

Bolt tensioners



Rescue tools



Jacks



Wrenches



HIGH PRESSURE **HYDRAULICS**

THERMOPLASTIC HOSES - FITTINGS & ACCESSORIES

Transfer Oil, in a single package, can offer hose and fittings solutions for every high pressure hydraulic tool

SOLUTIONS FOR HIGH PRESSURE HYDRAULIC TOOLS

Within its hydraulic hose range, Transfer Oil offers products designed with high pressure hydraulic tools requirements in mind

Sizes ranging **from 1/8" up to 3/8"** and working pressures available with safety factors from 4:1 to 2:1 allow Transfer Oil to cover the most diversified application requirements and industry standards.

Rescue tools, such as hydraulic scissors and splitters, are used on car accident scenes to save lives. In these harsh conditions **operational pressure of 700 bar / 10,000 psi** is the least of the challenges that these products are subject to. The reinforcement, a hybrid braid using both aramid fiber and steel wire, is capable to both deliver pressure **performance and mechanical protection** keeping fluid power in a safe place, even when the hose line gets abused.

Firefighters' equipment must be handy and compact, and that's why our renowned 0412 1/4" VHP 10,000 is the most compact hose in its category, allowing both great flexibility and longer lengths on reels, delivering a remarkable **burst pressure of over 2.800 bar / 40,000 psi** in a reel package that would fit in a standard SAE 100 R7 rated 210 bar / 3,000 psi.





Based on equivalent technology, many other tools and applications require the same amount of pressure to operate: **hydraulic jacks** to lift extremely heavy weights, **hydraulic torque tools** to simultaneously tighten large bolts, **nut splitters** to remove seized nuts, and many others. All these applications will find in our VHP hose range the ideal flexible partner to convey high pressure to distance in a safe and efficient way, taking advantage of its TPU abrasion resistant jacket, long cycle life and an **extremely wide selection of fittings connections to match different standard couplings**.

For demanding applications requiring pressures exceeding the globally recognized 700 bar / 10,000 psi standard, Transfer Oil can count on its **premium HELIX® hose range**, characterized by steel wire multi-spiral reinforcement, covering **ultra-high working pressure of 1.000, 1.500 and even 2.500 bar** (15k, 20k and 36k psi) required, among others, for **super heavy duty bolt tensioning tools**.



**EASY
HANDLING**



**LOW VOLUMETRIC
EXPANSION**



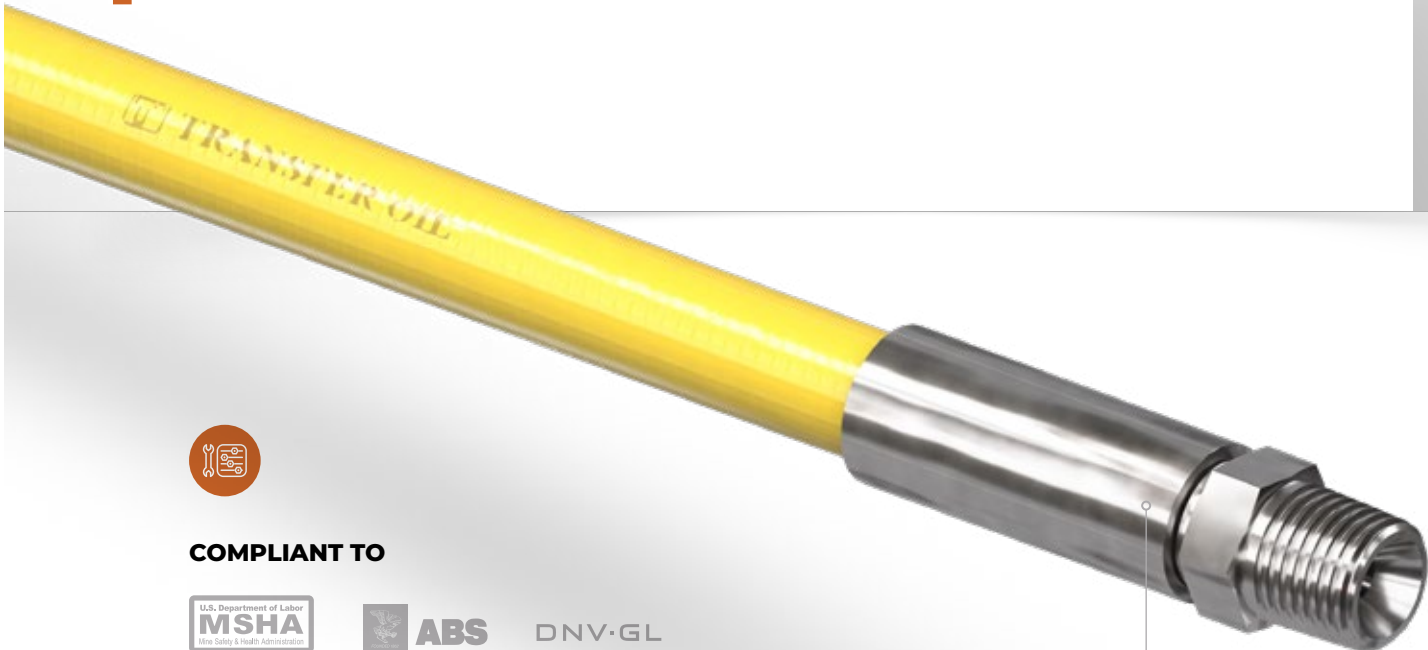
**REDUCED BEND
RADIUS**



**HIGH PRESSURE
RESISTANCE**

Wide array of products for every market needs

700 BAR - 10K PSI



COMPLIANT TO



ABS

DNV·GL



APPLICATIONS

Very High Pressure equipment: rescue tools, jacking, nut splitters, re-railing, hoisting and skidding systems



TEMPERATURE

-40 °C to +100 °C
(-40 °F to +212 °F): limited to +70 °C
(+158 °F) for air and water based fluids

Carbon or stainless steel fittings



INNER TUBE

Polyester elastomer



COVER

Polyurethane, inkjet branding

4:1 SAFETY FACTOR

4:1 safety factor offer highest safety standard to all the demanding applications that involve dynamic pressures.

REINFORCEMENT

041X - 040X

Hybrid: one or two braids of aramid fiber plus one braid of steel wire

046X

One or two braids of aramid fiber

Part No.	Hose size			ID		OD		WP		BP		Bend radius		Weight	
	dash	inch	DN	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lbs/ft
0412*	-4	1/4"	6	6,6	0,260	12,7	0,5	700	10000	2800	40000	35	1,38	180	0,121
0414	-6	3/8"	10	9,8	0,386	18,9	0,744	700	10000	2800	40000	90	3,54	330	0,222

* Exceeds the former American Jacking Specifications IJ100 (1/4")

MARINER COVER VERSION: INCREASED RESISTANCE TO SEAWATER AND SALINE ENVIRONMENT

0402	-4	1/4"	6	6,6	0,260	12,7	0,5	700	10000	2800	40000	35	1,38	180	0,121
0404	-6	3/8"	10	9,8	0,386	18,9	0,744	700	10000	2800	40000	90	3,54	330	0,222

NON CONDUCTIVE LIGHTWEIGHT AND FLEXIBLE

0460**	-2	1/8	4	4,0	0,157	9,1	0,358	700	10000	2800	40000	25	0,98	60	0,040
0461**	-3	3/16	5	5,0	0,197	11,0	0,433	700	10000	2800	40000	30	1,18	95	0,064
0462	-4	1/4	6	6,6	0,26	14,0	0,551	700	10000	2800	40000	35	1,38	145	0,097
0464	-6	3/8	10	9,7	0,382	18,1	0,712	550	8000	2200	32000	70	2,76	200	0,134

** Also used as COAX high pressure line (see page 7).

2:1 SAFETY FACTOR

2:1 safety factor hoses are the ideal solution for static pressure applications such as hydraulic lift, hydrostatic testing equipment.

REINFORCEMENT

0732

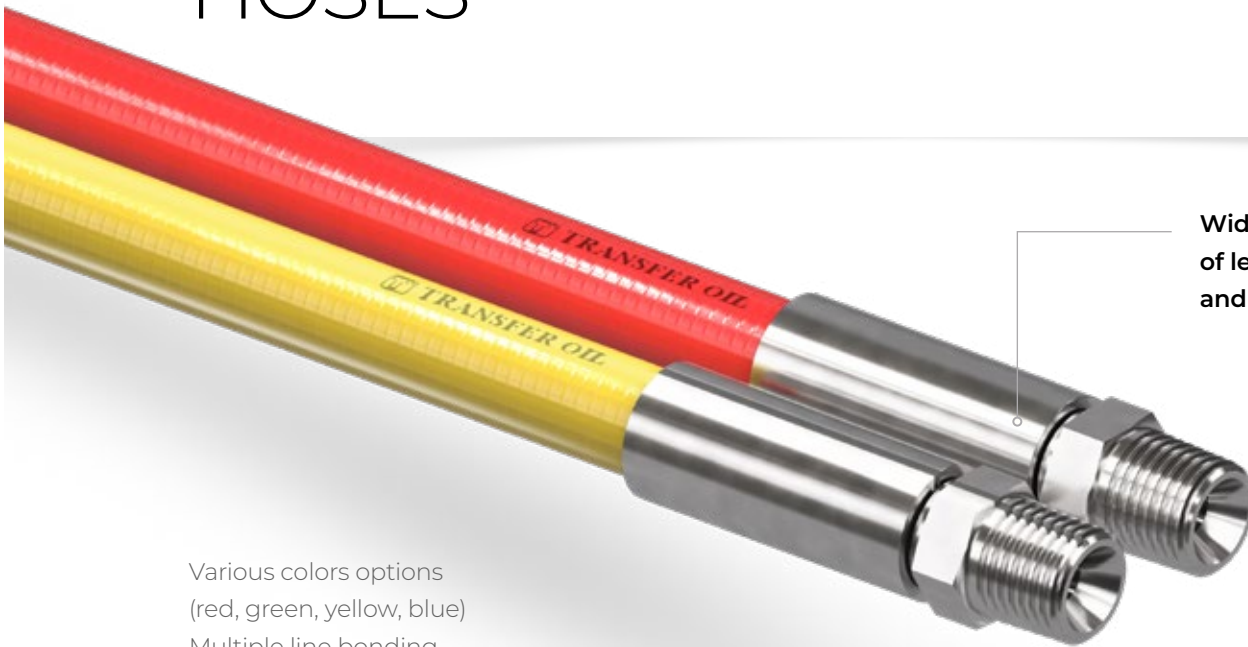
Braids of synthetic fiber

08Y2 - 08Y4

Two braids of steel wire

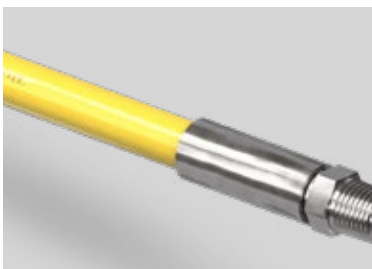
Part No.	Hose size			ID		OD		WP		BP		Bend radius		Weight	
	dash	inch	DN	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lbs/ft
0732	-4	1/4"	6	6,50	0,256	15,40	0,606	700	10000	1400	20000	50	1,99	180	0,121
08Y2	-4	1/4"	6	6,40	0,252	12,80	0,504	700	10000	1600	23200	40	1,57	245	0,165
08Y4	-6	3/8"	10	9,80	0,386	16,80	0,661	700	10000	1400	20000	65	2,56	375	0,252

TWIN HOSES



Wide range
of lengths, ID
and fittings

Various colors options
(red, green, yellow, blue)
Multiple line bonding
available



SIMPLE TWIN-LINE OR COMPLEX COMBINATIONS

Transfer Oil VHP hoses can be requested as *single* or *twin-line*, also combining different colors, for **applications where it is advantageous to have two hoses one next to the other**, for example where you need to power tools that can be operated in high pressure in both directions, or simply needing a separated return pressure line.

High pressure resistance and lightweight

COAXIAL TECHNOLOGY



For more compact constructions, the innovative co-axial hose layout, available at Transfer Oil, offers unmatched flexibility and easy operations. The co-axial solution consists in a smaller high-pressure hose inserted into a larger one used as low pressure return line.

The high-pressure fluid is delivered to the equipment through the *VHP small line*, while the low-pressure hydraulic fluid returning to the pump is conveyed through residual section of the larger low pressure external hose. A special quick coupling allows to convey high pressure and low pressure in the right places, in a quick to operate and compact construction.

The inner high-pressure line, capable of **over 700 bar / 10,000 psi 4:1 working pressure and with a section of 1/8" or 3/16"**, is based on a 100% aramid fiber braid, for extraordinary compactness and lightness plus a **TPU cover, compatible with hydraulic oil**. This hose, being inserted in the larger one (typically 5/8" ID) is literally immersed in the oil contained in the low pressure return line.



Easy to roll and unroll



EASY HANDLING



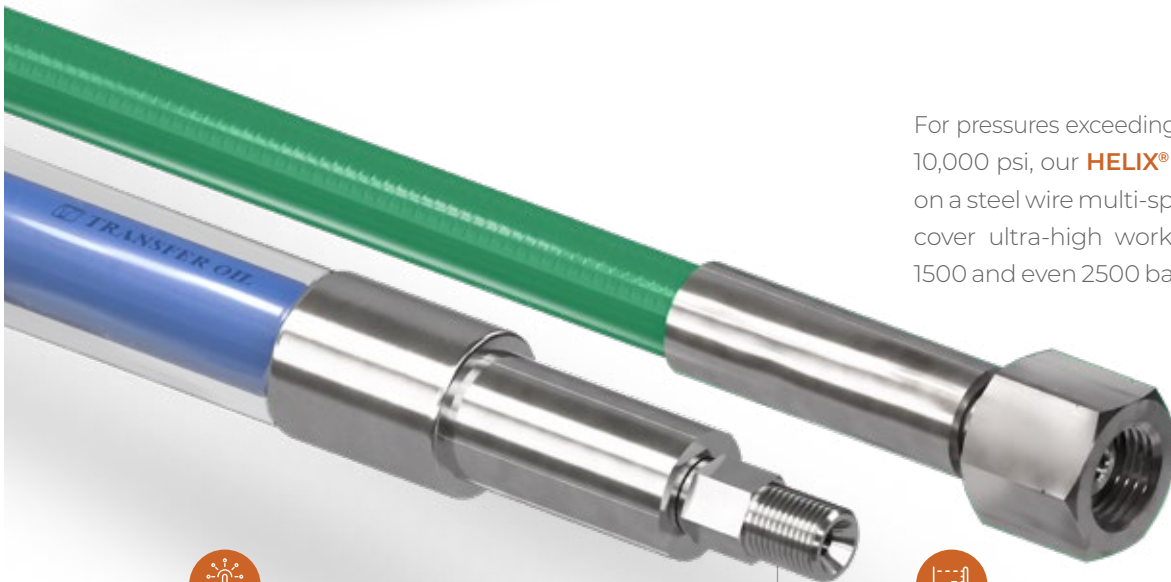
NO KINKING



LIGHTWEIGHT

High performance bolting range

1000 - 2500 BAR 15K - 36K PSI



For pressures exceeding the standard 700 bar / 10,000 psi, our **HELIX®** hose range, counting on a steel wire multi-spiral reinforcement, can cover ultra-high working pressure of 1000, 1500 and even 2500 bar (15k, 20k and 36k psi).



APPLICATIONS

Ultra High Pressure bolting hydraulic systems, offshore equipment, hydraulic presses, pressure testing



TEMPERATURE

-30 °C to +60 °C
(-22 °F to +140 °F):



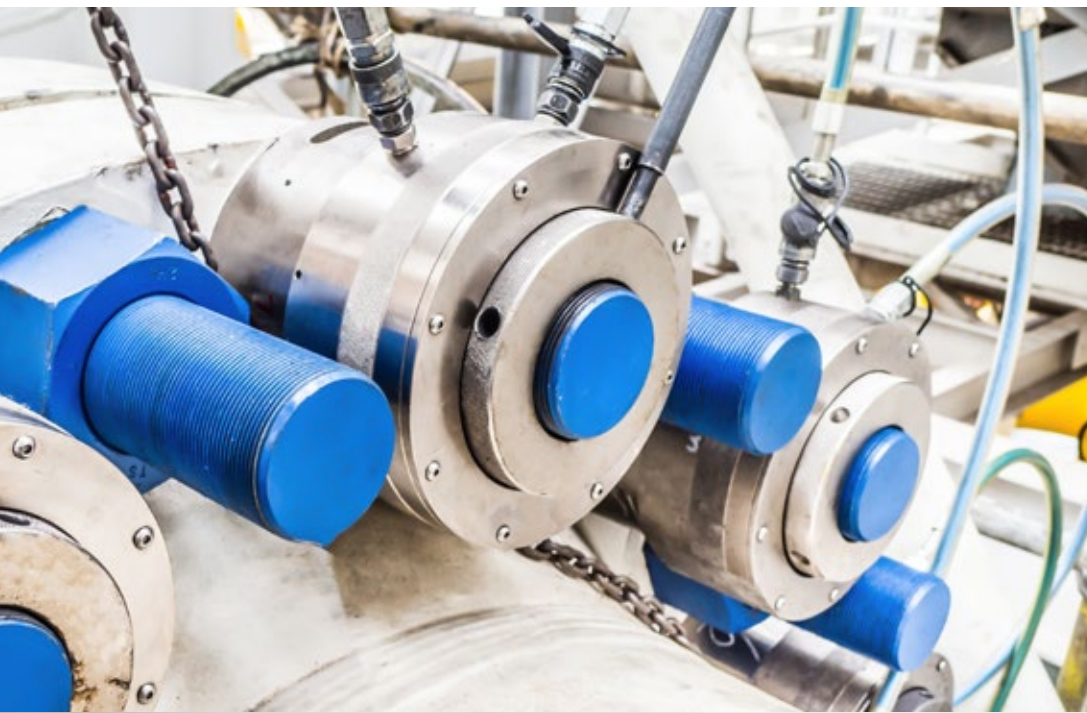
INNER TUBE

Polyoxymethylene or Polyamide



COVER

Special polyester copolymer or polyurethane



2,5:1 SAFETY FACTOR

Part No.	Hose size			ID		OD		WP		BP		Bend radius		Weight	
	dash	inch	DN	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lbs/ft

1050 BAR | 15000 PSI

2021	-3	3/16	5	5,2	0,205	9,97	0,390	1050	15000	2625	37500	90	3,543	150	0,101
2022	-4	1/4	6	6,4	0,252	11,50	0,453	1050	15000	2625	37500	110	4,331	210	0,141

1400 BAR | 20000 PSI

2030	-	5/32	4	4,0	0,157	10,30	0,406	1400	20000	3500	50000	60	2,362	180	0,121
2032	-4	1/4	6	6,2	0,244	13,20	0,520	1400	20000	3500	50000	90	3,543	280	0,188

1800 BAR | 26000 PSI

2041	-3	3/16	5	5,1	0,201	11,80	0,465	1800	26100	4500	65250	140	5,512	270	0,181
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2500 BAR | 36000 PSI

2061	-3	3/16	5	5,0	0,197	14,40	0,567	2500	36200	6250	90500	190	7,480	550	0,370
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REINFORCEMENT

High tensile steel wire in multiple spiral layers

ASSEMBLIES

Each hose is tested at 1,5 MWP and a test certificate (ref. EN 10204 type 3.1) is supplied for each hose assembly.

Available as factory made assemblies only.

Engineered to match highest quality standards






GENUINE COMPONENTS AND ACCESSORIES

FITTINGS

To grant high pressure resistance and long life, Transfer Oil offers a range of inserts dedicated to its VHP and UHP hose range, designed using the most advanced 3D software having in mind the demanding pressure requirements of these assemblies.








VHP - 4:1 SAFETY FACTOR

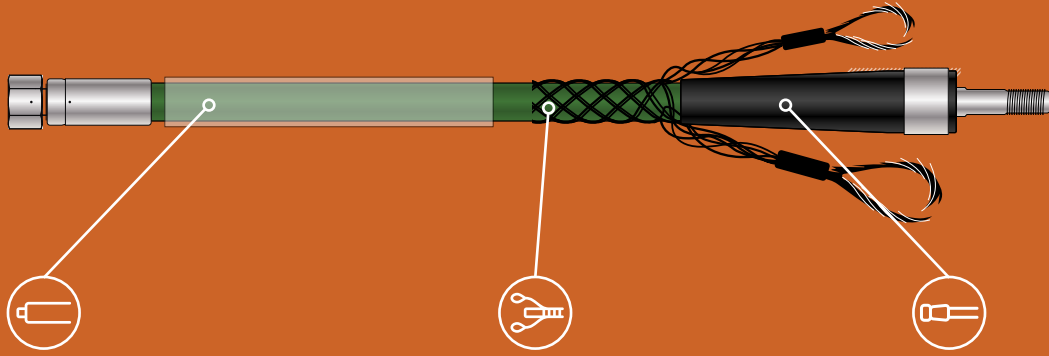
				
SOD SERIES NPTF Male	SOH SERIES Straight Female JIC 74°	SOM SERIES Straight Female DIN 24°	SOB SERIES Parallel Male BSPP	SOA SERIES Straight Female BSPP 60°

VHP - 2:1 SAFETY FACTOR

				
SDE SERIES NPT Male	SDD SERIES Male JIC 74°	SBN SERIES Female DKOS DIN 24°	SDA SERIES Parallel Male BSPP 60°	SBH SERIES Straight Female BSPP 60°

UHP - 2,5:1 SAFETY FACTOR

				
HI SERIES NPT Male	HB SERIES BSPP Female	HP SERIES BSPP Male	HQ SERIES GAS 100° Male	HL-HM SERIES HM-HP Male



Frame and Click!
See the whole range of accessories on our website

PROTECTION JACKET

A cristal **clear PVC protection jacket** or extra tough cover with internal spiral for rough and harsh environment.

HOSE ARRESTOR

The safest way to **restrain high-pressure hoses** from whiplash in the event of a blow out.

BEND RESTRICTOR


Designed to protect the hose assembly from kinking and **bending in difficult operating conditions.**

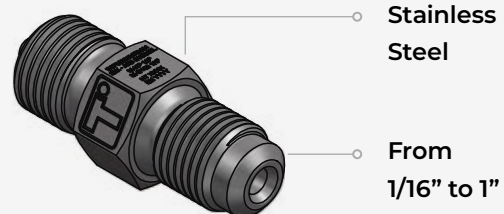
ADAPTERS TO SAFELY CONNECT ALL STANDARDS

In a global market that relies on different standards when linking high pressure components, it is often required to use adapters to connect hoses, pumps, tools, and couplings. But when pressures are exceeding what commonly available parts can handle, Transfer Oil UHP adapters are purposely designed and made to safely link our VHP or UHP hose assemblies to every different standard.




MALE - MALE


	NPT	Gas 100
	MP	Gas 100
	HP	Gas 100
	Type-M	Gas 100



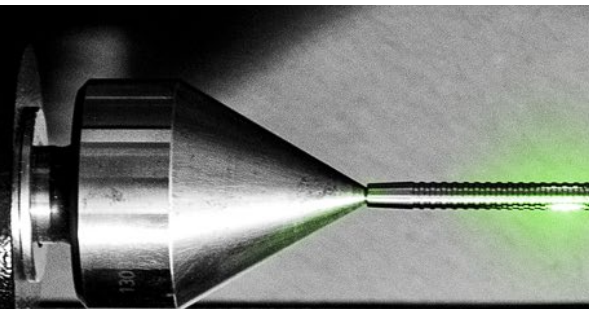
MALE - FEMALE

	HP	Gas 120
	NPT	Gas 120
	MP	Gas 120
	HP	Gas 120

FEMALE - FEMALE

	NPT	Gas 100
	MP	Gas 100
	HP	Gas 100
	Type-M	Gas 100

Designed, manufactured and tested



QUALITY AND RELIABILITY



RAW MATERIALS

Thermoplastic materials used in the construction of our VHP and UHP hoses are the result of accurate selections among the most premium polymers today available.

Stringent quality controls, performed in our state-of-the-art laboratories using advanced analysis technologies like FT-IR Spectroscopy and DSC, ensure that each batch conforms to the specifications.

Also, synthetic fibers and steel wire used in the reinforcement production are batch inspected, verifying their mechanical properties, granting consistent performance and durability of the finished product.

INTERNAL TUBE EXTRUSION

Through a bar-code system, we check that the material ready to be processed correctly matches what is indicated in the BOM, making it virtually impossible to use the wrong ingredient.



Moisture control is an essential condition to assure a reliable extrusion process, for this reason we rely on a large capacity redundant industrial plant to properly dry our materials.

Still, before giving the green light to process, a sample of raw material is inspected in our laboratories to make sure that the residual moisture content reached is in line with our specs. *Tube extrusion is among the most controlled phases of our process, since from this step it all begins.* Wall thickness measure is performed continuously, by means of ultrasonic technology, returning on a screen, the cross section of the tube magnified, allowing real time targeted interventions.



REINFORCEMENT

The reinforcement represents the pressure resist soul of a high-pressure hose. For this reason, extra care is taken in this important process.

Also, the bar code system prevents material mismatching, while correct braid deposition is also verified before starting the production, making sure that it respects the specified pitch, and that no other defects are present. Even more important, every batch shall be individually tested to verify both pressure resistance and change in length. *Only when these parameters are satisfied, the reinforcement batch can be completed and released for further working steps.* Reinforcement interruptions, which are part of this process, are identified by mean of a redundant methodology that allows to clearly identify these sections and scrap them in the final step.



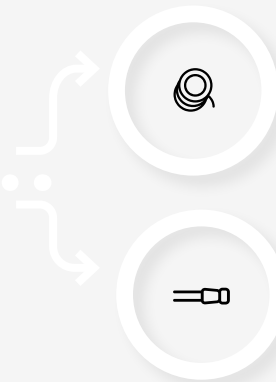
COVER EXTRUSION

Similarly to the tube production, plastic polymers used in cover extrusion have their moisture content carefully controlled together with the coherency with the BOM.

BULK COILING

Whether you prefer loose coils or large capacity reels, the final coiling step is the one that makes possible the transformation from semifinished to finished product status.

MORE THAN 70 CONTROLS ON THE WHOLE PRODUCTION PROCESS...



HOSE ASSEMBLY

The “poka-yoke” method in place at Transfer Oil reaches its best when it is time to make hose assemblies.



Since the covered hose represents an almost finished product, *all the finished product specs are batch verified*, including final ID, OD by mean of laser continuous measuring, and cover concentricity.

All production data, including extrusion parameters and instrument measures are logged in our production database, allowing granular analyses and accurate reconstruction of each production batch, making PPAP data collection reliable and effective.

This is where the final marking is impressed on the hose, final checks are performed, carefully removing all those interruptions and flaws that can occur in the previous steps. *Final part number, batch number and ID tag are associated to the finished product* allowing the complete traceability not just of this final phase but, if needed, all the way back to the raw materials incoming batch including all production records tracked across the various steps.

Every component is identified with a barcode which is scanned to verify that it corresponds with that indicated in the workorder bill of material. If a wrong part is picked an automated system prevents the operator to proceed. *All VHP and UHP hose assemblies are 100% checked for both crimping diameter and bore collapse, granting the highest standard.* As an additional safety, VHP assemblies are batch proof tested at two times the working pressure, while UHP assemblies are 100% proof tested at 1,5 times the working pressure and a corresponding 3.1 certificate is issued.

...BEFORE A TRANSFER OIL HOSE CAN BE CLEARED AND SENT TO OUR CUSTOMERS

Expertise and innovation through firm foundation

INDEPENDENT SINCE 1979

Transfer Oil ranks among the most important manufacturers of reinforced **thermoplastic hoses** in its industry. Since its beginning, Transfer Oil produced reinforced thermoplastic hoses manufactured from the finest raw materials sourced from leading suppliers of premium engineering polymers and fibers. Transfer Oil products are the choice of the most significant distributors in our field as well as renowned OEMs that can take great advantage of Transfer Oil direct product design capability, in house hose analysis and qualification.

With applications ranging from hydraulic systems, gas and fluid handling, up to refrigeration and air conditioning, Transfer Oil products are used in several different industries.

Being able to assemble and proof test Ultra High-Pressure products up to 3.800 bar / 55.000 psi, Transfer Oil is today the only independent hose manufacturer able to offer to the market products covering virtually every pressure range that a thermoplastic hose can reach with the technology known today.

With a distinctive dedication for high technology, Transfer Oil products are manufactured in state-of-the-art facilities where health and safety, environment and quality are taken to the highest level.

HEADQUARTER

Transfer Oil S.p.A.

Via Sacca 64
43052 - Colorno - Parma - Italy
info@transferoil.com

BRANCHES

Transfer Oil USA

537 Rankin rd.
77073 - Houston - Texas - USA
info-us@transferoil.com

Transfer Oil Singapore

196 Pandan Loop
128384 - Singapore
info@transferoil.com.sg

Transfer Oil Shanghai

9126 Hunan Road
Pudong New District - Shanghai - China
info@transferoil.cn



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