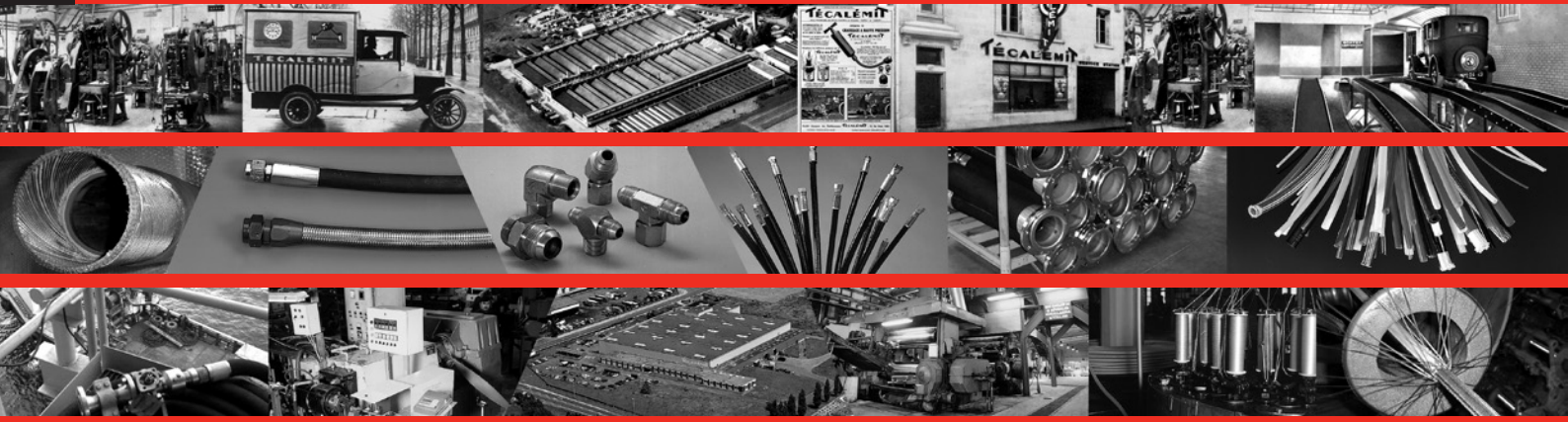
The TUBES TECALEMIT® department at TECALEMIT FLEXIBLES® offers a full range of pneumatic pipes ensuring the conveyance of power or various fluids as well as cable protection.

The TUBES TECALEMIT® range of pneumatic products also includes monotubes, multitubes, MANURIL® & MANULAN® workshop spiral tubing and pneumatic connectors.



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"All the specifications are given as an indication, they may be updated in the interest of our customers"







General terms & conditions of sale

Terms of Sales

The information were concerned catalogs, notes and scales are given only as a rough guide and do not commit the seller. The seller is bound by the commitments of his representatives or employees only subject to confirmation emanating from himself. The offers are valid only within the limits of the deadline of option. Unless otherwise stipulated, this deadline is of 1 month. The additional stationery are the object of a new offer of the seller. It is that after express acceptance by the seller of order of the buyer that both parts are bound by the sale contract. Except special convention noticed, the acceptance of the offer by the customer involves its membership in the present general terms of sale. In the hypothesis where the buyer would intend to take advantage of opposite clauses, he will have to send to our company a registered letter with recorded delivery in 15 days following his knowledge of the present general terms of sale. A negotiation can then make a commitment to reach a possible agreement between the parties. Since the deadline of 15 days will be sold without appearance of will on behalf of the buyer, the present general terms of sale will be considered as irrevocably accepted without any reserve.

Terms of delivery

Goods are sold, taken and approved in factories or store of the seller, even if the postage-paid is granted. If the shipping is delayed by the buyer and the seller grants it, goods are stored and handled at expenses and risks of the buyer without responsibility for the seller. These measures modify not at all the obligations for payment of the supply and establish no novation to the sale contract. Goods always travel at the risks and the dangers of the buyer, except his recourse against the carrier. It falls to the buyer, when he is himself an addressee of the sending, or to his representative when the buyer makes manage the sending to a third party, to receipt dated to the carrier only having made sure that stationery were delivered to him for the normal deadlines and good state. In case of damage or of absent person, the addressee has to achieve all the formalities of law (in particular reserves on it). The choice of the carrier by the seller does not modify these obligations of the buyer. Except the case where the buyer wishes to choose the carrier or to define condition of the carrier, the shipping are made according to the seller by every possible means by transport, in the most reduced rate. If the buyer imposes his carrier or conditions of transport particular, the seller is entitled to charge him the supplement of the transport costs which he can be brought to support of this fact.

Packaging

The seller incurs no responsibility of the fact that stationery would not have been packed, in the absence of precise commitment of its part on this point in the sale contract.

Property reserve

Ownership transfer of the goods is suspended from the complete payment of their price, in main thing and accessories, the risks, the loss or the deterioration of these goods as well as the damage which they could cause falling however to the buyer from the stake of these at his disposal. The seller will benefit from the right of resumption, consequence of the transfer postponed from the property and if he is put obstacle to this resumption address Mister President of the Commercial court of Quimper ruling in emergency proceeding, so that he orders it. The buyer will have to watch that the identification of the goods is always possible. Products in stock are presumed to be the ones to pay.

Studies and projects

The studies and documents of all kinds transmitted by the seller always stay its whole property. They must be restored to him on his demand. The seller preserves entirely the intellectual property of these projects which can be neither communicated nor executed without his written authorization.

Delivered quantities

The charged quantities are the ones which were really delivered. They can postpone ordered quantities without this fact can entail a contesting on behalf of the buyer.

Delivery deadlines

The delivery deadlines indicated by the seller get on from the date of the acknowledgement of receipt of order. Except express agreement these deadlines are given only as a rough guide and are not rigorous, their overtaking can entail neither cancellation of the order, nor compensation. Even in the case of formal acceptance by the seller, of deadlines the overtaking of which would entail penalties, the execution of stationery can be suspended or delayed without compensation chargeable to the seller if the terms of payment are not observed by the buyer or if the information to be supplied by this last one did not reach the seller in due course. The war, the strikes, the epidemics, the total or partial interruption of transport, the shortage of raw materials, the hindrances resulting from measures of the authority regarding import of responsibility or internal economic regulations, the incidents or accidents of any causes



General terms & conditions of sale

entailing the unemployment of everything of all or any factories, the fire, the flood, the breaking of machine, the difficulties of transport, the accident of manufacturing, the imperfection of the raw material as a result of the deficiency of a supplier, quite other accident or the not attributable event to the seller and presenting an irresistible and unpredictable character which prevents or reduces the manufacturing, is considered as cases of absolute necessity and unload our company of the obligation to deliver, without compensation neither damage interests and, in a general way, any coincidences or of circumstances outside one's control authorizing by rights the suspension of the current contracts or their late execution without compensation(allowance) nor damage.

Prices

Prices are established on the basis of the economic conditions indicated in the offers. They are revisable according to the variation of the costs of their constituent elements within the framework of the legislation in force. Charged prices are the ones current, in particular if necessary according to price lists or scales, the day of the provision of stationery. The variations of price can be, on no account, a motive for termination of the order. Minimum order and postage-paid: these conditions are defined on our price lists.

Payment

The fact that the product is made available to the client triggers invoicing. Supplies shall be paid to the head-office of the vendor within 30 days, or if a specific agreement has been made, by the date stated on the invoice. For any payment made before the due date, the vendor shall offer a discount, the conditions of which are indicated on the invoice. Any amount due and not paid in time shall be subject to interests as a matter of law, and a final notice shall be issued. Interests shall be applied at the legal rate in force plus 50%. These interests shall be invoiced separately at the end of the month. If the buyer does not pay an invoice by its due date, all other invoices become due immediately, even if they had previously given rise to commercial agreements and all sales not yet fully completed and paid shall be void as a matter of law, if this is the choice of the vendor, after a final notice to pay indicating the vendor intends to invoke this clause has been issued and has not been immediately followed by a response from the buyer. The vendor shall then be entitled to repossess or mandate someone to repossess the supplies if their sale has been cancelled as a matter of law. If the buyer objects to this repossession, the vendor can contact the President of the Trade Court of Quimper, ruling in summary proceedings, so that an order is issued. In application to what is mentioned above, received payments shall be applied in priority to supplies not recovered in kind. For any future order, the vendor shall be entitled to demand full payment is made prior to shipping. Any change in the situation of the buyer, such as the sale or placement in collateral of all or part of the business, death, incapacity, dissolution or change in company status, even after the partial execution of the contract or order, shall lead to the application of the same provisions as those mentioned in case of non-payment of invoices.

Warranty

Unless otherwise stipulated, orders are executed according to the standards it exists and with tolerances of use in current quality and without respect in the special use there for which the buyer intends them. The desk clerk has to verify immediately the quantity, the weight, the dimensions and the quality. Goods are guaranteed against the not visible defects of material and manufacturing and against the latent defects during 12 months as from their starting, and at the latest 18 months after the date of provision. During this warranty period, any complaint will necessarily have to be formulated by registered letter with recorded delivery at the latest within one month after the discovery of the defects or the vices and any action must, to be acceptable, be instituted for the deadline of use of 2 months following the complaint. The seller can have only in the pure and simple replacement, in the price list of the most reduced transport, the defective recognized goods without other allowance, so replaced stationery staying its property. The imperfections resulting from a storage, from an assembly or from a use of goods by the clientele in abnormal conditions are excluded from any guarantees, or not corresponding to the rules of art. The seller accepts no return without having authorized him previously.

Test and reception

Goods are checked in the factories of the seller only on the express demand of the buyer and according to the methods suited during the order. The corresponding expenses, in particular the expenses of vacation and report are chargeable to the buyer

Attribution of jurisdiction

In case of contesting, the French law is only application and the courts of the head office of the company are only competent, whatever are the terms of sale and the method of payment suited even in case of call in guarantee or of plurality of applicants or defendants.


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