

Standard Chemical Service

Uni-CHEM $^{\mathsf{TM}}$ PG, PS, SG and SS composite hoses are specifically designed for in-plant liquid transfer operations as well as tank truck delivery and rail car loading. Constructed with multiple plies of polypropylene films and polyester vapour barriers. Rated for full vacuum.

Uni-CHEM™ PG, PS

P-Polypropylene Coated Steel Inner Helix

G-High Tensile Galvanized Carbon Steel Outer Helix

S-316L Stainless Steel - Outer Helix

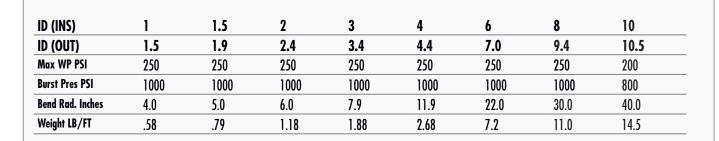
Uni-CHEM™SG, SS

S-316L Stainless Steel - Inner Helix

G-High Tensile Galvanized Carbon Steel Outer Helix

S-316L Stainless Steel - Outer Helix Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +212°F (-40°C to +80°C)



Special Chemical Service

Uni-FLONTM special chemical service hoses are built to meet the demands of today's highly aggressive media. Superior chemical resistance is achieved with a PTFE, inner liner, reinforced with multiple plies of polyester and polypropylene films. Rated for full vacuum.

Uni-FLON™ SG

S-316L Stainless Steel - Inner Helix

G-High Tensile Galvanized Carbon Steel Outer Helix

Uni-FLON™ SS

S-316L Stainless Steel - Inner Helix S-316L Stainless Steel - Outer Helix

Uni-FLON™ PS is available upon request Maximum length: 100 ft. (10" = 50 ft.)

Operating Temperature: -40°F to + 250°F (-40°C to +121°C)

ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	2	2	2.5	3.5	4.5	7.0	9.4	10.5
Max WP PSI	250	250	250	250	250	250	250	200
Burst Pres PSI	1000	1000	1000	1000	1000	1000	1000	800
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	0.6	0.8	1.6	2.40	3.20	7.20	11.0	14.5

Uni-CHEM® Composite Hose Assemblies meet USCG 154.500; are manufactured in compliance with BS 5842 and are available with EN 13765 compliant construction. Marine Service Applications: All Uni-CHEM® hose styles are constructed to marine service specifications in accordance with US Coast Guard spec.154.500 and I.M.O regulations.



Uni-Chem Composite Hoses

Bottom Loading Service

Uni-BL, Uni-OlL™ or Uni-ZENE™

Uni-BL™ is ideal for transferring petroleum and aromatic products in production, refinery and distribution facilities. Suitable for all hose loading arms in bottom loading operations. Constructed with multiple plies of aromatic resistant films and fabrics. All hoses can be color coded to API color codes. Rated for full vacuum.

Uni-BL™

G-High Tensile Galvanized Carbon Steel Inner Wire G-High Tensile Galvanized Carbon Steel Outer Helix

TTMA FLANGES ARE STANDARD EACH END

Maximum length: $100 \text{ ft.} (10^{\prime\prime} = 50 \text{ ft.})$

Operating Temperature:

Uni-OIL[™]: -40°F to +212°F (-40°C to +80°C) Uni-ZENE[™]: -40°F to +250°F (-40°C to +121°C)

ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	1.5	1.9	2.4	3.4	4.4	7.0	9.4	10.5
Max WP PSI	250	250	250	250	250	250	250	200
Burst Pres PSI	1000	1000	1000	1000	1000	1000	1000	800
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	.58	.79	1.18	1.88	2.68	7.2	11.0	14.5

Vapor Recovery Service

 $Uni-VR^{\intercal}$ hose is ideal for use in petroleum and petrochemical vapour recovery systems in ship-to-shore, bottom loading and tank truck applications. This hose is lightweight and flexible. Manufactured to meet specification CFR33-154. Rated for full vacuum.

Uni-VR™

G-High Tensile Galvanized Carbon Steel Inner Helix G-High Tensile Galvanized Carbon Steel Outer Helix

Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +212°F (-40°C to +80°C)

*Available with a polypropylene coated and stainless steel inner helix.

ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	1.5	1.9	2.4	3.4	4.4	7.0	9.4	10.5
Max WP PSI	100	100	100	100	100	100	100	100
Burst Pres PSI	400	400	400	400	400	400	400	400
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	.58	.79	1.18	1.88	2.68	7.2	11.0	14.5





Standard Petroleum Service

Uni-Oll[™] **GG** standard petroleum service hoses are designed for the transfer of a wide range of petroleum products. Uni-Oll $^{\intercal}$ GG hoses are ideal for transfer of media from storage tanks and process piping to rail cars or tank trucks. Multiple plies of polypropylene films and fabrics are encased in a polyester vapor barrier for superior operation. Rated for full vacuum.

Uni-OlL™ GG

G-High Tensile Galvanized Carbon Steel Inner Helix G-High Tensile Galvanized Carbon Steel Outer Helix

Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +212°F (-40°C to +80°C)



ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	1.5	2	2.5	3.5	4.5	7.0	9.4	10.5
Max WP PSI	250	250	250	250	250	250	250	200
Burst Pres PSI	1000	1000	1000	1000	1000	1000	1000	800
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	0.6	0.8	1.60	2.40	3.20	7.20	11.0	14.5

Special Petroleum Service

Uni-ZENE[™] special service petroleum hose is designed to handle modern gasoline additives such as MTBE, ethanol and 31% benzene.

Uni-ZENE™ hoses are built with an effective combination of polyamide, polyester and polypropylene film and fabrics to meet the demands of today's additives. Also recommended for all JP aviation fuels. Rated for full vacuum.

Uni-ZENE™

G-High Tensile Galvanized Carbon Steel Inner Helix.

G-High Tensile Galvanized Carbon Steel Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +250°F (-40°C to +121°C) Outer Helix.

ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	1.5	2	2.5	3.5	4.5	7.0	9.4	10.5
Max WP PSI	250	250	250	250	250	250	250	200
Burst Pres PSI	1000	1000	1000	1000	1000	1000	1000	800
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	0.6	0.8	1.60	2.40	3.20	7.20	11.0	14.5

Uni-Chem Composite Hoses

Uni-FLON™ HT Composite Hose

NovaFlex Uni-FLON™ HT is designed as an upgraded version of NovaFlex's standard, except that it has a temperature rating of 147°C. The high temperature version has the same Teflon® tube but the reinforcement elements have been upgraded to polyamides and nylons that have superior strength at elevated temperatures permitting the 250psi working pressure to be maintained. Rated for full vacuum.

Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +350°F (-40°C to +149°C)

ID (INS)	1	1.5	2	3	4	6	8	10
OUT ID (INS)	1.5	2.0	2.5	3.5	4.5	7.0	9.4	10.5
Max WP (PSI)	250	250	250	250	250	250	250	200
Burst Pres (PSI)	1000	1000	1000	1000	1000	1000	1000	800
Bend Radius (INS)	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	.6	.8	1.6	2.4	3.2	7.20	11.0	14.5
Max Lengths (FT)	100	100	100	100	100	100	100	50

Uni-OIL™ 300HT High Temperature Composite Hose

NovaFlex Uni-OlL™ 300HT is a high temperature version of the standard Uni-OlL™ petroleum. This high temperature hose can handle maximum operating temperatures of +300°F (+149°C). The hose design uses a composite of temperature resistant materials and is rated for use with a wide range of petroleum products. Rated for full vacuum.

Maximum length: 100 ft. (10" 50 ft.)

Operating Temperature: -40°F to +300°F (-40°C to +149°C)

ID (INS)	1	1.5	2	3	4	6	8	10
OUT ID (INS)	1.5	2.0	2.5	3.5	4.5	7.0	9.4	10.5
Max WP (PSI)	250	250	250	250	250	250	250	200
Burst Pres (PSI)	1000	1000	1000	1000	1000	1000	1000	800
Bend Radius (INS)	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Weight LB/FT	.65	.85	1.7	2.6	3.4	7.2	11.0	14.5
Max Lengths (FT)	100	100	100	100	100	100	100	50

Uni-FLON™ and Uni-OIL™ high temperature composite hoses provide optimum chemical resistance, strength and the versatility needed to get the job done.





NovaFlex Pump-Flex™ Composite Hose

Specifically Designed for the Pump Rental Industry

This rugged suction and discharge hose provides extreme flexibility, light-weight handling and excellent service life. Excellent for the transfer of water and oily water. Absorbs pump pulsations. Less manpower to install than rubber hose. Easy to package for shipping & storage.

Standard lengths: 10 ft & 20 ft. with CS 150lb. fixed X floating flanges

Crimped couplings. Other fitting combinations available. Rated for full vacuum.

Maximum length: 100 ft. (10" = 65 ft.)

Operating Temperature -40°F to +212°F (-40°C to +80°C)

(Not for use in marine dock, crude oil, bunker oil or heavy viscous product applications. For these applications, contact NovaFlex. Consult NovaFlex chemical resistance chart for chemical compatibility before use.)

ID (INS)	4	6	8	10
ID (OUT)	4.4	7.0	9.4	10.5
Max WP PSI	200	200	200	200
Burst Pres PSI	800	800	800	800
Bend Rad. Inches	14.2	22.0	30.0	40.0
Weight LB/FT	2.7	5.5	8.0	14.5
150# Flange & Coupling LB ea.	19	41	62	99

Uni-BioFuel[™] 100

Biodiesel and Ethanol Service

Uni-BioFuel[™] 100, a special alternative fuel hose designed to handle all grades of biodiesel, including 100% B100, neat biodiesel and E85 - 85% ethanol fuel blends. Uni-BioFuel[™] hoses are built with a specialized combination of high performance films and fabrics designed to handle today's fully concentrated alternative fuels. Rated for full vacuum.

Uni-BioFuel[™] 100

G-High Tensile Galvanized Carbon Steel Inner Helix G-High Tensile Galvanized Carbon Steel Outer Helix

Maximum length: 100 ft. (10'' = 50 ft.)

Operating Temperature -40°F to +250°F (40°C to +121°C)

ID (INS)	1	1.5	2	3	4	6	8	10
ID (OUT)	1.0	2.0	2.5	3.5	4.5	7.0	9.4	10.5
Max WP PSI	250	250	250	250	250	250	250	200
Burst Pres PSI	1000	1000	1000	1000	1000	1000	1000	800
Bend Rad. Inches	4.0	5.0	6.0	7.9	11.9	22.0	30.0	40.0
Max Lengths	100	100	100	100	100	100	100	100



Uni-Chem Composite Hoses

LPG Composite Style Hose

Designed for the Transfer of Liquified Petroleum Gas

Manufactured with 316 Stainless Steel inner and outer wires and polyamide reinforcement. Available with crimped on schedule 80 carbon steel or stainless steel threaded ends. Also available with ANSI flanges. All assemblies are hydrostatically tested and are tested for electrical continuity. CSA certified to CAN/CGA-8.1-M86.

Operaing Temperature: -130°F to +176°F (-90°C to +80°C). Rated for full vacuum.

ID (INS)	1.25	2	
OUT ID (INS)	1.75	2.6	
Max WP (PSI)	350	350	
Burst Pres (PSI)	1750	1750	
Bend Radius (INS)	5.0	7.0	
Weight LB/FT	1.1	1.7	
Max Lengths (FT)	100	100	



NovaFlex® Roof Drain Hose is manufactured for use in tanks with floating roof drain systems. It works well as a flexible elbow as it easily bends to 90°. Also suitable for oil skimmers, suction lines and water separators. Compatible both inside and out for a wide range of PH solutions and chemicals.

Diameters: 1" to 4" Lengths up to 100 ft.

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



Nova-Glow™** Photo Luminescent Hose

With Minimal Exposure to Light Emits Soft Glow for Many Hours

Nova-Glow[™] Patented Technology is a photo luminescent safety option for the complete line of Uni-Chem® composite hoses. The Nova-Glow luminescent marker runs the length of the hose, offering both identification and safety hazard benefits at night or in reduced light & visibility conditions.

Nova-Glow™ equipped hoses, after having absorbed minimal light, store enough energy to emit an easily perceived glow that will last throughout the night, is non-toxic and deigned to perform its function for the reasonable service life of the hose.

Nova-Glow[™] Hoses can assist in visual sighting of hoses such as those commonly used in dock transfer operations occurring during night hours. Nova-Glow hoses, after having absorbed minimal light, store enough energy to emit an easily perceived glow that will last throughout the night.

Nova-Glow[™] strip is non-toxic and available on our complete range of composite hoses as well as select rubber hoses.

Integral Safety Feature - Photo-luminescent Hose for night time hose transfer operations Lightweight - Nova-Glow™ does not add any significant weight to hose assembly Long Service Life - Luminesce for minimum three years.*

*Note: Service life luminescent strip will be shortened if subject to abrasion / wear.

^{**}Patent Protected US 8,667,993 B2, Canada 2,762,243 and others.



Bend Restrictor

A better way to move the tangent/flex point away from the end of the coupling system.

Uni-CHEM® bend restrictors provide increased service life on hose connections. Long lasting ozone resistant EPDM rubber blend. Reduced risk of premature hose wear due to kinking and hose fatigue at tangent point.





Hose in service: Note the gradual bend achieved off of the horizontal connections

Part No.	Hose Size	Description	Actual ID	Actual OD	Wall Ga.	Length
5164BE-07333-FR	100	EPDM FLEX RESISTOR	4.875"	5.875"	.500"	30"
5164BE-09500-FR	150	EPDM FLEX RESISTOR	7.333"	8.833"	.750"	36"
5164BE-09500-FR	200	EPDM FLEX RESISTOR	9.500"	11.00"	.750"	42"



Hose coiled and placed on pallet; ready for shipment

Uni-CHEM® Composite Hoses With Custom Flotation Systems

