smiths

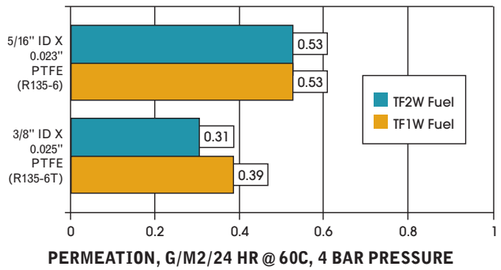
Fluid Management Systems for Automotive Applications

TITEFLEX®

PERMEATION RESISTANCE

A nonpolar, thermally stable polymer (i. e. PTFE) is not swollen by hydrocarbons... hydrocarbon materials do not plasticize fluorocarbons (i. e. PTFE), therefore they are not effected by hydrocarbon presence.

PERMEATION RATES PER GM 6130M (SAE J1737 METHOD) FOR TITEFLEX R135 HOSE OF PTFE



PERMEATION, G/M2/24 HR @ 60C, 4 BAR PRESSURE

ELECTROSTATIC DISCHARGE (ESD)

The PTFE innercore has a precisely controlled amount of carbon black added to the inner liner, making it electrically conductive. The transfer of certain fluids through a hose, such as fuels, can lead to the build up of static charges along the inner surface of the hose. To prevent the condition known as electrostatic discharge, or ESD, innercore of PTFE can be made electrically conductive.

ENVIRONMENTAL STRESS CRACK RESISTANCE

The high molecular weight of PTFE due to long polymer chains increases its load bearing capability, meaning increased resistance to stress cracking from environmental factors.

TEMPERATURE RESISTANCE

Hoses of PTFE can operate at transient temperatures from -65°F to +450°F (-54°C to +232°C).

LOW FRICTION

Low pressure drop due to the non-stick properties of PTFE.

FLEXIBLE

PTFE withstands continuous flexing and vibration without failure from flex fatigue.

CHEMICALLY INERT

PTFE will not break down or deteriorate in service with automotive fluids.

NON-AGING

The shelf life of PTFE is unlimited because its properties do not change with age or exposure to weather.

PTFE FLUOROCARBON AS A HOSE MATERIAL

Polytetrafluoroethylene is an engineered fluoropolymer commonly known by PTFE. Outstanding resistance to chemicals is one of its primary attributes. Titeflex Corporation has over 45 years of experience processing PTFE to maximize the resistance to permeation and stress cracking of the extruded PTFE innercore. Braiding the PTFE tube with Stainless Steel wire reinforcement adds strength, flexibility, and corrosion resistance. Nonmetallic reinforcement is also available. Originally introduced for demanding Aerospace fluid handling applications, Titeflex Hose of PTFE has been solving critical Automotive fluid handling applications for 25 years.

INNERCORE

PTFE fluorocarbon meets the requirements of:
ASTM D4895 Type 1, Grade 4, Class B and
ASTM D1457 Type III Grade 2, Class B.

Typical wall thickness range from 0.023" to 0.030" (0.58mm to 0.76mm)

Both conductive and non-conductive innercore are available.

REINFORCEMENT

Braid wire meets the requirements of AISI Type 304 Stainless Steel and AISI Type 316 Stainless Steel.

⚠ WARNING

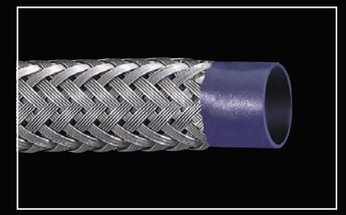
These products can be used to convey hazardous fluids, steam, and other dangerous materials which can cause personal injury or property damage if released through misuse, misapplication, or damaged. The user is responsible to analyze each application prior to specifying any product from this catalog. 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.

R135 SERIES PTFE HOSE

R135 hose has a nominal 0.023" (0.58mm) wall of conductive PTFE innercore and a reduced stainless steel wire braid reinforcement. This combination of reduced PTFE wall and wire coverage creates a cost-effective hose with the permeation resistance of PTFE and the added strength of wire reinforcement. Applications: Fuel, Turbo Oil Drain, Engine Coolant, Hydraulics.

HOSE PART NUMBER	METRIC OD TUBE SIZE	NOMINAL ID	NOMINAL OD	MIN. BURST PRESSURE ROOM TEMP	MINIMUM BEND	HOSE WEIGHT
		in (mm)	in (mm)	psi (bar)	in (mm)	lb/ft (kg/m)
R135-5	6.35 TUBE	.255 (6.5)	.354 (9.0)	7,500 (517)	2.00 (50)	.066 (.10)
R135-6	8.0 TUBE	.313 (8.0)	.412 (10.5)	7,500 (517)	2.00 (50)	.078 (.12)
R135-6T	9.35 TUBE	.384 (9.8)	.489 (12.4)	6,000 (414)	3.00 (75)	.096 (.14)

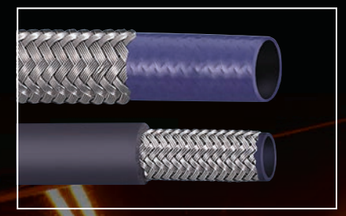


Other sizes are available, please consult factory.

R122 SERIES PTFE HOSE

R122 hose has a nominal 0.030" (0.76mm) wall of conductive PTFE innercore and a stainless steel wire braid reinforcement. Applications: Brake, Traction Control, Stability Control, Fuel, Hydraulic Clutch, Transmission Oil Cooler.

HOSE PART NUMBER	METRIC OD TUBE SIZE	NOMINAL ID	NOMINAL OD	MIN. BURST PRESSURE ROOM TEMP	MINIMUM BEND	HOSE WEIGHT
		in (mm)	in (mm)	psi (bar)	in (mm)	lb/ft (kg/m)
R122-4*	4.76 TUBE	.197 (5.0)	.312 (7.9)	12,000 (828)	2.00 (50)	.063 (.09)
R122-5.6*	6.00 TUBE	.234 (5.9)	.351 (8.9)	12,000 (828)	3.00 (75)	.074 (.11)
R122-5*	6.35 TUBE	.255 (6.5)	.70 (9.4)	12,000 (828)	3.00 (75)	.082 (.12)
R122-6*	8.00 TUBE	.318 (8.1)	.433 (11.0)	10,000 (690)	4.00 (100)	.101 (.15)
R122-6T*	9.53 TUBE	.384 (9.8)	.499 (12.7)	7,500 (517)	5.00 (127)	.106 (.16)
R122-8*	10.00 TUBE	.410 (10.4)	.524 (13.3)	7,500 (517)	5.25 (133)	.118 (.18)
R122-10*	12.70 TUBE	.504 (12.8)	.621 (15.8)	6,000 (414)	6.50 (165)	.157 (.23)

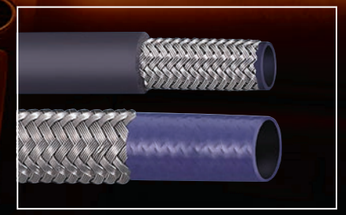


* 316 Stainless Steel Braid available as part number R322-size. Other sizes are available, please consult factory.

R149 SERIES PTFE HOSE

R149 hose has the same construction as R122 hose, but it is sized to accommodate the larger outer diameter of nylon coated tube. Applications: Brake, Traction Control, Stability Control, Fuel, Hydraulic Clutch, Transmission Oil Cooler.

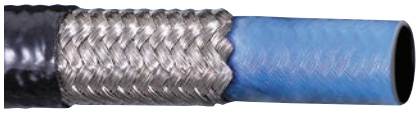
HOSE PART NUMBER	METRIC OD TUBE SIZE	NOMINAL ID	NOMINAL OD	MIN. BURST PRESSURE ROOM TEMP	MINIMUM BEND	HOSE WEIGHT
		in (mm)	in (mm)	psi (bar)	in (mm)	lb/ft (kg/m)
R149-4*	4.76 TUBE	.210 (5.3)	.325 (8.3)	12,000 (828)	2.00 (50)	.065 (.10)
R149-5*	6.35 TUBE	.268 (6.7)	.383 (9.7)	12,000 (828)	3.00 (75)	.084 (.12)
R149-6*	8.00 TUBE	.327 (8.3)	.442 (11.2)	10,000 (690)	4.00 (100)	.101 (.15)



* 316 Stainless Steel Braid available as part number R349-size. Other sizes are available, please consult factory.

117198-SERIES UNI-BRAID® HOSE OF PTFEE

117198 hose has a nominal 0.040" wall of conductive PTFE innercore and Uni-Braid® Stainless Steel braid wire reinforcement. The PTFE and innercore is processed to improve the permeation resistance (compared to R122-series hose). The wire reinforcement consists of an innovative, patented, single braid wrap that improves performance without additional wire layers that add bulk and weight. An outer jacket of Hytrel® provides abrasion resistance and a labeling surface. This hose is certified by CSA International. Applications: NGV High Pressure Fuel Feed.



HOSE PART NUMBER	METRIC OD TUBE SIZE	NOMINAL ID	NOMINAL OD	MIN. BURST PRESSURE ROOM TEMP	MINIMUM BEND	HOSE WEIGHT
		in (mm)	in (mm)	psi (bar)	in (mm)	lb/ft (kg/m)
R135-5	6.35 TUBE	.255 (6.5)	.415 (10.5)	7,500 (517)	2.00 (50)	.066 (.10)
R135-6	8.0 TUBE	.313 (8.0)	.515 (13.1)	7,500 (517)	2.00 (50)	.078 (.12)
R135-6T	9.35 TUBE	.384 (9.8)	.640 (16.3)	6,000 (414)	3.00 (75)	.096 (.14)

Other sizes are available, please consult factory.

Hytrel® is a registered trademark of DuPont.

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T I T E F L E X . C O M

TITEFLEX®

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