

Allzaflex Industries

Total Metal Hose Technology

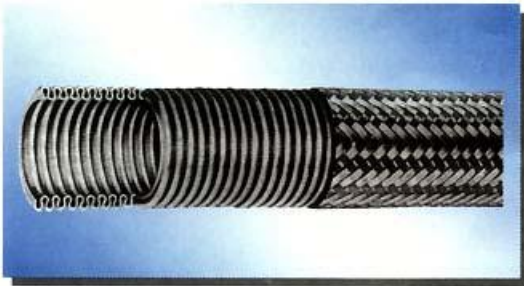


Corrugated Hoses And Expansion Bellows

TYPE OF END FITTINGS



STAINLESS STEEL METALLIC FLEXIBLE HOSES



Single Braid (XB)



Double Braid (XXB)

1. GENERAL :

The stainless steel convoluted hoses by virtue of their high flexibility, corrosion resistant quality, coupled with high temperature and pressure have become very economical and useful in the modern industrial processes.

2. MAKE : ALFLEX.

3. MATERIAL :

- (a) Stainless Steel. (304, 321, 316)
- (b) Bronze.
- (c) Brass.

4. SIZE :

6 mm to 300 mm I. D.

5. BRAIDING :

- (a) Stainless Steel Wire
- (b) Galvanised Steel Wire

6. WORKING PARTICULARS :

Nominal Size in Inches	Tube Type	Tube OD in mm	Working Bend Radius in mm	Maximum Working Pressure In p.s.i.	Maximum Test Pressure In p.s.i.	Burst Pressure In p.s.i.	Weight Kg/m
1/4	XB	13	100	2000	3000	8000	.22
	XXB	15	110	3000	4500	12000	.33
3/8	XB	17	130	1800	2700	5400	.28
	XXB	19	145	2200	3300	8000	.42
1/2	XB	20	160	1700	2550	6800	.38
	XXB	22	180	2100	3150	8400	.56
3/4	XB	29	210	1500	2250	6000	.6
	XXB	31	230	1800	2700	7200	.86
1	XB	35	300	1100	1650	4400	.9
	XXB	37	320	1400	2100	5600	1.3
1 1/4	XB	43	320	1000	1500	4000	1.1
	XXB	45	340	1300	1950	5200	1.65
1 1/2	XB	53	350	800	1200	3200	1.5
	XXB	55	380	1000	1500	4000	2.1
2	XB	67	430	500	750	2000	1.9
	XXB	69	460	650	975	2600	2.8
3	XB	103	600	360	540	1440	6.5
	XXB	106	650	460	690	1840	8.8
4	XB	126	700	300	450	1200	7.5
	XXB	129	800	400	600	1600	10.2

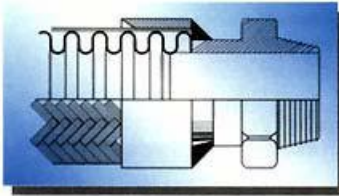
NOTE : XB : Single Wire Braid ● for sizes above 4" - details on request.
 XXB : Double Wire Braid

7. TEMPERATURE CORRECTION FACTOR :

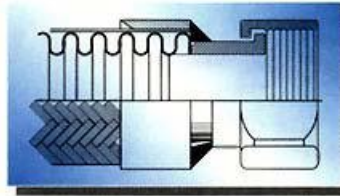
At elevated temperature the working pressure will decrease. The pressure rating is given at 200 C and if the hose is working at higher temperature the operating pressure will change and will be equal to the working pressure at 200 C x Correction factor.

Temperature in °C	20	50	100	150	200	250	300	350	400	450	500	550	600	700	800
Stainless Steel	1	.97	.94	.87	.82	.80	.75	.72	.67	.64	.60	.59	.57	.50	.40
Bronze	1	.94	.89	.84	.79	.60									
Brass	1	.90	.80	.75	.70	.50									

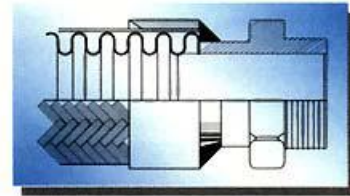
8. DIFFERENT TYPES OF END FITTINGS :



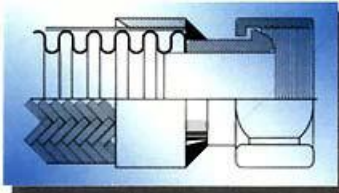
Fixed taper male



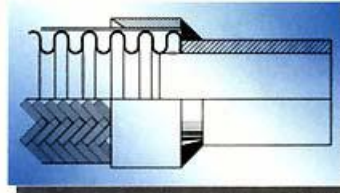
Swivel female nut with flat nipple seat



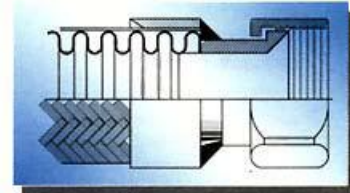
Fixed parallel male



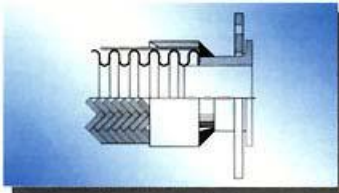
Swivel female nut with outward taper nipple seat



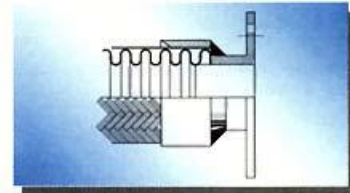
Long Nipple



Swivel female nut with inward taper nipple seat

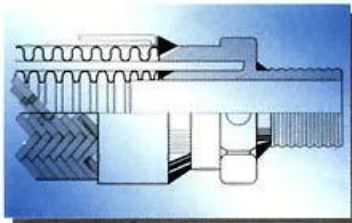


Flat seat loose flange



Fixed flange

9. STAINLESS STEEL CORRUGATED HOSE WITH OUTER JACKET :



10. USES :

1. Steam.
2. Water.
3. Oils.
4. Oxygen, Argon, etc.
5. Bitumen.
6. Conveying lines for corrosive liquids, vapours and gases.
7. Hydrocarbons.
8. Pharmaceutical Industries.
9. Foodstuff Industries.
10. Stainless Steel Corrugated Hoses find very good application in all types of chemical industries

BELLOWS AND EXPANSION JOINTS

1. GENERAL :

Their construction is similar to the annular corrugated hoses and they are designed to absorb movements due to thermal expansion in all directions. They also absorb noise and vibrations. The wall thickness of the expansion joint is determined by operating pressures and temperatures along with bellow corrugations. They may be single layer or multilayer.

2. MAKE : ALFLEX.

3. TYPE :

Single and Multilayer Bellow.

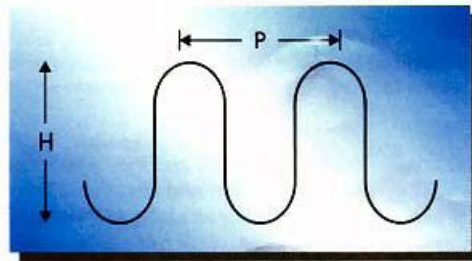
4. MATERIAL :

(a) Stainless Steel. (304, 321, 316, Monel, Inconel)

5. SIZE :

6 mm to 4000 mm I. D.

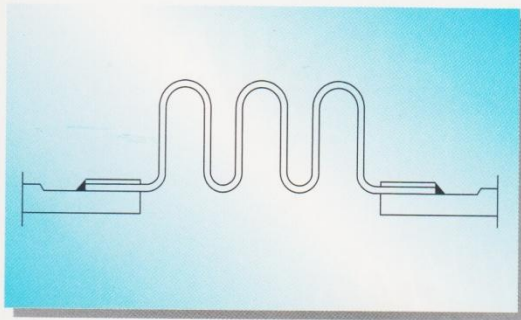




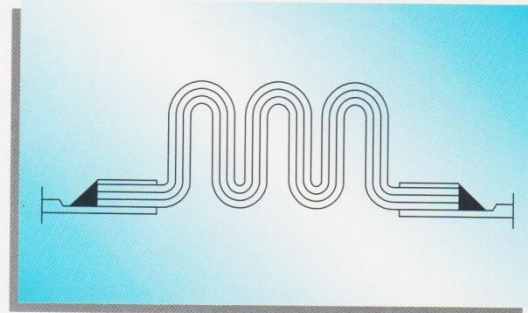
SPECIFICATION SHEET FOR STANDARD SIZE BELLOWS

Sr. No.	N. B. mm	I. D. mm	O. D. mm	Pitch of convolution 'P' mm	Height of convolution 'H' mm	Total Axial movement per one convolution(mm)	Max. No. of convolution per Bellows
AI-1	50	60	78	9	9	1.5	15
AI-2	80	88	112	12	12	2.25	15
AI-3	100	114	138	12	12	2.25	15
AI-4	150	168	192	12	12	2.25	15
AI-5	200	219	255	18	18	4.0	12
AI-6	250	273	309	18	18	4.0	12
AI-7	300	324	360	18	18	4.0	12
AI-8	350	355	407	26	26	6.0	10
AI-9	400	406	458	26	26	6.0	10
AI-10	450	457	509	26	26	6.0	10
AI-11	500	508	560	26	26	6.0	10
AI-12	550	558	610	26	26	6.0	10
AI-13	600	609	677	34	34	8.0	8
AI-14	625	634	702	34	34	8.0	8
AI-15	650	660	728	34	34	8.0	8
AI-16	655	665	733	34	34	8.0	8
AI-17	700	711	779	34	34	8.0	8
AI-18	800	812	912	50	50	10	5
AI-19	850	862	962	50	50	10	5
AI-20	900	914	1014	50	50	10	5
AI-21	980	994	1094	50	50	10	5
AI-22	1000	1016	1116	50	50	10	5
AI-23	1100	1118	1218	50	50	10	5
AI-24	1150	1168	1268	50	50	10	5
AI-25	1200	1220	1320	50	50	10	5
AI-26	1300	1320	1420	50	50	10	5
AI-27	1400	1420	1520	50	50	10	5
AI-28	1600	1620	1720	50	50	10	5
AI-29	1800	1820	1920	50	50	10	5
AI-30	1900	1920	2020	50	50	10	5
AI-31	2000	2020	2120	50	50	10	5

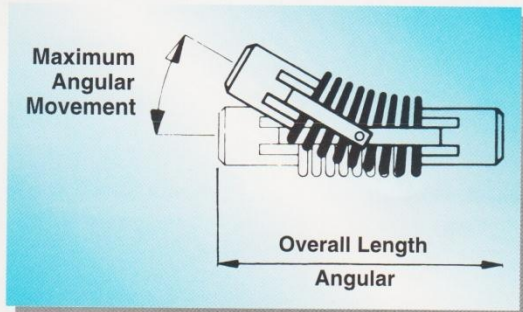
For larger sizes & special requirements please consult us.



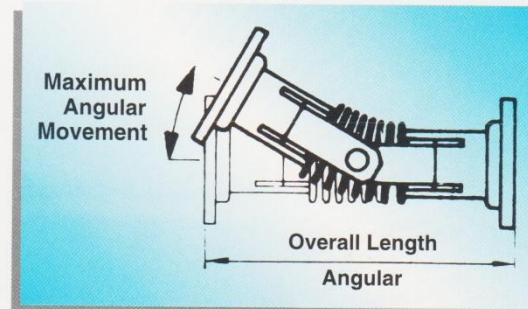
SINGLE LAYER



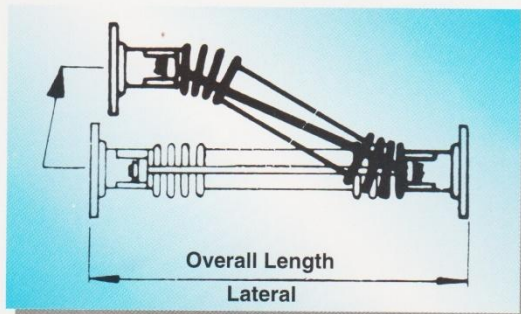
MULTI LAYER



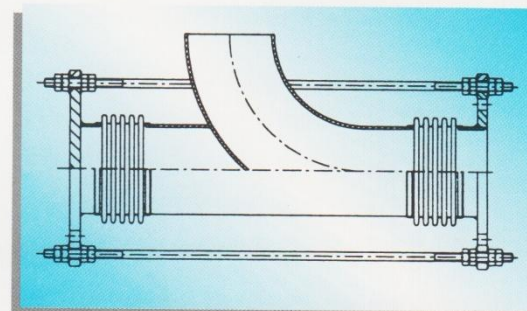
A) AXIAL MOVEMENT



B) LATERAL MOVEMENT



C) ANGULAR ROTATION



D) PRESSURE BALANCED BELLOWS

6. LONGITUDINAL FORCE CALCULATION FOR A BELLOWS.

$$f_l = \frac{E \cdot C \cdot t_d \cdot a}{1000}$$

where :

f_l = longitudinal force (Kgf)

E = modulus of elasticity (Kgf/mm²)

C = coefficient of expansion ($\frac{mm}{m^{\circ}C}$)

t_d = maximum difference in temperature ($^{\circ}C$)

a = cross-sectional area of the pipe wall (mm²)

N. B. :- Please mention Make and Type in all your enquiries.

HYDRAULIC HOSES ACCORDING TO SAE J 517

SAE 100 R 1 AT



Hose Construction :

Tube : oil resistant synthetic rubber
 Reinforcement : one high tensile steel wire braid
 Cover : abrasion and weather resistant synthetic rubber

Temperature range : - 40°C to + 100°C (+ 120°C max)

HYDRAULIC HOSE ACCORDING TO SAE J 517 100R1AT									
Nominal Size		Inside diameter	Braid outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
Inch	Dash	mm	mm	mm	bar	bar	bar	mm	kg/m
1/4	-4	6,4	11,1	13,4	192	380	760	100	0.20
5/16	-5	7,9	12,7	15,0	175	345	690	115	0.23
3/8	-6	9,5	15,1	17,4	157	310	620	130	0.31
1/2	-8	12,7	18,3	20,6	140	276	552	180	0.38
5/8	-10	15,9	21,4	23,7	105	207	414	200	0.42
3/4	-12	19,0	25,4	27,7	87	172	345	240	0.57
1	-16	25,4	33,3	35,6	70	138	276	300	0.81
1-1/4	-20	31,8	40,5	43,5	43	86	172	420	1.17
1-1/2	-24	38,1	46,8	50,6	35	69	138	500	1.38
2	-32	50,8	60,2	64,0	26	52	103	630	1.85

Size Inch	ID (mm)	Braid layer OD (mm)	OD (mm)	Working Pressure Bar	Burst Pressure Bar
2 1/2	64±1.0	71±0.8	75+1.5	25	75
3	76±1.0	84±0.8	88+1.5	15	44
3 1/2	89±1.0	99±0.8	103+1.5	10	30
4	102±1.0	111±0.8	115+1.5	8	24

APPLICATIONS :

Hose range suitable to carry hydraulic fluids, such as glycol, mineral oils, emulsion, hydrocarbons.

SAE 100 R 2 AT



Hose Construction :

Tube : oil resistant synthetic rubber
 Reinforcement : Two high tensile steel wire braids
 Cover : abrasion and weather resistant synthetic rubber

Temperature range : - 40°C to+100°C (+120°C max)

HYDRAULIC HOSE ACCORDING TO SAE J 517 100R2AT									
Nominal Size		Inside diameter	Braid outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
Inch	Dash	mm	mm	mm	bar	bar	bar	mm	kg/m
1/4	-4	6.4	12.7	15.0	350	690	1380	100	0.30
5/16	-5	7.9	14.3	16.6	297	586	1172	115	0.36
3/8	-6	9.5	16.7	19.0	280	552	1103	130	0.49
1/2	-8	12.7	19.8	22.2	245	483	965	180	0.56
5/8	-10	15.9	23.0	25.4	192	380	760	200	0.60
3/4	-12	19.0	27.0	29.3	157	310	620	240	0.83
1	-16	25.4	34.9	38.1	140	276	552	300	1.22
1-1/4	-20	31.8	44.5	48.3	113	224	448	420	1.91
1-1/2	-24	38.1	50.8	54.6	87	172	345	500	2.17
2	-32	50.8	63.5	67.3	78	155	310	630	2.74

Size Inch	ID (mm)	Braid layer OD (mm)	OD (mm)	Working Pressure Bar	Burst Pressure Bar
2 1/2	64±0.7	73±0.8	77+1.5	40	120
3	76±0.7	86±0.8	90+1.5	30	90
3 1/2	89±0.7	101±0.8	105+1.5	25	75
4	102±0.7	113±0.8	117+1.5	20	60

APPLICATIONS :

Hose range suitable to carry hydraulic fluids, such as glycol, mineral oils, emulsion.

MULTISPIRAL HYDRAULIC HOSES

SAE 100 R 9 AT



Hose Construction :

Tube : oil resistant synthetic rubber
 Reinforcement : four high tensile steel wire spiral layers wrapped in alternating directions
 Cover : abrasion and weather resistant synthetic rubber

Temperature range : - 40°C to+100°C (+120°C max)

MULTISPIRAL HYDRAULIC HOSE									
Nominal Size		Inside diameter	Spiral wire outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
mm	Inch	mm	mm	mm	bar	bar	bar	mm	kg/m
10	3/8	9.5	17.8	20.0	445	1070	1780	180	0.78
12	1/2	12.7	20.7	23.3	425	1020	1700	230	0.93
19	3/4	19.0	27.7	30.2	350	840	1400	300	1.48
25	1	25.4	35.8	38.5	320	765	1280	340	2.02
31	1-1/4	31.8	45.2	48.5	210	500	840	460	3.05
38	1-1/2	38.1	51.0	57.0	185	445	740	560	3.52
51	2	50.8	65.0	71.0	165	400	660	660	5.20

APPLICATIONS :

Hose range suitable to carry hydraulic fluids, such as glycol, mineral oils, emulsion.

MULTISPIRAL HYDRAULIC HOSES

DIN EN 856/SAE 100 R 12



Hose Construction :
 Tube : oil resistant synthetic rubber
 Reinforcement : four high tensile steel wire spiral layers wrapped in alternating directions
 Cover : abrasion and weather resistant synthetic rubber
 Temperature range : - 40°C to + 120°C

MULTISPIRAL HYDRAULIC HOSE									
Nominal Size		Inside diameter	Spiralwire outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
mm	Inch	mm	mm	mm	bar	bar	bar	mm	kg/m
10	3/8	9.5	17.2	20.3	280	560	1120	125	0.70
12	1/2	12.7	20.7	23.8	280	560	1120	180	0.84
16	5/8	15.9	24.6	27.4	280	560	1120	200	1.10
19	3/4	19.0	27.7	30.7	280	560	1120	240	1.33
25	1	25.4	34.9	38.0	280	560	1120	300	1.85
31	1-1/4	31.8	43.9	47.0	210	420	840	420	2.65
38	1-1/2	38.1	50.4	53.5	175	350	700	500	3.20
51	2	50.8	63.7	66.7	175	350	700	630	4.50

DIN EN 856/SAE 100 R 13



Hose Construction :
 Tube : oil resistant synthetic rubber
 Reinforcement : up to 1" four, from 1-1/4" six high tensile steel wire spiral layers wrapped in alternating directions
 Cover : abrasion and weather resistant synthetic rubber
 Temperature range : - 40°C to + 120°C

MULTISPIRAL HYDRAULIC HOSE									
Nominal Size		Inside diameter	Spiralwire outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
mm	Inch	mm	mm	mm	bar	bar	bar	mm	kg/m
6	1/4	6.4	16.7	20.6	776	1860	3100	127	0.93
10	3/8	9.5	19.8	23.8	690	1660	2760	152	1.10
12	1/2	12.7	23.1	27.0	512	1240	2070	200	1.35
19	3/4	19.0	29.2	32.0	350	830	1380	240	1.65
25	1	25.4	35.9	39.2	350	830	1380	300	2.25
31	1-1/4	31.8	46.8	49.8	350	830	1380	420	3.60
38	1-1/2	38.1	54.0	57.3	350	830	1380	500	4.75
51	2	50.8	68.4	71.9	350	830	1380	630	6.90

DIN EN 856 4 SP



Hose Construction :
 Tube : oil resistant synthetic rubber
 Reinforcement : four high tensile steel wire spiral layers wrapped in alternating directions
 Cover : abrasion and weather resistant synthetic rubber
 Temperature range : - 40°C to + 100°C (+ 120°C max)

MULTISPIRAL HYDRAULIC HOSE									
Nominal Size		Inside diameter	Spiralwire outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
mm	Inch	mm	mm	mm	bar	bar	bar	mm	kg/m
10	3/8	9.5	17.5	21.4	445	1070	1780	180	0.78
12	1/2	12.7	20.2	24.6	425	1020	1700	230	0.93
16	5/8	15.9	23.8	28.2	350	840	1400	250	1.17
19	3/4	19.0	28.2	32.2	350	840	1400	300	1.48
25	1	25.4	35.3	39.7	320	765	1280	340	2.02
31	1-1/4	31.8	46.0	50.8	210	500	840	460	3.05
38	1-1/2	38.1	52.4	57.2	185	445	740	560	3.52
51	2	50.8	65.3	69.8	165	400	660	660	5.20

DIN EN 856 4 SH

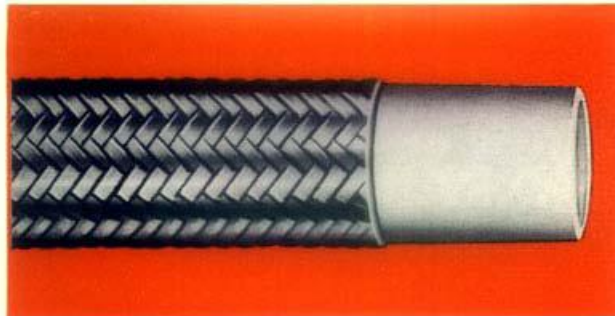


Hose Construction :
 Tube : oil resistant synthetic rubber
 Reinforcement : four high tensile steel wire spiral layers wrapped in alternating directions
 Cover : abrasion and weather resistant synthetic rubber
 Temperature range : - 40°C to + 100°C (+ 120°C max)

MULTISPIRAL HYDRAULIC HOSE									
Nominal Size		Inside diameter	Spiralwire outer diameter	Out side diameter	Working Pressure	Test Pressure	Burst Pressure	Bend radius	Weight
mm	Inch	mm	mm	mm	bar	bar	bar	mm	kg/m
19	3/4	19.0	28.4	32.2	420	1000	1680	280	1.53
25	1	25.4	35.2	38.7	380	910	1520	340	2.06
31	1-1/4	31.8	41.9	45.5	325	830	1380	460	2.46
38	1-1/2	38.1	48.8	53.5	290	700	1160	560	3.35
51	2	50.8	63.2	68.1	250	600	1000	700	4.55

NB :- 6 Spiral hoses can be made upto 6" ID and lengths upto 25 meter

TEFLON STAINLESS STEEL WIRE BRAIDED HIGH PRESSURE HOSE



1. CONSTRUCTION

Inner Core : TEFLON – Virgin, PTFE tube of uniform wall thickness.

Reinforcement : One braid of Stainless steel wire.

2. 'ALLZAFLEX' TEFLON HOSES are dependable, unique in performance. They do not fail even in adverse conditions. They have un-limited storage life.

Can withstand temperature from -100°F to +500°F.

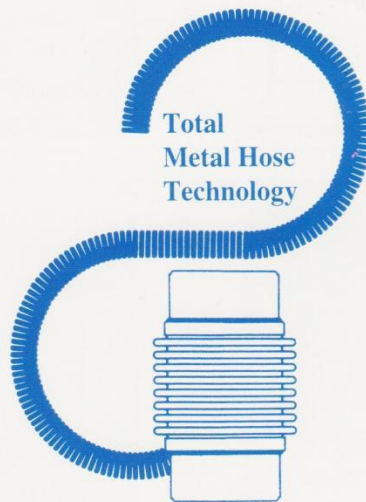
3. WORKING PARTICULARS

Sr. No.	I.D mm	I.D In	O.D mm	Working Pressure in psi.	Test Pressure in psi.	Bend Radius in inches
1.	5	$\frac{3}{16}$	8	4000	8000	2
2.	6.5	$\frac{1}{4}$	9.5	3000	6000	3
3.	8.0	$\frac{5}{16}$	11.0	2650	5300	4
4.	9.5	$\frac{3}{8}$	14.0	2500	5000	$4\frac{1}{2}$
5.	13.0	$\frac{1}{2}$	16.0	2000	4000	$5\frac{1}{2}$
6.	16.0	$\frac{5}{8}$	19.0	1750	3500	$6\frac{1}{2}$
7.	19.0	$\frac{3}{4}$	24.0	1500	3000	8
8.	23.0	$\frac{7}{8}$	28.0	1250	2500	13
9.	25.0	1	31.5	1000	2000	15

4. APPLICATION : A versatile hose with numerous uses for all chemicals, diluted or concentrated acids, alkalies, for highly corrosive gases, solvents for ammonia and brines. Very good hose for steam.

5. ADVANTAGES OF TEFLON HOSE OVER OTHER HOSES

- (a) Teflon hose when wire braided offers flexible hose construction un-matched by any other hose.
- (b) Teflon hose remains flexible at low temperature and its strength is not affected. At high temperature its flexibility does not diminish.
- (c) Its co-efficient of friction is very less and there is no pressure drop.
- (d) The most important advantage of Teflon hose is that it does not fail under severe flexing fatigue.
- (e) The properties of Teflon hose do not change in cold and heat zones with age. Its shelf life is un-limited.
- (f) Low maintenance cost during long service life.
- (g) Less production loss.



Total
Metal Hose
Technology

Manufactured In India By :

ALLZAFLEX INDUSTRIES

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