

# HYPERLINE FX HOSE : SPECIFICATIONS AND PROPERTIES



## SPECIFICATIONS FOR HYPERLINE FX HOSE GRADES

**Note:** Specifications listed below are for non-AS Grades. For AS Grades the specifications are all the same, except that "AS" is added to the Grade Reference, and the Part Number reads "-110-" in place of "-100-".

Nominal Hose Size	*Actual Hose Bore Size		Hose Grade	Outside Diameter of Tube or Braid		Minimum Bend Radius		Maximum Working Pressure (MWP)		Weight per Unit Length		Hose Part Number
	in	mm		in	mm	in	mm	in	Bar	psi	Kg/mtr	
1/4	6.8	0.270	TO	9.0	0.354	38	1 1/2	4	60	.041	.027	92-100-04
			SS	9.6	0.378	19	3/4	88	1280	.092	.062	92-100-04-01-02
			AM	9.6	0.378	38	1 1/2	62	900	.056	.038	92-100-04-01-55-01
5/16	7.9	0.312	TO	10.0	0.394	38	1 1/2	4	60	.056	.037	92-100-05
			SS	10.6	0.420	19	3/4	84	1220	.126	.084	92-100-05-01-02
			AM	11.3	0.445	38	1 1/2	59	850	.075	.050	92-100-05-01-55-01
3/8	10.0	0.394	TO	12.5	0.492	50	2	4	60	.070	.047	92-100-06
			SS	13.5	0.534	25	1	80	1160	.160	.107	92-100-06-01-02
			AM	13.5	0.534	50	2	56	810	.100	.067	92-100-06-01-55-01
1/2	13.6	0.536	TO	16.2	0.640	76	3	4	58	.110	.074	92-100-08
			SS	17.5	0.690	38	1 1/2	60	870	.225	.151	92-100-08-01-02
			AM	17.5	0.690	76	3	42	600	.140	.094	92-100-08-01-55-01
5/8	16.7	0.658	TO	20.0	0.787	100	4	3	44	.161	.108	92-100-10
			SS	21.1	0.831	50	2	50	730	.336	.226	92-100-10-01-02
			AM	21.1	0.831	100	4	35	510	.204	.137	92-100-10-01-55-01
3/4	19.8	0.780	TO	23.2	0.913	126	5	3	44	.179	.120	92-100-12
			SS	24.2	0.953	63	2 1/2	42	610	.383	.257	92-100-12-01-02
			AM	24.2	0.953	126	5	29	430	.236	.158	92-100-12-01-55-01
1	26.0	1.023	TO	30.3	1.193	150	6	2	29	.268	.180	92-100-16
			SS	31.7	1.250	75	3	40	580	.540	.362	92-100-16-01-02
			AM	31.7	1.250	150	6	28	400	.354	.237	92-100-16-01-55-01

**\*Hydraulic Bore Size** - The actual bore sizes of Hyperline FX hose are slightly larger than the nominal size, to allow the insertion and assembly of standard Hydraulic Fittings, using ferrules supplied by Aflex Hose (see page 7).

## PROPERTIES

### Temperatures and Pressures :

**Hyperline FX, SS Grades** - The MWP listed above should be reduced by 1% for each 1°C above 160°C (1% for each 1.8°F above 320°F) up to a maximum of 260°C (500°F).

**Hyperline FX, AM Grades** - The MWP listed above should be reduced by 1% for each 1°C above 130°C (1% for each 1.8°F above 266°F) up to a maximum of 180°C (356°F).

Maximum Working Pressures (MWP) listed are calculated on the basis of a 3:1 safety factor relative to the burst pressure, so Burst Pressure = 3 x MWP. If MWP is required based on a 4:1 safety factor, multiply the listed value by 0.75.

### Vacuum Resistance :

Hyperline FX, SS Grades are fully vacuum resistant up to 130°C (266°F).

### Excellent Flow Rates :

Compared with conventional convoluted hose designs, Hyperline FX has excellent flow rates due to the smooth bore, which prevents the turbulent fluid flow which occurs in convoluted hose products.

### Reduced Diffusion Rates :

Hyperline FX is much more resistant to diffusion of liquids or gases than other PTFE hose products, due to its highly compressed, non-porous PTFE matrix. Hyperline FX has been successfully tested to SAE J1737 for resistance to automotive fuel diffusion.

### Non-Stick Internal Surface :

Hyperline FX hose has a smooth bore, non-stick liner which is effectively "self-cleaning", and which resists material build-up inside the hose which may cause bore constriction.

## SELECTING THE HOSE LENGTH

Hyperline FX hose assemblies are made up to the specific lengths required. The hose length is taken as the length from the sealing face at one end of the hose to the same at the other end. The length tolerance is normally +5% -0%. Closer tolerances are available to special order.

# HYPERLINE FX HOSE COVER OPTIONS AND APPLICATIONS

## ALTERNATIVE DESIGN OPTIONS - HOSE COVERS

For certain applications, it is an advantage to have a flexible plastic or rubber outer cover extruded on to the hose. The cover provides protection for the braid, as well as being easy to clean, and can be printed with a continuous text line.

Covered hose is, however, only available to special order, so price and availability are very dependent upon quantities required.

Options are:

**Flexible PVC** - from -10°C (+14°F) to +60°C (+140°F) max. In transparent or a wide variety of solid or translucent colours.

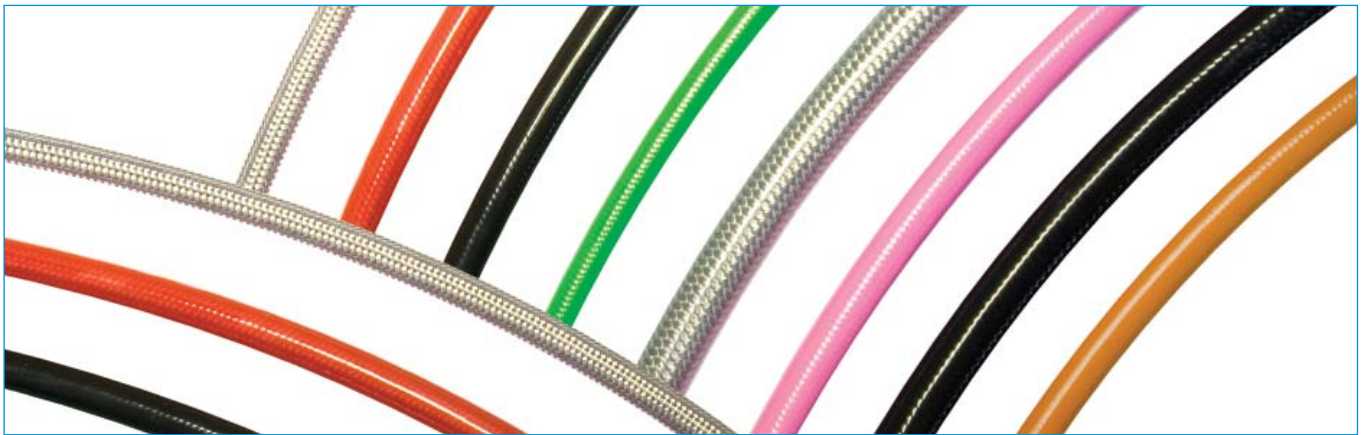
**Nylon 11** - from -40°C (-40°F) to +120°C (+248°F) max. In natural, semi-transparent or black.

**Sarlink, Hytrel, Polyurethane** - from -40°C (-40°F) to +125°C (+257°F) max. Others may also be available.

**EPDM Rubber** - from -40°C (-40°F) to +140°C (284°F) max. In Blue or (antistatic) Black.

**Silicone Rubber** - from -73°C (-100°F) to +204°C (400°F) max. Peroxide cured, in natural (semi-transparent) or white.

Other rubbers may also be available.



## APPLICATIONS FOR HYPERLINE HOSE

- Automotive and Motorsport : replacing conventional PTFE hoses in ESP systems, fuel systems, braking systems and oil lines.
- Refrigeration : refrigerant feed lines to freezer plates, where the high resistance to permeation, together with the flexibility and chemical resistance, are primary advantages.
- Steam and Gas Lines : where the smooth bore ensures non-turbulent gas flow, leading to noise free operation at higher flow rates, and longer service life.
- Industrial applications in general where the ease of assembly to end fittings together with the higher flow rates, chemical and temperature resistance and resistance to permeation make Hyperline FX the optimum choice.



## **Hyperline FX and** Quality Assurance, Certification and Approvals

### **BS EN ISO 9001:2008**

Aflex products are all manufactured in accordance with BS EN ISO 9001: 2008 Quality Management Systems independently assessed and registered by National Quality Assurance Limited (NQA).

### **TS16949**

Aflex Hose Ltd manufactures PTFE flexible hose for the automotive industry in accordance with TS16949 and is assessed and certified by National Quality Assurance Limited (NQA).

### **3-A Sanitary Standards**

The PTFE used in the liner is manufactured solely from materials which meet the requirements of the 3-A Sanitary Standards.

### **Automotive Fuel Hose - SAE J1737**

Tested and approved for automotive fuel hose use in accordance with SAE J1737.

### **CE Marking (Europe only)**

Aflex has been assessed by a notified body and found to comply with the Pressure Equipment Directive 97/23/EC (European Community) Conformity Assessment Module D1, approved to CE Mark applicable hose products, accompanied by a Hose Usage Data Sheet, and a Declaration of Conformity.

### **Attestations of Conformity to ATEX Directive 94/9/EC (Potentially Explosive Atmospheres)**

Available for hose and assemblies for components used in Gas Zones 1 & 2 and Dust Zones 21 & 22, when applicable.

### **Material Certification to EN10204**

Available for all the hose or hose assembly components.

### **Certificates of Conformity to BS EN ISO/IEC 17050**

Are available for all products.