

Fluid Management Systems for Industrial Applications

### TITEFLEX

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Titeflex’s proven reputation and successful track record of innovation and quality can be traced to its aerospace roots, which reach back to the earliest days of the space age. Even then,Titeflex was a conscientious developer of products designed to protect our environment. Creating new products and adapting existing materials and quality programs from this market have contributed significantly to our record of success.

Among the markets which we serve are Chemical, Petro-chemical, Pulp and Paper, Heavy Equipment, Refrigeration, Petroleum Equipment, and the rapidly expanding Compressed Natural Gas (CNG) industry.

Applications centering on the most demanding fluid transfer requirements, whether the media be corrosive, caustic or food grade, under extreme pressure, temperature and flexing conditions, are routinely handled and serviced byTiteflex PTFE.Titeflex’s history and experience in stringent and demanding hose requirements underscores the background and technical training of our applications engineers. Using our decades of experience and core technology we are able to assimilate some of the most difficult and demanding applications required by modern industry – and accomplish these challenges with a keen sense of protecting and preserving our environment.

Our constant dedication to quality and innovation is reflected in the exceptional level of customer satisfaction which we have attained. All employees are dedicated to achieving total customer satisfaction and our professional customer service teams provide an ideal blending of commercial and technical knowledge and experience.

In today’s world we recognize the critical need to eliminate waste and practice the ultimate safety measures in the use of all materials.Wherever feasible we recycle all materials, from paper and cardboard to chemicals and solvents. Our objective is to minimize waste and eliminate the discharge of pollutants to our air and water.We strive continuously for increasingly efficient production methods and the conservation of materials.We are constantly pursuing additional ways through which we can contribute measurably to the development of sustainable products.

Titeflex’s extensive network of stocking and fabrication distributors provides a strong value-added benefit to end users ofTiteflex products. Fast turnaround, high value, dependable service and superior quality are key elements ofTiteflex’s history of success.



**GLOBALCOVERAGE**

**TITEFLEX®**

**FLEXIBLE TECHNOLOGIES**

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**TITEFLEX®**

**FLEXIBLE TECHNOLOGIES**

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**R115/R105 HOSE**



**R122/R144 CONDUCTIVE HOSE**

### APPLICATIONS:

* Compressed gas
* Fuel and lubricant handling
* Steam transfer
* Hydraulic systems

### TEMPERATURE RANGE:

* -65°F to 400°F (-54°C to 204°C) for continuous service
* -100°F to 500°F (-73°C to 260°C) for intermittent service

Consult factory for temperature adjusted pressure rating

### HOSE CONSTRUCTION:

* Innercore vertically extruded to maintain highest quality of concentricity
* Manufactured from fine powder PTFE
* 304 stainless steel wire braid reinforcement
* The R122/R144 Conductive Hose has precisely controlled amount of carbon black added to the PTFE innercore provides a continuous conductive path to the metal end fitting, to dissipate static electricity in fuel, steam, or high flow-rate applications

### Applications centering on the transfer of fluids or gases under demanding conditions in harsh environments are opportunities for the user to realize the value of Titeflex.

**STANDARDS:**

* Meets or exceeds requirements of SAE 100R14
* PTFE meets FDA 21 CFR 177.1550

### VACUUM SERVICE:

* Sizes -4 through -10 are rated for full vacuum
* Larger sizes -12 and above can be reinforced with an internal support spring for full vacuum service

### APPLICATION ADVANTAGES:

* No Phthalate.Titeflex only uses 100% PTFE, and conductive PTFE in the liner that remains flexible and does not leach.
* Design optimized for your specific application
* Manufactured in long lengths to reduce hose costs associated with coupling hose sections
* Economical and cost effective
* Innovative PTFE technology byTiteflex satisfies the demanding aerospace, automotive, and industrial applications.The driving force isTiteflex commitment to safety, quality, value, and reliability. Modern quality production and customer satisfaction makeTiteflex the leading PTFE hose producer.



**R115/R105 HOSEAND R122/R144 CONDUCTIVE HOSE**

**MEDIUM PRESSURE**

**SMOOTHBORE PTFE HOSE**

These products can be used to convey hazardous fluids, steam, and other dangerous materials which can cause personal injury or property damage if released through misuse, misapplication, or damaged. The user is responsible to analyze each application prior to specifying any product from this catalog. Due to the wide variety of operating conditions and applications, the user, through personal analysis and testing, is solely responsible for final product selection and meeting all performance, safety, and warning requirements. Careful selection, proper assembly and use of hose fittings and accessories is essential for the safe and warranted operation of the hose assembly.

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# R115/R105 HOSEAND R122/R144 CONDUCTIVE HOSE

**MEDIUM PRESSURE**

**SMOOTHBORE PTFE HOSE**

## R115 .030 WALL HOSE/R122 CONDUCTIVE HOSE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **AVERAGE ID AVERAGE ID** | **AVERAGE OD OPERATING** | **BURST** | **MAXIMUM** | **MINIMUM** | **HOSE** |
| **NUMBER** | **SIZE** |  | **PRESSURE** | **PRESSURE** | **CONTINUOUS** | **BEND** | **WEIGHT** |
|  |  |  | **ROOM TEMP** | **ROOM TEMP** | **LENGTH** |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in** | **in** | **mm** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |
| R115/R122-3 | 3/16 | .139 | 3.5 | .234 | 3,000 | 12,000 | 200 | 2.00 | .048 |
| R115/R122-4 | 1/4 | .188 | 4.8 | .312 | 3,000 | 12,000 | 200 | 2.00 | .058 |
| R115/R122-5 | 5/16 | .250 | 6.4 | .375 | 3,000 | 12,000 | 250 | 3.00 | .078 |
| R115/R122-6 | 3/8 | .313 | 8.0 | .445 | 2,500 | 10,000 | 150 | 4.00 | .098 |
| R115/R122-6T\* | 3/8 | .384 | 9.8 | .503 | 2,250 | 9,000 | 150 | 4.50 | .105 |
| R115/R122-8 | 1/2 | .410 | 10.4 | .549 | 2,000 | 8,000 | 100 | 5.20 | .126 |
| R115/R122-10 | 5/8 | .504 | 12.8 | .648 | 1,500 | 6,000 | 100 | 6.50 | .154 |
| R115/R122-12 | 3/4 | .636 | 16.2 | .778 | 1,200 | 4,800 | 75 | 7.70 | .190 |
| R115/R122-12T\* | 3/4 | .750 | 19.1 | .886 | 1,100 | 4,400 | 75 | 8.20 | .211 |
| R115/R122-16 | 1 | .875 | 22.2 | 1.030 | 1,000 | 4,000 | 60 | 9.00 | .280 |
| R115/R122-16T\* | 1 | 1.000 | 25.4 | 1.135 | 900 | 3,600 | 60 | 10.00 | .322 |
| R115/R122-16Z+ | 1 | .875 | 22.2 | 1.065 | 1,250 | 5,000 | 60 | 9.00 | .459 |
| R115/R122-20 | 1-1/4 | 1.125 | 28.6 | 1.315 | 800 | 3,200 | 40 | 16.00 | .369 |

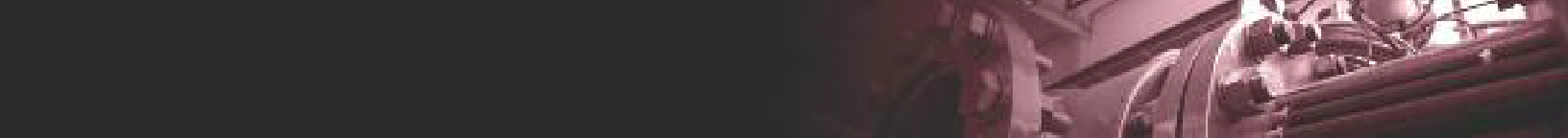
Consult factory for temperature-adjusted ratings. \*True bore. +Double braid.

## R105 .040 WALL HOSE/R144 CONDUCTIVE HOSE

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **AVERAGE ID** | **AVERAGE ID** | **AVERAGE OD** | **OPERATING** | **BURST** | **MAXIMUM** | **MINIMUM** | **HOSE** |
| **NUMBER** | **SIZE** |  |  |  | **PRESSURE** | **PRESSURE** | **CONTINUOUS** | **BEND** | **WEIGHT** |
|  |  |  |  |  | **ROOM TEMP** | **ROOM TEMP** | **LENGTH** |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in** | **in** | **mm** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |
| R105/R144-4 | 1/4 | .188 | 4.8 | .323 | 3,000 | 12,000 | 200 | 2.00 | .08 |
| R105/R144-5 | 5/16 | .250 | 6.4 | .386 | 3,000 | 12,000 | 150 | 2.50 | .09 |
| R105/R144-6 | 3/8 | .313 | 8.0 | .451 | 2,500 | 10,000 | 150 | 4.00 | .11 |
| R105/R144-8 | 1/2 | .410 | 10.4 | .566 | 2,000 | 8,000 | 100 | 4.60 | .14 |
| R105/R144-10 | 5/8 | .504 | 12.8 | .665 | 1,500 | 6,000 | 100 | 5.50 | .19 |
| R105/R144-12 | 3/4 | .636 | 16.1 | .795 | 1,200 | 4,800 | 75 | 6.50 | .23 |
| R105/R144-16 | 1 | .879 | 22.3 | 1.060 | 1,000 | 3,200 | 60 | 9.00 | .30 |
| R105/R144-16Z | 1 | .851 | 21.6 | 1.109 | 1,250 | 5,000 | 50 | 7.38 | .576 |
| R105/R144-20Z | 1 1/4 | 1.101 | 28.0 | 1.359 | 1,000 | 4,000 | 50 | 11.00 | .744 |

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**MATERIALS:**

* Brass
* 300 series stainless steel

**FEATURES:**

* Swage or crimp attachment
* For use with:

- R115/R122 (.030 wall hose)

- R105/R144 (.040 wall hose)

* “Back-up” hex JIC (TK2)
* Attach withTK2 tooling

Distributors may use their traditional swage tooling with quick swage fittings or use the more versatileTK2 fittings that may be swaged or crimped on both .030 wall (R115/R122) and .040 wall (R105/R144).TK2 is available in one or two-piece versions.

#### 

**MALE PIPE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PART NUMBER PART NUMBER SIZE IN. THREAD NOMINAL ID 1 PIECE FITTING 2 PIECE FITTING** | | | | |
| Y54104T-xxx | Y54304T-xxx | 1/4 | 1/8 – 27 | .156 |
| Y54104-xxx | Y54304-xxx | 1/4 | 1/4 – 18 | .156 |
| Y54105-xxx | Y54305-xxx | 5/16 | 1/4 – 18 | .207 |
| Y54106T-xxx | Y54306T-xxx | 3/8 | 1/4 – 18 | .277 |
| Y54106-xxx | Y54306-xxx | 3/8 | 3/8 – 18 | .277 |
| Y54108T-xxx | Y54308T-xxx | 1/2 | 3/8 – 18 | .358 |
| Y54108-xxx | Y54308-xxx | 1/2 | 1/2 – 14 | .358 |
| Y54110-xxx | Y54310-xxx | 5/8 | 1/2 – 14 | .469 |
| Y54112-xxx | Y54312-xxx | 3/4 | 3/4 – 14 | .594 |
| Y54116-xxx | Y54316-xxx | 1 | 1 – 11-1/2 | .812 |



**R115/R122 AND R105/R144 HOSEFITTINGS**

**MEDIUM PRESSURE**

**SMOOTHBORE HOSE FITTINGS**

Note the appropriate suffix:

-93 = Brass -931 = Brass with QuikSwage Collar

-95 = Stainless steel -951 = Stainless with QuikSwage Collar



## JIC FEMALE SWIVEL WITH “BACK-UP” HEX

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PART NUMBER PART NUMBER SIZE IN. THREAD NOMINAL ID 1 PIECE FITTING 2 PIECE FITTING** | | | | |
| Y54004-xxx | Y54204-xxx | 1/4 | 7/16 – 20 | .156 |
| Y54005-xxx | Y54205-xxx | 5/16 | 1/2 – 20 | .207 |
| Y54006-xxx | Y54206-xxx | 3/8 | 9/16 – 18 | .277 |
| Y54008-xxx | Y54208-xxx | 1/2 | 3/4 – 16 | .358 |
| Y54010-xxx | Y54210-xxx | 5/8 | 7/8 – 14 | .469 |
| Y54012-xxx | Y54212-xxx | 3/4 | 1-1/16 – 12 | .594 |
| Y54016-xxx | Y54216-xxx | 1 | 1-5/16 – 12 | .812 |

Note the appropriate suffix:

-93 = Brass with Carbon Steel Nut -931 = Brass with Carbon Steel Nut and QuikSwage Collar

-95 = Stainless steel -951 = Stainless with QuikSwage Collar

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# R115/R122 HOSEFITTINGS

**MEDIUM PRESSURE**

**SMOOTHBORE HOSE FITTINGS**

## COMPRESSION TUBE END

**STAINLESS STEEL PART NUMBER**

**SIZE IN.**

**NOMINAL OD**

**NOMINAL ID IN.**

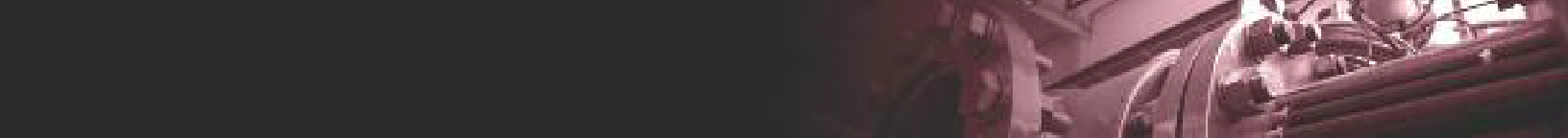
NOTE: Compression tube end inserts are type 316SS

-95TK2 Collar

|  |  |  |  |
| --- | --- | --- | --- |
| Y53604-xx | 1/4 | 1/4" O.D.Tube | .156 |
| Y53606-xx | 3/8 | 3/8" O.D.Tube | .277 |
| Y53608-xx | 1/2 | 1/2" O.D.Tube | .358 |
| Y53612-xx | 3/4 | 3/4" O.D.Tube | .594 |

-1 QuikSwage Collar

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**UNI-BRAID® R160/R165 HOSE**

**APPLICATIONS:**

The ultimate transfer hose for a variety of high pressure applications.

* R.I.M. Reaction injection molding machines
* Industrial gasses
* Hydraulic service with phosphate ester fluids
* Compressed natural gas
* Transfer of automotive sealants
* For gaseous or high effusion applications, please consult factory.

### TEMPERATURE RANGE:

* -65°F to 400°F (-54°C to 204°C) Consult factory for temperature-adjusted pressure ratings

### HOSE CONSTRUCTION:

* R160/R165 hose is made of conductive PTFE usingTiteflex “ZS” (Zero Static) construction, tobleedoff staticbuild-upinhighflow applicationsandeliminate the risk of “static” burningof the core.
* Thisspeciallydesignedbraideliminatesconventionalspiralwraps, reducingweightandbulkwithoutsacrificeofpressurecapability.
* In larger sizes (-12 thru -24) there is an additional braid layer betweenthe PTFEinnercoreandthepressurecarryingouterbraid.
* R160 hose’s innercore is thermally treated to enhance hose performance in extreme applications.

### Titeflex R160/R165 series...The original UNI-BRAID® design that outperforms all the others. UNI-BRAID® high-pressure hose is the most economical high pressure PTFE hose product ever offered to the market. It combines long life expectancy, high durability, and proven performance for superior service and cost effectiveness over the long term.

**APPLICATION ADVANTAGES:**

* No Phthalate.Titeflex only uses 100% PTFE, and conductive PTFE in the liner that remains flexible and does not leach.
* Design optimized for your specific application
* Manufactured in long lengths to reduce hose costs associated with coupling hose sections
* Economical and cost effective
* Greater Flexibility: In industrial hose applications where high performance under harsh conditions is required, Titeflex UNI-BRAID® PTFE hose offers effective solutions and high value.The patented UNI-BRAID® construction features a single outer layer braid that reduces bulk while maximizing pressure capability and provides an exceptionally tight bend radius.

### AVAILABILITY:

* UNI-BRAID® can be fitted and tested to your exact specification byTiteflex or by an authorizedTiteflex distributor. Our distributors are selectively certified to assemble high pressure hose assemblies. Insist that yourTiteflex product is assembled and supplied by aTiteflex authorized distributor.

## R160/R165 HOSE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **NOMINAL ID** | **NOMINAL OD MAX OPERATING** | **ROOM TEMP** | **HIGH TEMP** | **MAXIMUM MINIMUM BEND** | **HOSE** |
| **NUMBER** | **SIZE** |  | **PRESSURE†** | **BURST** | **BURST** | **CONTINUOUS RADIUS** | **WEIGHT** |
|  |  |  | **ROOM TEMP** |  |  | **LENGTH FEET** |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in** | **mm** | **in** | **in** | **psi** | **psi** | **psi** | **R160** | **R165** | **in** | **lb/ft** |
| R160/R165-4\*\* | 1/4 | 6 | .222 | .390 | 5,000 | 15,000 | 12,000 | 50 | 50 | 1.50 | .100 |
| R160/R165-6\*\* | 3/8 | 10 | .308 | .490 | 5,000 | 15,000 | 12,000 | 30 | 50 | 2.50 | .163 |
| R160/R165-8\*\* | 1/2 | 13 | .401 | .615 | 5,000 | 15,000 | 12,000 | 30 | 50 | 2.87 | .232 |
| R160/R165-10 | 5/8 | 16 | .495 | .730 | 5,000 | 15,000 | 12,000 | 30 | 50 | 3.25 | .325 |
| R160/R165-12 | 3/4 | 19 | .617 | .990 | 5,000 | 15,000 | 12,000 | 30 | 50 | 3.87 | .660 |
| R160/R165-16 | 1 | 25 | .867 | 1.270 | 5,000 | 15,000 | 9,000 | 30 | 50 | 5.00 | 1.020 |
| R160/R165-20 | 1-1/4 | 32 | 1.118 | 1.660 | 5,000 | 15,000 | 9,000 | 30 | 30 | 12.00 | 1.850 |
| R160-24 | 1-1/2 | 38 | 1.375 | 1.900 | 4,000 | 12,000 | 9,000 | 30 | - | 14.00 | 1.910 |

† Operating pressures shown are for non-impulse service. Consult factory for temperature-adjusted ratings and impulse cycle applications.

\*\* Lengths of 75 feet for R165 Series are available upon request. Please contact a Titeflex Representative for more information.

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**UNI-BRAID® R160 HOSEAND R165 HOSE**

**HIGH PRESSURE**

**SMOOTHBORE PTFE HOSE**

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# UNI-BRAID® HOSEFITTINGS

**HIGH PRESSURE**

**SMOOTHBORE HOSE FITTINGS**

### FEATURES:

R160/R165 hose fittings can also be attached using numerous standard hose crimping machines. For information on this alternate method of attachment, please consult us.

**JIC - FEMALE SWIVEL (37° SEAT)**

|  |  |  |  |
| --- | --- | --- | --- |
| **STAINLESS STEEL SIZE IN. THREAD NOMINAL ID IN.**  **PART NUMBER** | | | |
| Y40004-172 | 1/4 | 7/16 – 20 | .146 |
| Y40006-172 | 3/8 | 9/16 – 18 | .271 |
| Y40008-172 | 1/2 | 3/4 – 16 | .365 |
| Y40010-172 | 5/8 | 7/8 – 14 | .455 |
| Y40012-172 | 3/4 | 1/16 – 12 | .568 |
| Y40016-172 | 1 | 1-5/16 – 12 | .778 |
| Y40020-172 | 1-1/4 | 1-5/8 – 12 | .964 |
| Y40024-172 | 1-1/2 | 1-7/8 – 12 | 1.187 |

**R160/R165 COMPRESSED TUBE END**

|  |  |  |  |
| --- | --- | --- | --- |
| **STAINLESS STEEL NOMINAL NOMINAL OD NOMINAL ID IN.**  **PART NUMBER HOSE SIZE** | | | |
| Y53604-172 | 1/4 | 1/4 | .156 |
| Y53606-172 | 3/8 | 3/8 | .277 |
| Y53608-172 | 1/2 | 1/2 | .376 |

**R160/R165 FEMALE O-RING FACE SEAL SAE 1453**

|  |  |  |  |
| --- | --- | --- | --- |
| **STAINLESS STEEL NOMINAL THREAD NOMINAL ID IN.**  **PART NUMBER HOSE SIZE** | | | |
| Y55904-172 | 1/4 | 9/16 – 18 | .156 |
| Y55906-172 | 3/8 | 11/16 – 16 | .250 |
| Y55908-172 | 1/2 | 13/16 – 16 | .376 |

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#### TITEFLEX.COM 9

**R147 HOSE**

**APPLICATIONS:**

* Compressed natural gas
  + FuelTransfer
* Industrial gases
* Molten plastic
* Sealants and similar products

### TEMPERATURE RANGE:†

* -100°F to 400°F (-73°C to 204°C) for continuous service
* Titeflex PTFE hose maintains its flexibilty below -100°F (-73°C) at a 5-inch bend radius.

Consult factory for temperature adjusted pressure rating

### HOSE CONSTRUCTION:

* The R147 can be made and tested to your exact specification byTiteflex.
* R147 hose delivers 6,000 PSI performance at half the minimum bend radius
* 40% weight reduction when compared to similar industry products.
* Titeflex R147 has a conductive PTFE innercore which bleeds off static electricity, preventing electro static discharge (ESD)
* Utilizes high pressure stainless steel reinforcement for reliable performance.

### Titeflex R147 hose is ideally suited as a versatile lighter weight high performance hose capable of long service life at temperature/pressure extremes. Titeflex R147 PTFE hose is the ultimate transfer hose for a wide range of high pressure applications.

**APPLICATION ADVANTAGES:**

* No Phthalate.Titeflex only uses 100% PTFE, and conductive PTFE in the liner that remains flexible and does not leach.
* Lighter construction
* Maintains flexibility through full temp range
* Available with a variety of chafe guards
* R147 hose’s innercore is thermally treated to enhance hose performance in extreme applications.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE** | **NOMINAL** | **ID INCHES** | **OD INCHES** | **MAWP**† | **BURST** | **LENGTH** | **MIN** | **PFTE WALL** | **WEIGHT** |
| **SIZE** | **SIZE** | **AVERAGE** | **AVERAGE** | **PSI** | **PSI** | **FEET** | **BEND RAD** | **THICKNESS** |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **in** | **in** | **psi** | **psi** | **ft** | **in** | **in** | **lb/ft** |
| 4 | .25 | .238 | .45 | 6,000 | 24,000 | 25 | 1.50 | .041 | .14 |
| 6 | .375 | .298 | .541 | 5,000 | 20,000 | 25 | 2.50 | .0405 | .24 |
| 8 | .5 | .415 | .687 | 5,000 | 20,000 | 25 | 2.87 | .0455 | .30 |
| 12 | .75 | .625 | 1.039 | 6,000 | 24,000 | 25 | 3.87 | .051 | .55 |
| 16 | 1 | .867 | 1.369 | 5,500 | 24,000 | 25 | 5.00 | .051 | .75 |

† Operating pressures shown are for non-impulse service. Consult factory for temperature-adjusted ratings and impulse cycle applications.

These products can be used to convey hazardous fluids, steam, and other dangerous materials which can cause personal injury or property damage if released through misuse, misapplication, or damaged. The user is responsible to analyze each application prior to specifying any product from this catalog. Due to the wide variety of operating conditions and applications, the user, through personal analysis and testing, is solely responsible for final product selection and meeting all performance, safety, and warning requirements. Careful selection, proper assembly and use of hose fittings and accessories is essential for the safe and warranted operation of the hose assembly.

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**R147 HOSE**

**HIGH PERFORMANCE**

**SMOOTHBORE PTFE HOSE**

REV. 01-2016

# R147 HOSEFITTINGS

**HIGH PERFORMANCE**

**SMOOTHBORE HOSE FITTINGS**

### FEATURES:

R147 hose utilizesTiteflex permanent fitting attachment methods.

**R147 MALE PIPE PER ANSI ASME B1.20.1**

**STAINLESS STEEL PART NUMBER**

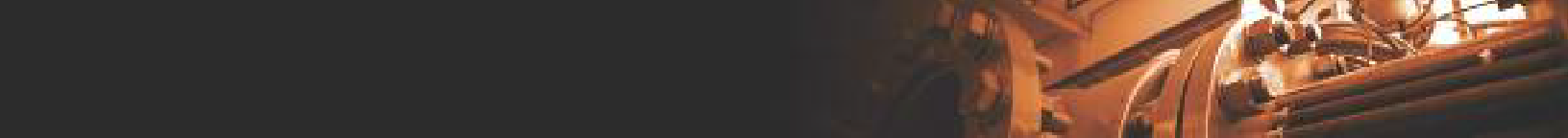
**NOMINAL HOSE SIZE**

**THREAD**

**NOMINAL ID IN.**

|  |  |  |  |
| --- | --- | --- | --- |
| Y53304-147 | 1/4 | 1/4 – 3/8 | .156 |
| Y53306-147 | 3/8 | 3/8 – 18 | .277 |
| Y53308-147 | 1/2 | 1/2 – 14 | .376 |
| Y53312-147 | 3/4 | 3/4 – 14 | .580 |
| Y53316-147 | 1 | 1 – 11 1/2 | .796 |

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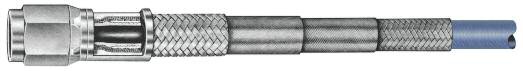
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#### TITEFLEX.COM 11

**PROGRESSIVE-SWAGED STAINLESS STEEL FITTINGS**

**STAINLESS STEEL WIRE SPIRAL WRAP NO. 1**

**STAINLESS STEEL WIRE INNER BRAID**



**R154 HOSE**

**POSITIVE BRAID LOCK STAINLESS STEEL WIRE SPIRAL WRAP NO. 2 PTFE INNERCORE**

**APPLICATIONS:**

* Ground support
* Molten plastics
* Steel mill lance lines
* Reaction injection molding
* Dairy and food applications

### TEMPERATURE RANGE:

* -65°F to 400°F (-54°C to 204°C) Consult factory for temperature-adjusted pressure ratings

### R154 HOSE CONSTRUCTION:

* Designed to meet the requirements of SAEAS614
* Smooth innercore of extruded PTFE with a precisely controlled amount of carbon black added to the inner 15% of the core wall.This will allow a continuous conductive path to the metal end fittings.
* Wire reinforcement is type 304 stainless steel.
* 1/2” size has four layers of spiral wrap between two layers of braid.

## R154 HIGH PERFORMANCE PTFE HOSE

### The ideal choice for high-performance impulse service.

**APPLICATION ADVANTAGES:**

* No Phthalate.Titeflex only uses 100% PTFE, and conductive PTFE in the liner that remains flexible and does not leach.
* The preferred choice for high impulse hydraulic systems
* Capable of long service life at temperature/pressure extremes



**R154 HOSE**

**HIGH PERFORMANCE**

**SMOOTHBORE PTFE HOSE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **NOMINAL ID** | **NOMINAL OD** | **MAX OPERATING** | **ROOM TEMP BURST MAXIMUM** | **MINIMUM BEND** | **HOSE** |
| **NUMBER** | **SIZE** |  |  | **PRESSURE†** | **CONTINUOUS** | **RADIUS** | **WEIGHT** |
|  |  |  |  | **ROOM TEMP** | **LENGTH** |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in mm** | | **in** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |
| R154-4 | 1/4 | 6 | .229 | .495 | 6,000 | 24,000 | 50 | 3.00 | .24 |
| R154-6 | 3/8 | 10 | .300 | .617 | 6,000 | 24,000 | 30 | 5.00 | .40 |
| R154-8 | 1/2 | 13 | .395 | .738 | 6,000 | 24,000 | 30 | 5.75 | .49 |
| IR154-6\* | 3/8 | 10 | .300 | .617 | 6,000 | 24,000 | 50 | 5.00 | .40 |
| IR154-8\* | 1/2 | 13 | .395 | .738 | 6,000 | 24,000 | 50 | 5.75 | .49 |

† Consult factory for temperature-adjusted ratings.

\*Designed to meet the capabilites of R154, but available in longer lengths.

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# R154 HOSEFITTINGS

**HIGH PERFORMANCE**

**SMOOTHBORE HOSE FITTINGS**

### FEATURES:

R154 hose fittings also utilize the exclusiveTiteflex progressive swaging method of attachment, with positive braid lock.

### MATERIALS:

All JIC wetted surfaces are type 300 stainless steel.

**R154 JIC-FEMALE SWIVEL (37° SEAT)**

**STAINLESS STEEL PART NUMBER**

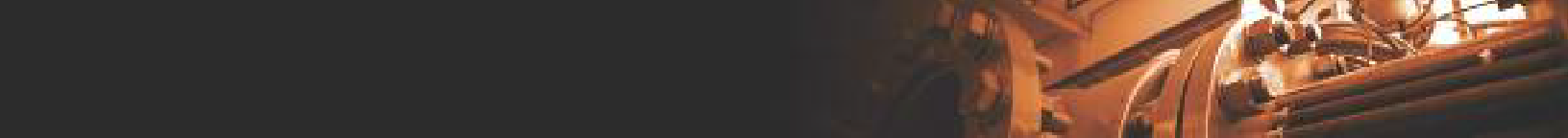
**SIZE IN.**

**THREAD**

**NOMINAL ID IN.**

|  |  |  |  |
| --- | --- | --- | --- |
| Y40004-42 | 1/4 | 7/16 – 20 | .146 |
| Y40006-42 | 3/8 | 9/16 – 18 | .271 |
| Y40008-42 | 1/2 | 3/4 – 16 | .365 |

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#### TITEFLEX.COM 13



**R272/R276 HOSE**

**APPLICATIONS:**

* Chemical processing
* Pulp and paper
* Foam packaging
* Turbine engine componentry
* Air compressor discharge
* Tire press

### TEMPERATURE RANGE:

* -40º F to 400º F (-40º to 204º C)

Consult factory for dynamic flexing applications at temperature limits and temperature adjusted pressure rating

### R272 HOSE CONSTRUCTION:

A white non-conductive PTFE liner, externally reinforced with PTFE impregnated fiberglass and a single steel wire braid.

### R276 HOSE CONSTRUCTION:

The PTFE innercore has a precisely controlled amount of carbon black added to the PTFE innercore.This conductive PTFE core material provides a continuous conductive path to the metal end fittings to bleed off static electricity.

### Unmatched engineering and technical experience in the application of convoluted PTFE hose products has allowed users to consistently rely on Titeflex for dependable performance and value every time.

**APPLICATION ADVANTAGES:**

* No Phthalate.Titeflex only uses 100% PTFE, and conductive PTFE in the liner that remains flexible and does not leach.
* Titeflex R272/R276 hose is extremely flexible and lightweight offering an improved alternative to maximize operator handling and safety in comparison to other types of industrial hose.
* Combined with PTFE’s unmatched chemical compatibility, corrosion resistance, temperature range and “non-stick” attributes, it offers a superior value.
* In addition, R276 offers a black conductive innercore for high flow rate transfer applications where elimination of static charges is required to ensure performance.



**R272/R276 HOSE**

**CONVOLUTED**

**FLEXIBLE PTFE HOSE**

## R272/R276 HOSE SPECIFICATIONS

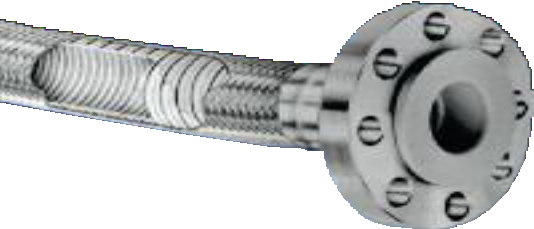
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **NOMINAL ID** | **NOMINAL OD** | **OPERATING** | **BURST PRESSURE** | **MAXIMUM** | **MINIMUM BEND** | **HOSE** |
| **NUMBER** | **SIZE** |  |  | **PRESSURE** | **ROOM TEMP** | **CONTINUOUS** | **RADIUS** | **WEIGHT** |
|  |  |  |  |  |  | **LENGTH** | **@ ROOM TEMP** |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in mm** | | **in** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |
| R272/R276-8 | 1/2 | 13 | .512 | .785 | 1,000 | 4,000 | 50 | 1.00 | .22 |
| R272/R276-12 | 3/4 | 19 | .750 | 1.060 | 1,000 | 4,000 | 50 | 2.00 | .29 |
| R272/R276-16 | 1 | 25 | .998 | 1.280 | 1,000 | 4,000 | 50 | 3.00 | .41 |
| R272/R276-20 | 1-1/4 | 32 | 1.239 | 1.525 | 1,000 | 3,600 | 50 | 6.25 | .50 |
| R272/R276-24 | 1-1/2 | 38 | 1.500 | 1.802 | 750 | 3,000 | 50 | 7.50 | .62 |
| R272/R276-32 | 2 | 51 | 1.982 | 2.305 | 500 | 2,000 | 50 | 10.00 | .97 |

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### Extra heavy duty construction with additional wire support provides the ultimate in flexibility for use in full vacuum conditions.



**R285/R287**

**FULL VACUUM RATED HOSE**

**APPLICATIONS:**

* Chemical processing
* Pulp and paper
* Vacuum transfer applications
* Compressor intake

### TEMPERATURE RANGE:

* -40°F to 400°F (-40°C to 204°C) Consult factory for flexing and vacuum applications at temperature limits

### R285 HOSE CONSTRUCTION:

Heavy-wall innercore of convoluted PTFE, externally reinforced with PTFE-impregnated fiberglass, a patented spring wire spiral to prevent collapse, and type 304 stainless steel wire braid.

### R287 HOSE CONSTRUCTION:

Conductive hose has a precisely controlled amount of carbon black added to the PTFE innercore.This provides a continuous path to the metal end fittings, to bleed off static electricity, ensuring performance.

### APPLICATION ADVANTAGES:

* Incorporates a heavy wall PTFE (non-conductive/conductive) innercore reinforced with an external stainless steel wire wrapped in the root of the convolution under the stainless steel braid.
* This additional wire reinforcement provides unmatched flexibility with the hoop strength necessary for use in full vacuum applications up to 28" Hg.

### STANDARDS:

* PTFE meets FDA 21 CFR 177.1550

## R285/R287 FULLVACUUM RATED HOSE

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HOSE PART** | **NOMINAL** | **NOMINAL ID** | **NOMINAL OD** | **OPERATING** | **BURST PRESSURE** | **MAXIMUM** | **MINIMUM BEND** | **HOSE** |
| **NUMBER** | **SIZE** |  |  | **PRESSURE** | **ROOM TEMP** | **CONTINUOUS** | **RADIUS** | **WEIGHT** |
|  |  |  |  |  |  | **LENGTH** | **@ ROOM TEMP** |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in mm** | | **in** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |
| R285/R287-24 | 1-1/2 | 38 | 1.52 | 1.900 | 750 | 3,000 | 40 | 7.50 | .882 |
| R285/R287-32 | 2 | 51 | 2.02 | 2.445 | 500 | 1,900 | 40 | 10.00 | 1.194 |

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**R285/R287 FULLVACUUM RATED HOSE**

**CONVOLUTED**

**FLEXIBLE PTFE HOSE**

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#### TITEFLEX.COM 15

Our selection of fittings enhances the value, the areas of application and convenience ofTiteflex convoluted hose. With these fittings, most installation needs are easily met. Please consult us for any designs or applications not pictured here.

Convoluted hose fittings feature the exclusiveTiteflex progressive swaging method of attachment.When attached correctly, the innercore and insert form a permanent assembly. The positive braid lock assures that strain is absorbed by the braid, not the hose innercore, ensuring hose integrity.

**CRIMP ATTACHMENT:**

Hose may be crimped using numerous standard hose crimping machines. For information on this alternate method of attachment and appropriate applications, please consult us.

## MALE PIPE

### MATERIALS:

Male pipe and female inserts are available in carbon steel and type 316 stainless steel. Collars for the preceding fittings are either carbon steel or type 304 stainless steel. Note: Carbon steel collars may be specified with stainless steel inserts, where only wetted surfaces require corrosion resistance.

### AVAILABILITY:

Convoluted hose assemblies can be fabricated byTiteflex or authorizedTiteflex distributors.To assure factory-made reliability for distributor assemblies, our distributors

are equipped withTiteflex-designed and approved field swaging tools.



**R272/R276 AND R285/R287 HOSEFITTINGS**

**CONVOLUTED**

**FLEXIBLE PTFE HOSE**







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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **STAINLESS STEEL CARBON STEEL SIZE IN. THREAD NOMINAL ID IN.**  **PART NUMBER PART NUMBER** | | | | |
| Y53308-100 | Y53308-101 | 1/2 | 1/2 – 14 | .378 |
| Y53312-100 | Y53312-101 | 3/4 | 3/4 – 14 | .630 |
| Y53316-100 | Y53316-101 | 1 | 1 – 11-1/2 | .849 |
| Y53320-100 | Y53320-101 | 1-1/4 | 1-1/4 – 11-1/2 | 1.069 |
| Y53324-100 | Y53324-101 | 1-1/2 | 1-1/2 – 11-1/2 | 1.306 |
| Y53332-100 | Y53332-101 | 2 | 2 – 11-1/2 | 1.756 |

**JIC - FEMALE SWIVEL (37° SEAT)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **STAINLESS STEEL CARBON STEEL SIZE IN. THREAD NOMINAL ID IN.**  **PART NUMBER PART NUMBER** | | | | |
| Y53508-100 | Y53508-101 | 1/2 | 3/4 – 16 | .378 |
| Y53512-100 | Y53512-101 | 3/4 | 1-1/16 – 12 | .630 |
| Y53516-100 | Y53516-101 | 1 | 1-5/16 – 12 | .849 |
| Y53520-100 | Y53520-101 | 1-1/4 | 1-5/8 – 12 | 1.070 |
| Y53524-100 | Y53524-101 | 1-1/2 | 1-7/8 – 12 | 1.305 |
| Y53532-100 | Y53532-101 | 2 | 2-1/2 – 12 | 1.755 |

**SANITARY FITTING**

|  |  |  |  |
| --- | --- | --- | --- |
| **STAINLESS STEEL SIZE IN. FACE DIAMETER NOMINAL ID IN.**  **PART NUMBER** | | | |
| Y51124-3 | 1-1/2 | 1.984 | 1.310 |
| Y51132-3 | 2 | 2.516 | 1.756 |

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Titeflex’s ECTFE encapsulated flange retaining inserts are now available in 1", 1-1/2" and 2"sizes.These fittings are manufactured using a base insert of nickel plated carbon steel. The ECTFE compound is injection molded around this base insert at high pressure.This high pressure injection molding results in a tough zero porosity plastic encapsulation which is highly corrosion resistant.The wall thickness on all wetted surfaces of the flange retaining insert is a minimum of .060".

Dependent on media, temperature capability of the encapsulated stub end is 250°F. Consult factory for detailed information on fluid capability and temperature rating.

### MATERIALS:

Flange retaining inserts are available in type 316 stainless steel, or encapsulated ECTFE with a base material of nickel plated carbon steel.

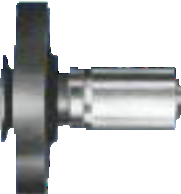
Collars for all styles are available in either type 304 stainless steel or plated carbon steel.





## FLANGE RETAINING INSERT ECTFE ENCAPSULATED

|  |  |  |  |
| --- | --- | --- | --- |
| **ECTFE ENCAPSULATED ECTFE ENCAPSULATED SIZE IN. NOMINAL ID IN. STAINLESS STEEL COLLAR CARBON STEEL COLLAR** | | | |
| Y53416-97H | Y53416-91H | 1 | .740 |
| Y53424-97H | Y53424-91H | 1-1/2 | 1.220 |
| Y53432-97H | Y53432-91H | 2 | 1.706 |

**FLANGE RETAINING INSERTS: STAINLESS STEEL**

|  |  |  |
| --- | --- | --- |
| **STAINLESS STEEL SIZE IN. NOMINAL ID IN.**  **PART NUMBER** | | |
| Y53412-100 | 3/4 | .630 |
| Y53416-100 | 1 | .850 |
| Y53424-100 | 1-1/2 | 1.305 |
| Y53432-100 | 2 | 1.756 |

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**R272/R276 AND R285/R287 HOSEFITTINGS**

**CONVOLUTED**

**FLEXIBLE PTFE HOSE**

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#### TITEFLEX.COM 17

**APPLICATIONS:**

* Size 1" chlorine hose for rail car loading and unloading
* Titeflex 1/2" chlorine hose for replacing copper whips at chlorine repackaging plants filling 1 ton containers and 100/150 lb. cylinders

**TEMPERATURE RANGE:**

* -40°F to 120°F (-40°C to 49°C)

### HOSE CONSTRUCTION:

* Convoluted PTFE core with a double layer of PVDF braid
* 1" hoses are covered with a CPE jacket for abrasion protection
* Optional heavy duty high density polyethylene spiral wrap available
* Schedule 80 monel male pipe fittings
* Monel schedule MSS type A stub ends available for 1" size
* 1/2" size males have a press-fit liner/insert to prevent erosion
* S818XX hose’s innercore is thermally treated to enhance hose performance in extreme applications.

### Chlorine transfer is recognized as one of the most challenging and potentially hazardous hose applications. Aware of the clear need for safety, reliability and performance, Titeflex has engineered a unique product to meet the demands of this critical application. Titeflex S818XX chlorine hoses are internationally accepted and recognized for providing many years of unparalleled safety and performance.

**APPLICATION ADVANTAGES:**

* No Phthalate.Titeflex only uses 100% PTFE in the liner that remains flexible and does not leach.
* Engineered specifically to meet the critical application conditions of chlorine transfer
* Used worldwide by major chemical producers
* Meets or exceeds the Chlorine Institute guidelines, Pamphlet 6 Appendix A
* S818XX assemblies are more flexible and resilient than metal hose.The PTFE innercore is virtually stress-free in continuous flexing installations.The convolutions of Titeflex chlorine hose are shallow and helical, rather than annular as in metal hose, to facilitate draining and cleaning and reduce transfer time cycles.
* Titeflex chlorine transfer hose is currently available in 1/2" and 1" ID’s. It offers full flow characteristics for faster loading and unloading and are supplied directly from theTiteflex plant in lengths from one to 30 feet.
* For quality assurance and traceability, each factory-made and tested assembly is serialized and recorded atTiteflex, along with the installation location and date.The assembly is also clearly tagged with its pressure and temperature ratings.



**CHLORINE/BROMINEHOSE**

**SPECIALTY**

**FLEXIBLE PTFE HOSE**

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# S818XXPTFECHLORINE/BROMINEHOSE& HOSE OPTIONS

**SPECIALTY**

**FLEXIBLE PTFE HOSE**

## MONEL MALE NPT EACH END SPECIFICATIONS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ASSEMBLY** | **NOMINAL** | **NOMINAL ID** | **NOMINAL OD** | **MAXIMUM BURST PRESSURE MAXIMUM MINIMUM BEND** | **HOSE** | **FITTING** |
| **PART NUMBER** | **SIZE** |  |  | **OPERATING ROOM TEMP CONTINUOUS RADIUS** | **WEIGHT** | **THREAD NPT** |
|  |  |  |  | **PRESSURE LENGTH @ ROOM TEMP** |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **in mm** | | **in** | **in** | **psi** | **psi** | **ft** | **in** | **lb/ft** |  |
| S81808-L | 1/2 | 13 | .500 | .900 | 500 | 2,500 | 30 | 2.00 | .22 | 1/2 – 14 |
| S81816-L | 1 | 25 | 1.000 | 1.875 | 375 | 1,875 | 30 | 6.00 | 1.00 | 1 – 11-1/2 |

**ALTERNATE END FITTING STYLE**

**ASSEMBLY PART NUMBER**

**HOSE SIZE, IN.**

**END FITTING**

**S818XX PTFE CHLORINE/BROMINE HOSE**

\* Flange retainer is Monel Schedule 80, MSS type A above piece construction with no welds. Flange is 300 lb. ASME forged steel.

|  |  |  |
| --- | --- | --- |
| 111451-L | 1 | MALE NPT & FLANGE\* |
| 111437-L | 1 | FLANGE X FLANGE |

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#### TITEFLEX.COM 19

**MATERIAL COMPATIBILITY KEY:**

1. Excellent **2.** Acceptable with Limited Service Life **3.** Not Recommended **0.** No Information,Test Before Using. Consult factory for other than room temperature applications.

**EFFUSION COMPATIBILITY KEY:**

**A**. Will effuse and can displace breathable air in a confined space. **B.** Potential to effuse and, with atmosphere, form chemicals that can corrode braid and fitting material. Especially significant when “vapor phase” exists, I.E., when they reach their boiling point of approximately 125º F at atmospheric pressure. Hose assemblies should be used in well-vented areas only. **C.** Potential for effusion and can cause corrosion of the hose braid reinforcement and fitting material.These chemicals are all gases at atmospheric pressure and at temperatures of 56º F or lower. **N/C**. No change.

### ELECTROSTATIC DISCHARGE:

In many industrial plants, there is an awareness that electrostatic discharge can be a hazard.This discharge is the result of two unlike materials coming into contact.This contact allows electrons from one material to move across its boundary and associate with the other. For example, electrons from steam can align with the wall of a PTFE hose. If both materials are good conductors of electricity, the positive and negative electrons flow back and forth between the chemical and hose wall, keeping them in balance. However, if one or both of them are insulators, the balance will be disrupted. As a result, chemicals such as gasoline or steam flowing through a white PTFE hose will deposit electrons on the wall of the innercore, building up static charge. When the charge exceeds the dielectric strength of the hose wall, dielectric breakdown occurs.

CHEMICAL PTFE

**FITTING MATERIAL**

CS 304SS 316SS BRASS EFFUSION

CHEMICAL PTFE

**FITTING MATERIAL**

CS 304SS 316SS BRASS EFFUSION



**CHEMICALRESISTANCEDATA**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

#### 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Acetaldehyde | 1 | 1 | 1 | 1 | 1 | B |
| Acetic Acid Glacial | 1 | 0 | 2 | 1 | 3 |  |
| Acetic Acid 30% | 1 | 0 | 2 | 1 | 3 |  |
| Acetic Anhydride | 1 | 3 | 2 | 2 | 3 |  |
| Acetone | 1 | 1 | 1 | 1 | 1 |  |
| Acetylene | 1 | 0 | 2 | 2 | 2 | C |
| Acrylonitrile | 1 | 0 | 2 | 2 | 2 |  |
| Alum Ammonium or Potassium | 1 | 3 | 3 | 2 | 2 |  |
| Aluminum Acetate | 1 | 0 | 1 | 1 | 3 |  |
| Aluminum Bromide | 1 | 3 | 2 | 2 | 3 |  |
| Aluminum Chloride | 1 | 3 | 2 | 2 | 3 |  |
| Aluminum Flouride | 1 | 3 | 2 | 2 | 3 |  |
| Aluminum Hydroxide | 1 | 0 | 1 | 1 | 1 |  |
| Aluminum Nitrate | 1 | 3 | 1 | 1 | 0 |  |
| Aluminum Salts | 1 | 0 | 2 | 2 | 0 |  |
| Aluminum Sulfate | 1 | 3 | 3 | 2 | 3 |  |
| Ammonia, Anhydrous | 1 | 1 | 1 | 1 | 0 |  |
| Ammonia, Aqueous | 1 | 0 | 1 | 1 | 3 |  |
| Ammonium Carbonate | 0 | 1 | 1 | 1 | 0 |  |
| Ammonium Chloride | 1 | 0 | 2 | 2 | 3 |  |
| Ammonium Hydroxide | 1 | 2 | 1 | 1 | 3 |  |
| Ammonium Metaphosphate | 1 | 1 | 1 | 1 | 0 |  |
| Ammonium Nitrate | 1 | 1 | 1 | 1 | 3 |  |
| Ammonium Nitrite | 0 | 0 | 1 | 1 | 3 |  |
| Ammonium Persulfate | 3 | 0 | 1 | 1 | 0 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ammonium Phosphate | 1 | 3 | 2 | 1 | 0 |  |
| Ammonium Sulphate | 1 | 3 | 1 | 1 | 3 |  |
| AmmoniumThiocynate | 1 | 3 | 3 | 1 | 0 |  |
| Amyl Acetate | 1 | 3 | 1 | 1 | 2 |  |
| Amyl Alcohol | 1 | 2 | 1 | 1 | 1 |  |
| Amyl Chloride | 1 | 1 | 1 | 1 | 1 |  |
| Amyl Chloronaphthalene | 1 | 0 | 1 | 1 | 0 |  |
| Amyl Naphthalene | 1 | 0 | 1 | 1 | 0 |  |
| Aniline | 1 | 2 | 1 | 1 | 3 |  |
| Aniline Dyes | 1 | 3 | 1 | 1 | 3 |  |
| Aniline Hydrachloride | 1 | 3 | 3 | 3 | 3 |  |
| Animal Fats | 1 | 1 | 1 | 1 | 0 |  |
| Aqua Regia | 1 | 3 | 2 | 2 | 3 |  |
| Arsenic Acid | 1 | 3 | 3 | 1 | 2 |  |
| Askarel | 0 | 1 | 1 | 1 | 1 |  |
| Asphalt | 1 | 1 | 1 | 1 | 1 |  |
| Barium Carbonate | 1 | 2 | 1 | 1 | 1 |  |
| Barium Chloride | 1 | 2 | 1 | 1 | 2 |  |
| Barium Hydroxide | 1 | 3 | 1 | 1 | 3 |  |
| Barium Sulfate | 1 | 1 | 1 | 1 | 2 |  |
| Barium Sulfide | 1 | 3 | 1 | 1 | 3 |  |
| Beer | 1 | 2 | 1 | 1 | 1 |  |
| Beet Sugar Liquors | 1 | 1 | 1 | 1 | 0 |  |
| Benzene | 1 | 1 | 1 | 1 | 1 |  |
| Benzenesulfonic Acid | 0 | 3 | 2 | 2 | 2 |  |

Fitting material ratings are based on a fluid temperature of 70º F. Higher temperatures may accelerate adverse effects. ConsultTiteflex engineering.

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**FITTING MATERIAL FITTING MATERIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Benzaldehyde | 1 | 2 | 1 | 1 | 1 |  |
| Benzine | 1 | 1 | 1 | 1 | 1 | B |
| Benzyl Alcohol | 1 | 2 | 1 | 1 | 1 |  |
| Benzyl Benzoate | 1 | 1 | 1 | 1 | 0 |  |
| Benzyl Chloride | 1 | 1 | 0 | 0 | 0 |  |
| Bismuth Carbonate | 1 | 1 | 1 | 1 | 0 |  |
| Black Sulphate Liquor | 1 | 2 | 2 | 1 | 3 |  |
| Blast Furnace Gas | 1 | 1 | 1 | 1 | 1 | C |
| Borax | 1 | 2 | 1 | 1 | 1 |  |
| Bordeaux Mixture | 1 | 0 | 1 | 1 | 0 |  |
| Baric Acid | 1 | 3 | 1 | 1 | 2 |  |
| Bunker Oil | 1 | 1 | 1 | 1 | 1 |  |
| Butadine | 1 | 1 | 1 | 1 | 1 |  |
| Butane | 1 | 1 | 1 | 1 | 1 | C |
| Butter Oil | 1 | 1 | 1 | 1 | 1 |  |
| Butyric Acid | 1 | 3 | 1 | 1 | 2 |  |
| Butyl Acetate | 1 | 2 | 1 | 1 | 2 |  |
| Butyl Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Butyl Amine | 0 | 1 | 1 | 1 | 1 |  |
| Butyl Carbitol | 1 | 1 | 1 | 1 | 1 |  |
| Butyl Stearate | 1 | 1 | 1 | 1 | 1 |  |
| Butyl Mercaptan | 1 | 0 | 1 | 1 | 0 |  |
| Butraldehyde | 1 | 0 | 0 | 0 | 1 |  |
| Calcium Acetate | 1 | 1 | 1 | 1 | 1 |  |
| Calcium Bisulfate | 1 | 0 | 2 | 1 | 3 |  |
| Calcium Bisulfite | 1 | 3 | 1 | 1 | 3 |  |
| Calcium Carbonate | 1 | 2 | 1 | 1 | 3 |  |
| Calcium Chlorate | 1 | 2 | 2 | 1 | 2 |  |
| Calcium Chloride | 1 | 3 | 2 | 1 | 2 |  |
| Calcium Hydroxide | 1 | 3 | 1 | 1 | 3 |  |
| Calcium Hypochlorite | 1 | 3 | 2 | 2 | 3 |  |
| Calcium Nitrate | 1 | 2 | 1 | 1 | 1 |  |
| Calcium Silicate | 1 | 1 | 1 | 1 | 1 | B |
| Calcium Sulfate | 1 | 1 | 1 | 1 | 1 |  |
| Calcium Sulfide | 1 | 1 | 1 | 1 | 0 |  |
| Cane Sugar Liquors | 1 | 1 | 1 | 1 | 2 |  |
| Carbolic Acid | 1 | 3 | 1 | 1 | 3 |  |
| Carbon Dioxide | 1 | 1 | 1 | 1 | 1 | A |
| Carbon Disulfide | 0 | 2 | 1 | 1 | 2 |  |
| Carbonic Acid | 1 | 3 | 1 | 1 | 3 |  |
| Carbon Monoxide | 1 | 1 | 1 | 1 | 1 | C |
| CarbonTetrachloride | 1 | 2 | 1 | 1 | 2 |  |
| Castor Oil | 1 | 1 | 1 | 1 | 1 |  |
| Caustic Soda | 1 | 2 | 1 | 1 | 3 |  |
| Cellosolve, Acetate | 1 | 0 | 2 | 2 | 1 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Cellosolve, Butyl | 1 | 1 | 1 | 1 | 1 |  |
| Cellulube | 1 | 1 | 1 | 1 | 1 |  |
| Chlorine, Gaseous, Dry\* | \* | 2 | 3 | 3 | 2 | C |
| Chlorine, Gaseous, Wet\* | \* | 3 | 3 | 3 | 3 | B |
| ChlorineTrifluoride | 0 | 3 | 0 | 0 | 0 | C |
| Chloroacetic Acid | 1 | 3 | 3 | 3 | 3 |  |
| Chlorobenzene | 1 | 1 | 1 | 1 | 1 |  |
| Chlorobromomethane | 1 | 1 | 1 | 1 | 1 |  |
| Chloroform | 1 | 1 | 1 | 1 | 1 |  |
| O-Chloronaphthalene | 1 | 1 | 1 | 1 | 1 |  |
| Chlorotoluene | 1 | 1 | 1 | 1 | 1 |  |
| Chromic Acid | 1 | 3 | 3 | 2 | 3 |  |
| Citric Acid | 1 | 3 | 3 | 1 | 3 |  |
| Cod Liver Oil | 1 | 1 | 1 | 1 | 1 |  |
| Coke Oven Gas | 1 | 1 | 1 | 1 | 0 |  |
| Compressed Natural Gas  (CNG)† | 0 | 1 | 1 | 1 | 2 | A† |
| Copper Chloride | 1 | 3 | 3 | 1 | 3 |  |
| Copper Cyanide | 1 | 0 | 1 | 1 | 3 |  |
| Copper Sulfate | 1 | 3 | 1 | 1 | 3 |  |
| Corn Oil | 1 | 1 | 1 | 1 | 1 |  |
| Corn Syrup | 1 | 1 | 1 | 1 | 0 |  |
| Cottonseed Oil | 1 | 1 | 1 | 1 | 1 |  |
| Creosote | 1 | 2 | 1 | 1 | 3 |  |
| Cresol | 1 | 2 | 1 | 1 | 0 |  |
| Crude Wax | 1 | 1 | 1 | 1 | 1 |  |
| Cutting Oil | 1 | 1 | 1 | 1 | 1 |  |
| Cyclohexane | 1 | 1 | 1 | 1 | 1 |  |
| Cyclohexanome | 1 | 0 | 1 | 1 | 0 |  |
| Cymene | 1 | 0 | 0 | 0 | 1 |  |
| Decaline | 1 | 0 | 0 | 0 | 1 |  |
| Denatured Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Diacetone | 1 | 1 | 1 | 1 | 1 |  |
| Diacetone Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Dibenzyl Ether | 1 | 1 | 1 | 1 | 1 |  |
| Dibutyl Ether | 1 | 1 | 1 | 1 | 1 |  |
| Dibutyl Phthalate | 1 | 1 | 1 | 1 | 1 |  |
| Dibutyl Sebacote | 1 | 1 | 1 | 1 | 1 |  |
| Dichlorobenzene | 1 | 0 | 1 | 1 | 1 |  |
| Diesel Oil | 1 | 1 | 1 | 1 | 1 |  |
| Diethylamine | 1 | 3 | 0 | 2 | 3 |  |
| Diethyl Ether | 1 | 1 | 1 | 1 | 1 | B |
| Diethylene Glycol | 1 | 1 | 1 | 1 | 1 |  |
| Diethyl Phthalate | 1 | 0 | 1 | 1 | 1 |  |
| Diethyl Sebacate | 1 | 0 | 1 | 1 | 1 |  |
| Di-Isobutylene | 0 | 0 | 1 | 1 | 1 |  |

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**CHEMICALRESISTANCEDATA**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

#### TITEFLEX.COM 21



**CHEMICALRESISTANCEDATA**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

**FITTING MATERIAL FITTING MATERIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Gasoline | 1 | 1 | 1 | 1 | 1 |  |
| Glauber's Salt | 0 | 1 | 1 | 1 | 0 |  |
| Glucose | 1 | 1 | 1 | 1 | 1 |  |
| Glue | 1 | 2 | 1 | 1 | 1 |  |
| Glycerin | 1 | 2 | 1 | 1 | 1 |  |
| Glycols | 1 | 1 | 1 | 1 | 1 |  |
| Green Sulfate Liquor | 1 | 1 | 1 | 1 | 0 |  |
| n--Hexaldehyde | 1 | 1 | 1 | 1 | 1 |  |
| Hexane | 1 | 1 | 1 | 1 | 1 |  |
| Hexene | 1 | 1 | 1 | 1 | 1 |  |
| Hexyl Alcohol | 1 | 1 | 1 | 1 | 2 |  |
| Hydraulic Oil, Petroleum | 1 | 1 | 1 | 1 | 1 |  |
| Hydrochloric Acid, 15% | 1 | 3 | 3 | 3 | 3 | B |
| Hydrochloric Acid, 37% | 1 | 3 | 3 | 3 | 3 | B |
| Hydrochromic Acid | 1 | 3 | 3 | 3 | 3 |  |
| Hydroflouric Acid, Concentrated | 1 | 3 | 3 | 3 | 3 |  |
| Hydrofluosilicic Acid | 1 | 0 | 2 | 2 | 3 |  |
| Hydrogen, Gaseous | \*\* | 1 | 1 | 1 | 1 | C |
| Hydrogen Peroxide, 70% | 1 | 2 | 3 | 1 | 3 |  |
| Hydrogen Sulfide, Gaseous | 1 | 3 | 2 | 1 | 3 | C |
| Hydroquinone | 0 | 1 | 1 | 1 | 0 |  |
| Isobutyl Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Iso Octane | 1 | 1 | 1 | 1 | 1 |  |
| Isopropyl Acetate | 1 | 1 | 1 | 1 | 1 |  |
| Isopropyl Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Isopropyl Ether | 1 | 1 | 1 | 1 | 1 |  |
| JP3 Fuel | 1 | 1 | 1 | 1 | 1 |  |
| JP4 Fuel | 1 | 1 | 1 | 1 | 1 |  |
| JP5 Fuel | 1 | 1 | 1 | 1 | 1 |  |
| JP6 Fuel | 1 | 1 | 1 | 1 | 1 |  |
| JP8 Fuel | 1 | 1 | 1 | 1 | 1 |  |
| Kerosene | 1 | 1 | 1 | 1 | 1 |  |
| Ketones | 1 | 1 | 1 | 1 | 1 |  |
| Lacquers | 1 | 3 | 3 | 1 | 1 |  |
| Lacquer Solvents | 1 | 3 | 3 | 1 | 1 | B |
| Lactic Acid | 1 | 3 | 2 | 1 | 2 |  |
| Lard | 1 | 1 | 1 | 1 | 3 |  |
| Lead Acetate | 1 | 3 | 0 | 1 | 1 |  |
| Lead Nitrate | 0 | 1 | 1 | 1 | 0 |  |
| Lime Bleath | 0 | 3 | 2 | 1 | 0 |  |
| Linoleic Acid | 1 | 3 | 2 | 2 | 3 |  |
| Linseed Oil | 1 | 1 | 1 | 1 | 1 |  |
| Lubricating Oils, Petroleum | 1 | 1 | 1 | 1 | 1 |  |
| Magnesium Chloride | 1 | 3 | 3 | 3 | 2 |  |
| Magnesium Hydroxide | 1 | 1 | 1 | 1 | 0 |  |
| Magnesium Sulfate | 1 | 1 | 1 | 1 | 1 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Di-Isopropyl Keytone | 1 | 0 | 1 | 1 | 1 |  |
| Dimethylaniline | 1 | 0 | 0 | 0 | 1 |  |
| Dimethylformamide | 0 | 1 | 1 | 1 | 0 |  |
| Dimethyl Phthalate | 1 | 0 | 0 | 0 | 1 |  |
| Dioctyl Phthalate | 1 | 1 | 1 | 1 | 1 |  |
| Dioxane | 1 | 1 | 1 | 1 | 1 |  |
| Dipentene | 1 | 1 | 1 | 1 | 1 |  |
| Ethanolamine | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Acetate | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Acetoacetate | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Atrylate | 0 | 1 | 1 | 1 | 0 |  |
| Ethyl Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Benzene | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Cellulose | 1 | 1 | 1 | 1 | 1 |  |
| Ethyl Chloride | 1 | 2 | 1 | 1 | 2 |  |
| Ethyl Ether | 1 | 2 | 1 | 1 | 2 |  |
| Ethyl Mertaptan | 1 | 2 | 0 | 0 | 2 | B |
| Ethyl Pentochlorobenzene | 1 | 2 | 1 | 1 | 1 |  |
| Ethyl Silicate | 1 | 1 | 1 | 1 | 1 |  |
| Ethylene Chloride | 1 | 2 | 1 | 1 | 2 |  |
| Ethylene Chlorohydrin | 1 | 0 | 0 | 0 | 0 |  |
| Ethylene Diamine | 1 | 0 | 1 | 0 | 1 |  |
| Ethylene Glycol | 1 | 2 | 1 | 1 | 1 |  |
| Fatty Acids | 1 | 0 | 1 | 1 | 0 |  |
| Ferric Chloride | 1 | 3 | 3 | 3 | 3 |  |
| Ferric Nitrate | 1 | 3 | 1 | 1 | 0 |  |
| Ferric Sulfate | 1 | 3 | 1 | 1 | 3 |  |
| Ferrous Chloride | 1 | 3 | 1 | 2 | 2 |  |
| Ferrous Nitrate | 1 | 3 | 1 | 1 | 3 |  |
| Ferrous Sulfate | 1 | 3 | 1 | 1 | 2 |  |
| Fluoroboric Acid | 1 | 0 | 1 | 1 | 0 |  |
| Formaldehyde | 1 | 2 | 1 | 1 | 2 |  |
| Formic Acid | 1 | 3 | 2 | 1 | 2 |  |
| Freon 12 | 2 | 3 | 1 | 1 | 0 | A |
| Freon 21 | 2 | 3 | 1 | 1 | 0 | A |
| Freon 22 | 2 | 3 | 1 | 1 | 0 | A |
| Freon 113 | 2 | 3 | 1 | 1 | 0 | A |
| Freon 114 | 2 | 3 | 1 | 1 | 0 | A |
| Fuel Oil | 1 | 1 | 1 | 1 | 1 |  |
| Fumaric Acid | 0 | 0 | 1 | 1 | 0 |  |
| Furon Furfuran | 1 | 1 | 1 | 1 | 1 |  |
| Furfural | 1 | 2 | 1 | 1 | 1 |  |
| Gallic Acid | 1 | 3 | 1 | 1 | 0 |  |

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**FITTING MATERIAL FITTING MATERIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Molic Acid | 1 | 2 | 2 | 1 | 0 |  |
| Mercuric Chloride | 1 | 3 | 1 | 1 | 3 |  |
| Mercury | 1 | 1 | 1 | 1 | 3 |  |
| Mesityl Oxide | 1 | 1 | 1 | 1 | 1 |  |
| Methyl Acetate | 1 | 2 | 1 | 1 | 1 |  |
| Methyl Atrylote | 0 | 1 | 1 | 1 | 1 |  |
| Methyl Alcohol | 1 | 1 | 1 | 1 | 2 |  |
| Methyl Bromide | 1 | 0 | 2 | 2 | 0 | B |
| Methyl Butyl Ketone | 0 | 1 | 1 | 1 | 1 |  |
| Methyl Chloride | 1 | 1 | 1 | 1 | 1 | B |
| Methylene Chloride | 1 | 1 | 1 | 1 | 3 |  |
| Methyl Ethyl Ketone (MEK) | 1 | 1 | 1 | 1 | 1 |  |
| Methyl Formate | 1 | 0 | 1 | 1 | 3 | B |
| Methyl Isobutyl Ketone | 1 | 1 | 1 | 1 | 1 |  |
| Methyl Methacrylate | 1 | 1 | 1 | 1 | 0 |  |
| Methyl Salicylate | 1 | 1 | 1 | 1 | 1 |  |
| Milk | 1 | 3 | 1 | 1 | 3 |  |
| Mineral Oil | 1 | 1 | 1 | 1 | 1 |  |
| Monochlorobenzene | 1 | 1 | 1 | 1 | 1 |  |
| Monoethanolamine | 0 | 1 | 1 | 1 | 1 |  |
| Naphtha | 1 | 2 | 1 | 1 | 1 |  |
| Haphthalene | 1 | 2 | 2 | 2 | 0 |  |
| Naphthenic Acid | 1 | 0 | 2 | 1 | 0 |  |
| Natural Gas† | 0 | 1 | 1 | 1 | 2 | A† |
| Nickel Acetate | 1 | 1 | 1 | 1 | 1 |  |
| Nickel Chloride | 1 | 3 | 2 | 2 | 3 |  |
| Nickel Sulfate | 1 | 0 | 2 | 1 | 3 |  |
| Niter Coke | 0 | 3 | 2 | 1 | 0 |  |
| Nitric Acid,  All Concentrations | 1 | 3 | 2 | 2 | 3 |  |
| Nitric Acid, Red Fuming | 1 | 3 | 3 | 2 | 3 |  |
| Nitrobenzene | 1 | 1 | 1 | 1 | 1 |  |
| Nitroethane | 1 | 0 | 1 | 1 | 1 |  |
| Nitrogen, Gaseous | 1 | 1 | 1 | 1 | 1 | A |
| NitrogenTelroxide | 0 | 0 | 0 | 2 | 0 |  |
| n-Octane | 0 | 1 | 1 | 1 | 1 |  |
| Octyl Alcohol | 1 | 3 | 1 | 1 | 2 |  |
| Oil, SAE | 1 | 1 | 1 | 1 | 1 |  |
| Oleic Acid | 1 | 3 | 3 | 1 | 2 |  |
| Olive Oil | 1 | 1 | 1 | 1 | 1 |  |
| Oxalic Acid | 1 | 3 | 1 | 1 | 3 |  |
| Oxygen, Gaseous\*\*\*\* | 1 | 1 | 1 | 1 | 1 | A |
| Ozone | 1 | 1 | 1 | 1 | 1 |  |
| Paint | 1 | 1 | 1 | 1 | 1 |  |
| Palmitic Acid | 1 | 2 | 1 | 1 | 1 |  |
| Peanut Oil | 1 | 1 | 1 | 1 | 1 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Perchloric Acid | 1 | 0 | 2 | 2 | 0 |  |
| Perchloroethylene | 1 | 2 | 1 | 1 | 1 |  |
| Petroluem | 1 | 1 | 1 | 1 | 1 |  |
| Phenol | 1 | 3 | 1 | 1 | 3 |  |
| Phorone | 1 | 1 | 1 | 1 | 1 |  |
| Piric Acid | 1 | 3 | 1 | 1 | 3 |  |
| Pinene | 1 | 1 | 1 | 1 | 1 |  |
| Pine Oil | 1 | 2 | 1 | 1 | 0 |  |
| Plating Solution, Chrome | 1 | 0 | 3 | 3 | 0 |  |
| Potassium Acetate | 1 | 3 | 2 | 2 | 0 |  |
| Potassium Chloride | 1 | 1 | 2 | 2 | 2 |  |
| Potassium Cyanide | 1 | 2 | 1 | 1 | 3 |  |
| Potassium Dichromate | 1 | 3 | 1 | 1 | 0 |  |
| Potassium Hydroxide, 30% | 1 | 3 | 1 | 1 | 3 |  |
| Potassium Nitrate | 1 | 3 | 1 | 1 | 2 |  |
| Potassium Sulfate | 1 | 1 | 1 | 1 | 2 |  |
| Propane | 1 | 1 | 1 | 1 | 1 | A |
| Propyl Acetate | 0 | 1 | 1 | 1 | 1 |  |
| Propyl Alcohol | 1 | 1 | 1 | 1 | 1 |  |
| Pyridine, 50% | 1 | 1 | 1 | 1 | 1 |  |
| Red Oil | 1 | 2 | 2 | 1 | 2 |  |
| Salicylic Acid | 0 | 3 | 1 | 1 | 0 |  |
| Salt Water | 1 | 3 | 3 | 2 | 3 |  |
| Sewage | 1 | 3 | 1 | 1 | 1 |  |
| SiliconTetrafluoride (STF) | 0 | 3 | 2\*\*\* | 2\*\*\* | 3 | C |
| Silicone Greases | 0 | 1 | 1 | 1 | 1 |  |
| Silicone Oils | 0 | 1 | 1 | 1 | 1 |  |
| Silver Nitrate | 1 | 3 | 1 | 1 | 3 |  |
| Skydrol 500 & 7000 | 1 | 1 | 1 | 1 | 0 |  |
| Soap Solutions | 1 | 1 | 1 | 1 | 1 |  |
| Soda Ash | 1 | 1 | 1 | 1 | 2 |  |
| Sodium Acetate | 1 | 3 | 1 | 1 | 0 |  |
| Sodium Bicarbonate | 1 | 3 | 1 | 1 | 2 |  |
| Sodium Bisulfite | 1 | 3 | 1 | 1 | 3 |  |
| Sodium Borate | 1 | 1 | 1 | 1 | 0 |  |
| Sodium Chloride | 1 | 2 | 2 | 2 | 1 |  |
| Sodium Cyanide | 1 | 2 | 1 | 1 | 3 |  |
| Sodium Hydroxide, 40% | 1 | 2 | 1 | 1 | 3 |  |
| Sodium Hypochlorite | 1 | 3 | 3 | 2 | 3 |  |
| Sodium Metaphosphate | 1 | 3 | 1 | 1 | 3 |  |
| Sodium Nitrate | 1 | 1 | 1 | 1 | 2 |  |
| Sodium Perborate | 1 | 3 | 1 | 1 | 3 |  |
| Sodium Peroxide | 1 | 3 | 1 | 1 | 3 |  |
| Sodium Phosphate | 1 | 2 | 1 | 1 | 3 |  |
| SodiumThiosulfate | 1 | 3 | 1 | 1 | 3 |  |

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**CHEMICALRESISTANCEDATA**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

#### TITEFLEX.COM 23

**FITTING MATERIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Soybean Oil | 1 | 1 | 1 | 1 | 0 |  |
| Stannic Chloride | 1 | 3 | 3 | 3 | 3 |  |
| Steam | 1 | 3 | 1 | 1 | 1 | A |
| Stearic Acid | 1 | 3 | 2 | 1 | 3 |  |
| Stoddard Solvent | 1 | 1 | 1 | 1 | 1 |  |
| Styrene | 1 | 2 | 0 | 2 | 2 |  |
| Sucrose Solution | 1 | 1 | 1 | 1 | 1 |  |
| Sulfur, 200º F | 1 | 3 | 1 | 1 | 3 |  |
| Sulfur Chloride | 1 | 3 | 3 | 2 | 3 |  |
| Sulfur Dioxide | 1 | 2 | 1 | 1 | 1 | C |
| SulfurTrioxide | 1 | 3 | 2 | 2 | 3 | B |
| Sulfuric Acid, 10% | 1 | 3 | 2 | 3 | 3 |  |
| Sulfuric Acid, 98% | 1 | 2 | 3 | 2 | 3 |  |
| Sulfuric Acid, Fuming | 1 | 3 | 3 | 2 | 3 |  |
| Sulfurous Acid, 10% | 1 | 3 | 2 | 1 | 3 |  |
| Sulfurous Acid, 75% | 1 | 3 | 3 | 2 | 3 |  |
| Tanic Acid, 10% | 1 | 2 | 1 | 1 | 3 |  |
| Tar, Bituminous | 1 | 1 | 1 | 1 | 2 |  |
| Tartaric Acid | 1 | 3 | 1 | 1 | 3 |  |
| Terpineol | 1 | 0 | 0 | 0 | 0 |  |
| TitaniumTetrachloride | 0 | 3 | 2 | 2 | 3 |  |
| Toluene | 1 | 1 | 1 | 1 | 1 |  |
| Toluene Diisocyanate | 0 | 0 | 0 | 0 | 0 |  |
| Transformer Oil | 1 | 1 | 1 | 1 | 1 |  |

**FITTING MATERIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHEMICAL PTFE | | CS 304SS 316SS BRASS | | | | EFFUSION |
| Transmission Fluid,Type A | 1 | 1 | 1 | 1 | 1 |  |
| Tributoxyethyl Phosphate | 1 | 0 | 1 | 1 | 0 |  |
| Tributyl Phosphate | 1 | 1 | 0 | 0 | 0 |  |
| Trichloroethylene | 1 | 2 | 1 | 1 | 1 |  |
| Tricresyl Phosphate | 1 | 1 | 0 | 2 | 0 |  |
| Tung Oil | 1 | 1 | 1 | 1 | 1 |  |
| Turpentine | 1 | 1 | 1 | 1 | 2 |  |
| Urea Solution, 50% | 1 | 1 | 1 | 1 | 0 |  |
| Varnish | 0 | 3 | 1 | 1 | 2 |  |
| Vegetable Oils | 1 | 1 | 1 | 1 | 1 |  |
| Versilube | 1 | 1 | 1 | 1 | 1 |  |
| Vinegar | 1 | 3 | 1 | 1 | 3 |  |
| Vinyl Chloride | 1 | 2 | 1 | 1 | 3 | C |
| Water | 1 | 2 | 1 | 1 | 1 |  |
| Whiskey, Wines | 1 | 3 | 2 | 1 | 3 |  |
| Xylene | 1 | 2 | 2 | 2 | 3 |  |
| Zinc Acetate | 1 | 1 | 1 | 1 | 1 |  |
| Zinc Chloride | 1 | 3 | 2 | 1 | 3 |  |
| Zinc Sulfate | 1 | 3 | 2 | 1 | 3 |  |

Fitting material ratings are based on a fluid temperature of 70º F. Higher temperatures may accelerate adverse effects. ConsultTiteflex engineering.



**CHEMICALRESISTANCEDATA TEMPERATURE/OPERATING PRESSURE**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

SIZE **TEMPERATURE/OPERATING PRESSURE: R115, R122, R105, R144**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 65 F°  18 C° | 100 F°  38 C° | 150 F°  66 C° | 200 F°  93 C° | 250 F°  121 C° | 300 F°  149 C° | 350 F°  177 C° | 400 F°  204 C° | 450 F°  232 C° |
| -3, -4, -5 | 3000 | 2922 | 2810 | 2698 | 2586 | 2474 | 2362 | 2250 | 2138 |
| -6 | 2500 | 2435 | 2341 | 2248 | 2155 | 2062 | 1968 | 1875 | 1782 |
| -8 | 2000 | 1948 | 1873 | 1799 | 1724 | 1649 | 1575 | 1500 | 1425 |
| -10 | 1500 | 1461 | 1405 | 1349 | 1293 | 1237 | 1181 | 1125 | 1069 |
| -12 | 1200 | 1169 | 1124 | 1079 | 1034 | 990 | 945 | 900 | 855 |
| -16, -20Z | 1000 | 974 | 937 | 899 | 862 | 825 | 787 | 750 | 713 |

SIZE **TEMPERATURE/OPERATING PRESSURE: R160, R165**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 65 F°  18 C° | 100 F°  38 C° | 150 F°  66 C° | 200 F°  93 C° | 250 F°  121 C° | 300 F°  149 C° | 350 F°  177 C° | 400 F°  204 C° | 450 F°  232 C° |
| -4, -6, -8, -10, -12, -16 | 5000 | 4869 | 4683 | 4496 | 4310 | 4123 | 3937 | 3750 | 3563 |
| -20 | 5000 | 4870 | 4683 | 4497 | 4310 | 4123 | 3937 | 3750 | Not Recommended |
| -24 | 4000 | 3896 | 3747 | 3597 | 3448 | 3229 | 3149 | 3000 | Not Recommended |

SIZE **TEMPERATURE/OPERATING PRESSURE: R272, R276**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 65 F°  18 C° | 100 F°  38 C° | 150 F°  66 C° | 200 F°  93 C° | 250 F°  121 C° | 300 F°  149 C° | 350 F°  177 C° | 400 F°  204 C° | 450 F°  232 C° |
| -8, -10, -12, -16, -20 | 1000 | 974 | 937 | 899 | 862 | 825 | 787 | 750 | 713 |
| -24 | 750 | 730 | 702 | 674 | 646 | 618 | 590 | 563 | 535 |
| -32 | 500 | 487 | 468 | 450 | 431 | 412 | 394 | 375 | 356 |

These products can be used to convey hazardous fluids, steam, and other dangerous materials which can cause personal injury or property damage if released through misuse, misapplication, or damaged. The user is responsible to analyze each application prior to specifying any product from this catalog. Due to the wide variety of operating conditions and applications, the user, through personal analysis and testing, is solely responsible for final product selection and meeting all performance, safety, and warning requirements. Careful selection, proper assembly and use of hose fittings and accessories is essential for the safe and warranted operation of the hose assembly.

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# CRIMPAND SWAGE DIMENSIONS

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

**HOSE SIZE QS SWAGE/CRIMP PROOF TEST**

**HOSE SIZE TK2 SWAGE/CRIMP PROOF TEST**

#### 

|  |  |  |  |
| --- | --- | --- | --- |
| R115/R122 | -4 | .350 +/- .003 | 4,500 PSI |
| R115/R122 | -5 | .404 +/- .003 | 4,500 PSI |
| R115/R122 | -6 | .478 +/- .003 | 3,750 PSI |
| R115/R122 | -8 | .568 +/- .003 | 3,000 PSI |
| R115/R122 | -10 | .673 +/- .003 | 2,250 PSI |
| R115/R122 | -12 | .800 +/- .003 | 1,800 PSI |
| R115/R122 | -16 | 1.046 +/- .003 | 1,500 PSI |

|  |  |  |  |
| --- | --- | --- | --- |
| R115/R122 | -4 | .350 +/- .005 | 4,500 PSI |
| R115/R122 | -5 | .404 +/- .005 | 4,500 PSI |
| R115/R122 | -6 | .478 +/- .005 | 3,750 PSI |
| R115/R122 | -8 | .568 +/- .005 | 3,000 PSI |
| R115/R122 | -10 | .673 +/- .005 | 2,250 PSI |
| R115/R122 | -12 | .800 +/- .005 | 1,800 PSI |
| R115/R122 | -16 | 1.057 +/- .005 | 1,500 PSI |

**HOSE SIZE CRIMP/SWAGE PROOF TEST**

**HOSE SIZE SWAGE/CRIMP PROOF TEST**

|  |  |  |  |
| --- | --- | --- | --- |
| R105/R144 | -4 | .375 +/- .005 | 4,500 PSI |
| R105/R144 | -5 | .432 +/- .005 | 4,500 PSI |
| R105/R144 | -6 | .492 +/- .005 | 3,750 PSI |
| R105/R144 | -8 | .585 +/- .005 | 3,000 PSI |
| R105/R144 | -10 | .724 +/- .005 | 2,250 PSI |
| R105/R144 | -12 | .818 +/- .005 | 1,800 PSI |
| R105/R144 | -16 | 1.066 +/- .005 | 1,500 PSI |
| R105/R144 | -20Z | 1.452 +/- .005 | 1,500 PSI |

|  |  |  |  |
| --- | --- | --- | --- |
| R272/R276 | -8 | .781 +/- .010 | 1,500 PSI |
| R272/R276 | -10 | .884 +/- .005 | 1,500 PSI |
| R272/R276 | -12 | 1.063 +/- .005 | 1,500 PSI |
| R272/R276 | -16 | 1.295 +/- .005 | 1,500 PSI |
| R272/R276 | -20 | 1.547 +/- .005 | 1,500 PSI |
| R272/R276 | -24 | 1.810 +/- .005 | 1,125 PSI |
| R272/R276 | -32 | 2.375 +/- .010 | 750 PSI |

**HOSE**

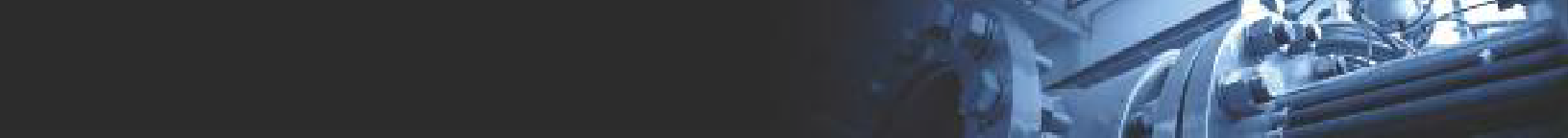
**SIZE**

**SWAGE**

**PROOF TEST**

|  |  |  |  |
| --- | --- | --- | --- |
| R160/R165 | -4 | .465 +/- .005 | 10,000 PSI |
| R160/R165 | -6 | .560 +/- .005 | 10,000 PSI |
| R160/R165 | -8 | .698 +/- .005 | 10,000 PSI |
| R160/R165 | -10 | .802 +/- .005 | 10,000 PSI |
| R160/R165 | -12 | 1.056 +/- .005 | 10,000 PSI |
| R160/R165 | -16 | 1.340 +/- .005 | 10,000 PSI |

WARNING: These products can be used to convey hazardous fluids, steam, and other dangerous materials which can cause personal injury or property damage if released through misuse, misapplication, or damaged. The user is responsible to analyze each application prior to specifying any product from this catalog. Due to the wide variety of operating conditions and applications, the user, through personal analysis and testing, is solely responsible for final product selection and meeting all performance, safety, and warning requirements. Careful selection, proper assembly and use of hose fittings and accessories is essential for the safe and warranted operation of the hose assembly.



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**ADVANTAGES OF PTFE:**

* Chemically Inert - PTFE creates a virtually universal hose which handles the broadest range of media and will not break down or deteriorate in service.
* Temperature Resistant – From cryogenics to steam all in one hose.
* Low Friction – Low pressure drop because deposits do not accumulate on the innercore. Easy to clean permitting use of one hose for several services.
* Flexible – Withstands continuous flexing and vibration while resisting failure from flex fatigue.
* Moisture Resistant – Ideal for pneumatic systems requiring low dew point functionality.
* Non-Aging – Unlimited shelf life because properties do not change with age or exposure to weather.

Titeflex hoses feature PTFE or equivalent resin which provides the following physical characteristics:

* Tensile strength ,500 psi
* Elongation 250% min
* Dielectric strength 1,000 volts per mil
* Softening point 500°F (260°C)

**PTFE FLUOROCARBON AS A HOSE MATERIAL:**

Polytetrafluoroethylene (PTFE) is an engineered fluoropolymer. Outstanding resistance to chemicals is one of its primary attributes.

A broad temperature range of -100º F to 500º F (-73º C to 260º C) (see individual series for recommended termperature ranges) make this hose material suitable for the majority of fluid and ambient temperature conditions found in industry. An extremely low coefficient of friction (0.05 to 0.20) provides a non-stick surface.Water absorption of PTFE is negligible, less than 0.01% by ASTM test. And, it is FDA-approved for food and pharmaceutical use.

### TYPICALTITEFLEX HOSE APPLICATIONS :

Titeflex hoses are used throughout industry for process, transfer and hydraulic and pneumatic uses. Applications typically require longer service life and excellent reliability and dependability; they include:

Autoclaves Molten Plastics

Automotive Packaging

Buses Paints

Chemicals Pharmaceuticals

Chlorine Power Generation

CNG Pulp & Paper

Compressed Gas Pumps

Dehydrators Reverse Osmosis

Engines R.I.M.

Food Processing Steam

Ground Support/Test Steel/Aluminum High Performance Racing Textiles

Hot Melt Tire Presses

Hot Presses Trucks

Machinery Turbines

Medical Waterblast

### EXAMPLES:

1. Steam hose. Convoluted hose assemblies (R276-20) handling steam and water alternately with a 12-15 minute thermal cycle on a hot press for lamination of thermoplastics materials.
2. Chlorine transfer hose. (S81816) Loading service conditions at about -70°F (-57°C) at psi’s ranging from 70 to 135.These hoses replaced Monel metal hoses.
3. Air, fuel & oil hoses in buses. Of the many applications on a bus the majority are PTFE hose assemblies (R115 hose assemblies).Temperatures to 250°F and pressures to 450 psi.
4. Turbo machinery. Lube, oil, fuel, air and coolant, transfer lines.
5. Chlorine “repackaging”.Titeflex S81808 (1/2") chlorine hose has been recommended by the Chlorine Institute as a replacement for copper tubing in filling chlorine cylinders because of its safety and versatility.
6. Gasses. Medium, high and extra high pressure assemblies for transfer of compressed gasses.



**PERFORMANCECHARACTERISTICS**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

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HoseType

Fitting Style Numbers

Hose ID

Fitting Material

Assembly Length

Accessory

### HOSE TYPE:

1st End 2nd End

Nominal Size in

1/16"

1st End 2nd End Whole Inches Additional

Fractional Length in 1/8"

Most accessories are designated by adding the appropriate

**F** R115

**A** R101

**J** R154

**CC** R272

**CK** R276

**CV** R285

### STYLE NUMBER:

**CZ** R287

**CT** R267

**CN** R270

**CW** R273

**CF** R283

**E** R160

**K** R165

**D** R122

**PA** RP101

**PE** RP160

**G** R105

**H** R144

**T** R147

suffix to the assembly number, as indicated. Where one of these letter codes is used, it implies that the accessory is to be applied to the entire hose length, if applicable. Certain accessories, however, are often used in short sections for strain relief or chafing protection.They include armor sleeves, heat-shrinkable chafe sleeves and spring guard.

For less than full length sections of such accessories, omit the letter code for that accessory from the assembly number and add written instructions. Indicate the accessory by specific part number, the length required, and the proper

1. JIC-Female Swivel
2. JIC-Female Swivel-45° Elbow
3. JIC-Female Swivel-90° Elbow
4. Male Pipe
5. Male Union
6. Fixed Flange
7. Lap Joint Flange (150# Carbon Steel)
8. SAE-Female Swivel- Straight
9. SAE-Female Swivel-45° Elbow
10. SAE-Female Swivel-90° Elbow

**10** Female Pipe

1. SAE Compression-Male
2. SAE Compression-Female
3. Female Swivel-Straight- Flareless

### ACCESSORY CODES:

**P** Chafe Sleeve-Heat Shrinkable Polyolefin

**L** CPE Sleeve

**J** Armor Sleeve **F** Fire Sleeve **G** Spring Guard

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1. Female Swivel-45° Elbow-Flareless
2. Female Swivel-90° Elbow-Flareless
3. Tube Adapter
4. Butt Weld End
5. Paint Spray Female
6. Lap Joint Flange (300# Carbon Steel)
7. Lap Joint Flange (150# SS 304)
8. Lap Joint Flange (300# SS 304)
9. Lap Joint Flange (150# SS 316)
10. Lap Joint Flange (300# SS 316)
11. Sanitary
12. O-Ring Face Seal
13. Cam and Groove

**T** ECTFE Coating on Flange-Retaining Insert

**H** ECTFE Encapsulating of Flange-Retaining Insert

**D** Step-Down Fitting **S** HDPE SpiralWrap **Z** Overall Length

position(s) on the assembly.

Not all accessories can be used in all circumstances. Please be sure to carefully evaluate the product being transferred and its potential impact.This is the user’s responsibility.

### ACCESSORY PART NUMBERS:

Armor Sleeve - 106479-Size

Heat-Shrinkable Polyolefin Sleeve - 95033-Size Spring Guard -Y171 (ID Size in 1/16")-1

### OTHER CONSIDERATIONS MARKINGS:

Ordinarily,Titeflex hose assemblies are not identified, except

S818XX Chlorine/BromineTransfer Hose which has markings.

We havefullcapabilityformarkingassemblieswiththehosenumber orfabricationdate, yourassemblynumber, workingpressureorother pertinentinformation. Markingscanbeelectroetchedonfittingsor onstainlesssteeltagswhicharepermanentlyaffixed.

### PRESSURE TESTING:

Titeflex hose assemblies are proof-pressure-tested at 1-1/2 times the recommended operating pressure or to customer requirements.Test medium is water.

Many special testing procedures can be utilized, according to your needs, and test media can be varied on order. At the Titeflex plant, we can test with nitrogen and other gases to specific levels of pressure.

### PACKAGING:

Titeflex hose assemblies are carefully wrapped and packed for shipment, with protection routinely provided for external threads of fittings and for hose lengths, to prevent kinking in transit.

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**HOWTO SPECIFYACCESSORIES**

**TITEFLEX®**

**FLEXIBLE PTFE HOSE**

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### CLEANING:

After fabrication, various cleaning procedures are available depending on customer requirements.

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**TITEFLEX WARRANTY**

Titeflex warrants its products to be free from any defects of workmanship in material. Should any such defects be discovered within three (3) months from the date of purchase by the end user, the questionable part should be returned to the authorized Titeflex distributor. If, upon inspection, the part proves to be defective, the authorized Titeflex distributor will furnish a replacement, or, at its option, repair the part.

This warranty shall not apply to any part or parts of hose products if it has been installed, altered, repaired or misused, through negligence or otherwise, in any way that in the opinion of Titeflex affects the reliability of, or detracts from, the performance of the product. Nor does this warranty cover replacements or repairs necessitated by loss or damage resulting from any cause beyond the control ofTiteflex, including but not limited to acts of God, acts of Government, floods and fires. In case of hose assemblies fabricated by persons other than Titeflex, this warranty shall be void if the assembly is not made in accordance withTiteflex specifications or contains components which were not manufactured byTiteflex.

The obligation ofTiteflex and/or its authorized distributor under this warranty is limited to making a replacement part available or the repair of the defective part, and does not include the furnishings of any labor involved or connected therewith, such as that required to diagnose trouble or to remove or install any such product, nor does it include responsibility for any transportation expenses or any damages or losses incurred in transportation in connection therewith.

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