CHEMICAL TRANSFER 6

Composite Hose manufacturing represents a radical departure from conventional hose building technologies. The unique construction method used to make composite hose results in an extremely lightweight and flexible finished product. A choice of construction materials allows production of hoses to handle a wide variety of chemical and petroleum products.

Composite hose consists of multiple layers of thermoplastic film and fabric trapped between internal and external helix wires. The internal wire supports the fabric layers and provides resistance to vacuum in suction applications. Film layers and fabric layers provide sealing and strength to handle pressure applications. By combining different films and fabrics in various ways, it is possible to produce hoses with a tremendous range of chemical resistance, working temperatures and pressures. The unique construction of composite hose requires the use of specially designed

fittings and assembly methods. Swaged on fittings are available in carbon and stainless steel as well as other materials, and are attached using steel ferrules and a choice of nitrile, butyl, or Viton® seals.

We stock the two most popular configurations of composite hose to cover the majority of applications. Many other products are available, including vapor recovery, bottom loading, USCG marine specification, PTFE lined and cryogenic hoses. Another unique product is FIRESAFE hose, used for fire resistance in critical applications. This product uses non-asbestos barriers that, even after 30 minutes of fire at 785°C (1450°F), keep the hose carcass intact and capable of holding product. FIRESAFE hose is used in many safety critical applications, including refueling Formula One race cars. Please consult us with your custom applications.

Note: Hoses are assembled with carbon steel ferrules and nitrile rubber seals unless otherwise specified.

Note: Composite hoses for petroleum transfer are listed in the Petroleum & Oilfield section of this catalog.

G2841

G2841... COMPOSITE CHEMICAL TRANSFER

Construction: Layers of polypropylene fabrics and sealing films with polypropylene coated steel inner wire and galvanized steel outer wire.

Temperature Range: -40°C (-40°F) to 100°C (212°F). Note that working pressure is greatly reduced at higher temperatures. Please contact us with specific chemical/temperature applications.

Pressure Test Charge: Extra at $50.00 net per hose custom assembly for hydrostatic proof test, stamping serial number on hose and providing test certificate.

Standard I.D.	Part Number	Working Pressure at 20°C	Vacuum Rating	Bend Radius	Weight per ft	PRICE PER FOOT	Length
1 1/2"	G2841-150	200 psi	29" Hg	5.5"	0.8 lb	$24.40	60 ft
2	G2841-200	200	29	7.0	1.3	28.50	100
3	G2841-300	200	29	11.0	2.0	42.00	100
4	G2841-400	200	29	15.5	3.2	59.00	100
6	G2841-600	200	29	20.0	7.2	164.90	100

G2847

G2847... COMPOSITE HOSE FOR AGGRESSIVE CHEMICALS

Construction: Layers of ECTFE (Ethylene Chlor Tri Fluoro Ethylene) sealing film reinforced with polyester fabrics. ECTFE is a high tech fluoropolymer very similar to PTFE (Teflon®) in chemical resistance but with the advantages of low permeability and high mechanical strength. Type 316 stainless steel inner wire and galvanized steel outer wire.

Temperature Range: -40°C (-40°F) to 100°C (212°F). Note that working pressure is greatly reduced at higher temperatures. Please contact us with specific chemical/temperature applications.

Pressure Test Charge: Extra at $50.00 net per hose custom assembly for hydrostatic proof test, stamping serial number on hose and providing test certificate.

Standard I.D.	Part Number	Working Pressure at 20°C	Vacuum Rating	Bend Radius	Weight per ft	PRICE PER FOOT	Length
6"	G2847-600	200 psi	29" Hg	20"	7.2 lb	$196.10	100 ft

Notes on the Use of Composite Hose...

SELECTION:

Hose applications can be tough, and it is never advisable to select a hose that will be subjected simultaneously to pressure, temperature, and bending radius at the upper limits of its specification. Please contact us for advice on such applications.

INSTALLATION:

Incorrect installation may greatly shorten the working life of a hose assembly. In particular, care should be taken so that:

- hose assemblies are not twisted in installation or in use
- hoses that flex in use are routed so that all flexing occurs in the same plane
- minimum bend radius is not exceeded
- the hose insert is held when attaching threaded adapters. Twisting the insert in the hose will ruin the seal.

HANDLING:

Ropes should not be used to support a composite hose, as they may displace the wire helix. Always use hose slings or supports to spread the load on the hose surface.

CLEANING:

Hoses should be cleaned after use and before testing. The method used will depend upon service and hose type. The maximum working temperature of the hose should not be exceeded, and steam lances should not be used. Hoses should be electrically grounded during cleaning.

STORAGE:

After service, hoses should be flushed and drained. Ideally, hoses not in use should be stored off the ground in a straight line in a cool shaded area.

Testing & Inspection of Composite Hose...

TESTING:

Every six months, composite hoses should be checked for electrical continuity using the following procedure: 1.Lay hose flat on the ground. 2. Check that the hose is electrically continuous from end to end. A battery light can be used, however ideally an ohmmeter can be used. Electrical resistance should not exceed 10 ohms. Every six months for chemical hoses, and every twelve months for tank truck hoses, hoses should be pressure tested as follows:

1. Drain and clean the hose assembly.
2. Inspect the hose for damage. Hoses that show significant physical damage should not be tested.
3. Lay the hose out straight, with room for elongation under pressure.
4. Blank off one end and fill the hose with water. Take care to make sure all of the air is removed from the hose before pressurizing.
5. Raise to the appropriate test pressure and hold. Inspect for leaks and test for electrical continuity.
6. Release pressure and drain. Mark the hose with test date and details of test.

Note: Elongation of a composite hose under pressure is a feature of its design. Elongation is high compared with conventional rubber hoses and cannot be used as an assessment of the condition of a composite hose.

INSPECTION:

Before use, hoses should be visually inspected for the following:

1. Displacement of the reinforcing wires from their normal pitch.
2. Abrasion or corrosion of the outer wire.
3. Abrasion of the reinforcing fabrics under the outer cover.
4. Dents or kinks.
5. Damage or displacement of end fittings.
6. Evidence of leakage at the end fittings.

REPAIRS:

Specialized procedures are required for fitting attachment and hose repair. Please contact us for hose repairs.

Cross-Link Chemical Hose solves most chemical handling problems. The tube compound is resistant to 90% of chemicals, solvents, and petroleum products used in industry. The heavy wall resists kinking and crushing for extra safety.

Safety Note: *Please consult chemical resistance information for suitability of use with a given product. For dangerous or environmentally harmful chemicals it is always advisable to test the tube material under service conditions prior to field use. For maximum service life, hoses should be drained & flushed out after each use.*

G841

G841... CROSS-LINK CHEMICAL HOSE

Tube: Smooth, translucent, cross-linked polyethylene (XLPE).

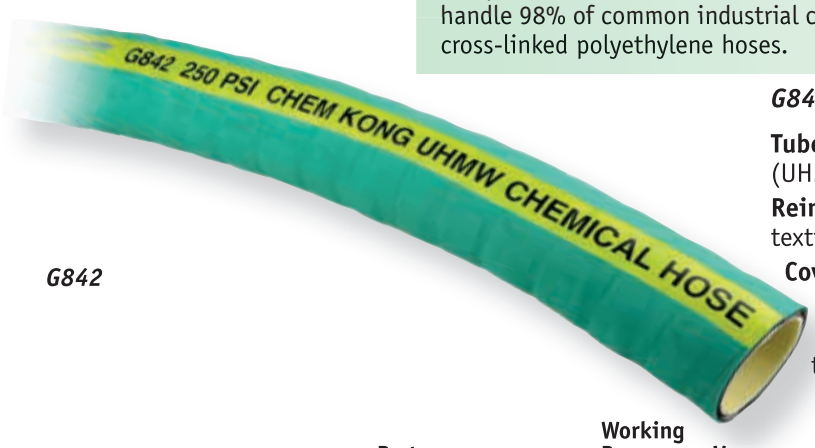
Reinforcement: Heavy wire helix embedded between layers of synthetic textile cords

Cover: Green, chemical, weather and abrasion resistant EPDM rubber with wrapped finish.

Temperature Range: -20°C (-4°F) to 70°C (158°F).

I.D.	Part Number	O.D.	Working Pressure at 20°C	Vacuum Rating	Minimum Bend Radius	Weight per ft	PRICE PER FOOT Cut	PRICE PER FOOT Std Length	Standard Length
3/4"	G841-075	1.28"	200 psi	29" Hg	5"	0.56 lb	$14.20	$12.00	100 ft
1	G841-100	1.50	200	29	6	0.71	15.50	12.90	100
1 1/4	G841-125	1.77	200	29	9	0.86	19.50	16.10	100
1 1/2	G841-150	2.05	200	29	12	1.08	20.00	16.50	100
2	G841-200	2.66	200	29	15	1.53	23.90	19.90	100
2 1/2	G841-250	3.09	200	29	18	1.83	35.10	29.20	100
3	G841-300	3.66	200	29	30	2.41	36.80	30.80	50 or 100
4	G841-400	4.86	200	29	40	4.00	55.20	46.00	50 or 100

UHMW stands for Ultra High Molecular Weight and refers to the weight and size of the polyethylene molecules that make up the tube of the hose. Larger, heavier molecules are very impervious to chemical attack and permeation. The result is that a relatively thin tube can provide excellent chemical resistance and a higher temperature range. Chem Kong will handle 98% of common industrial chemicals and is much more flexible than G841 and other cross-linked polyethylene hoses.



G842

G842... CHEM KONG UHMW CHEMICAL HOSE

Tube: White, smooth, ultra high molecular weight polyethylene (UHMWPE) backed with compatible EPDM rubber layer.

Reinforcement: Dual wire helix between layers of synthetic textile cords.

Cover: Green, chemical, weather and abrasion resistant EPDM rubber with wrapped finish.

Temperature Range: -40°C (-40°F) to maximum temperature limitation 121°C (250°F) for most chemicals.

I.D.	Part Number	O.D.	Working Pressure at 20°C	Vacuum Rating	Minimum Bend Radius	Weight per ft	PRICE PER FOOT Cut	PRICE PER FOOT Std Length	Standard Length
1"	G842-100	1.47"	250 psi	29" Hg	4"	0.53 lb	$20.10	$16.60	100 ft
1 1/4	G842-125	1.78	250	29	4	0.75	24.50	20.50	100
1 1/2	G842-150	2.08	250	29	4	0.96	24.90	20.70	100
2	G842-200	2.58	250	29	6	1.30	28.10	23.50	100
3	G842-300	3.66	200	29	9	2.09	48.80	40.60	100
4	G842-400	4.70	200	29	12	2.99	64.00	53.70	100

Safety Note: *Please consult chemical resistance information for suitability of use with a given product. For dangerous or environmentally harmful chemicals it is always advisable to test the tube material under service conditions prior to field use. For maximum service life, hoses should be drained & flushed out after each use. Maximum pressure ratings are based on using permanently swaged or crimped fittings rather than band clamps.*

G1821 Paint and Solvent Spray has a special tube that is resistant to a wide variety of paints, lacquers, and solvents (see partial list below). It is lightweight and remains flexible at very low temperatures to minimize operator fatigue. G1821 is compatible with paint fittings such as Binks and DeVilbiss and is popular for robotic or manual paint spraying, automobile rustproofing, and chemical transfer.

G1821

G1821... PAINT & SOLVENT SPRAY

Tube: Smooth, blue co-extrusion of polyethylene and thermoplastic rubber, compounded for paint and solvent resistance.

Reinforcement: High-tensile spiralled yarn.

Cover: Smooth, black thermoplastic rubber (TPR) blend.

Temperature Range: -40°C (-40°F) to 50°C (122°F).

I.D.	Part Number	O.D.	Working Pressure at 20°C	at 50°C	Weight per ft	PRICE PER FOOT Cut	Reel	Approx. Reel Length
1/4"	G1821-025	0.50"	175 psi	85	0.07 lb	$2.60	$1.80	500 ft
3/8	G1821-038	0.68	175	85	0.12	3.10	2.70	500
1/2	G1821-050	0.88	175	85	0.19	4.40	3.80	500
3/4	G1821-075	1.19	150	75	0.28	8.80	7.10	300
1	G1821-100	1.50	125	60	0.43	11.40	9.60	200

G1821 has excellent resistance to the following solvents and paint bases:	
Acetone Alcohols	Butyl Acetate
Butyl Cellosolve	Di-Acetone
Alcohol	Ethyl Acetate
Ethyl Glycol	Kerosene
Methyl Ethyl Ketone (MEK)	Methylene Chloride
M.I.B.K.	Mineral Spirits
Naptha	Solvesso Stoddard
Solvent Toluol (Toluene)	Turpentine
Varsol	Water Xylol (Xylene)

G1850 Airless Paint Spray uses a wire braid for maximum operator safety. The wire is protected by urethane, which is an extremely abrasion-resistant product that also stays flexible at low temperatures. The nylon tube is resistant to a wide variety of solvents, chemicals, and paints.

Assemblies are permanently fitted with female NPSM (straight pipe) swivel ends. Whip hoses are female NPSM at one end and male NPT at the other. All assemblies are factory crimped and are electrically conductive to avoid static build-up.

Note: *Paint at high pressure is a dangerous and potentially lethal product. Never approach a leaking hose, and never try to stem the flow of a leaking hose. Once a hose has been used, crimp fittings cannot be installed.*

NEVER ATTEMPT TO REPAIR AN AIRLESS PAINT SPRAY HOSE.

G1850... WIRE BRAID PAINT SPRAY

Tube: Smooth extruded Nylon 6.

Reinforcement: Brass coated high-tensile steel wire. Sizes 3/16" and 1/4" have one wire braid while the 3/8" has two wire braids separated by a thermoplastic cushioning layer.

Cover: Smooth, blue, abrasion-resistant pin-pricked polyurethane.

Temperature Range: -40°C(-40°F) to 100°C (212°F)

I.D.	Part Number	O.D.	Working Pressure	Bend Radius	Weight per ft	PRICE PER FOOT
3/16"	G1850-03	0.37"	5000 psi	1.2"	0.08 lb	$2.70
1/4	G1850-04	0.46	5000	1.6	0.11	2.80
3/8	G1850-06	0.67	5500	5.1	0.28	5.00

I.D.	Thread	Length	Part Number	Weight each	PRICE EACH
Hose Assemblies					
3/16"	1/4"	3 ft	G1850-03FF3	0.5 lb	$31.70
3/16	1/4	10	G1850-03FF10	1.0	50.60
3/16	1/4	12	G1850-03FF12	1.2	56.00
3/16	1/4	15	G1850-03FF15	1.4	64.00
1/4	1/4	3	G1850-04FF3	0.6	33.40
1/4	1/4	6	G1850-04FF6	1.0	41.80
1/4	1/4	10	G1850-04FF10	1.3	53.00
1/4	1/4	15	G1850-04FF15	1.9	67.10
1/4	1/4	25	G1850-04FF25	3.1	95.20
1/4	1/4	30	G1850-04FF30	3.5	109.20
1/4	1/4	50	G1850-04FF50	5.8	165.40
1/4	1/4	100	G1850-04FF100	11.2	305.80
3/8	3/8	10	G1850-06FF10	3.2	74.20
3/8	3/8	25	G1850-06FF25	7.4	150.00
3/8	3/8	50	G1850-06FF50	14.4	276.40
3/8	3/8	100	G1850-06FF100	28.4	529.30
Hose Whips					
3/16	1/4	3	G1850-03MF3	0.5	32.40
3/16	1/4	6	G1850-03MF6	0.8	40.60
1/4	1/4	6	G1850-04MF6	0.9	41.90

G961 Agricultural Spray hoses handle a wide range of "wettable powder" type chemicals encountered in fertilizer, insecticide, and herbicide spraying (not designed for aromatic hydrocarbons, eg: xylene). G961 is used in nurseries and orchards as well as for roadside spraying and lawn care applications. The green G981 provides two extra features; higher working pressure, and tube made from a blend of PVC and polyurethane. The urethane compound in G981 provides excellent resistance to hydrocarbon based chemicals such as those found in tree spraying and some other applications. So the general rule of thumb is, if the spray came from a powder, use either hose, but if the spray came in liquid form, check the ingredients carefully - G981 may be the best choice.

G961 & G981... AGRICULTURAL SPRAY

Tube:

G961– Smooth, yellow, chemical resistant PVC.

G981– Smooth, black, Hydrocarbon resistant PVC/Polyurethane blend.

Reinforcement: High-tensile spiralled yarn with longitudinal cords to resist elongation.

Cover: Both hoses feature abrasion, weather and ozone resistant PVC, fluted (ribbed) for extra wear resistance and to reduce dragging friction. G961 is bright yellow and G981 is green.

Temperature Range: -4°C (25°F) to 80°C (176°F).

Fittings: G961 and G981 are high pressure hoses that require special coupling methods. Please contact us for current crimp charts using PULSAR hydraulic crimp fittings.

G961 & G981

I.D.	Part Number	O.D.	Working Pressure at 20°C	Weight per ft	PRICE PER FOOT Cut	PRICE PER FOOT Std Length	Standard Length
3/8"	G961-038	0.63"	600 psi	0.11 lb	$1.85	$1.18	300 ft
1/2	G961-050	0.79	600	0.15	2.30	1.70	300
3/4	G961-075	1.07	600	0.27	5.90	4.50	300
3/8	G981-038	0.65	800	0.14	3.10	2.50	300
1/2	G981-050	0.85	800	0.22	4.60	3.80	300


9300