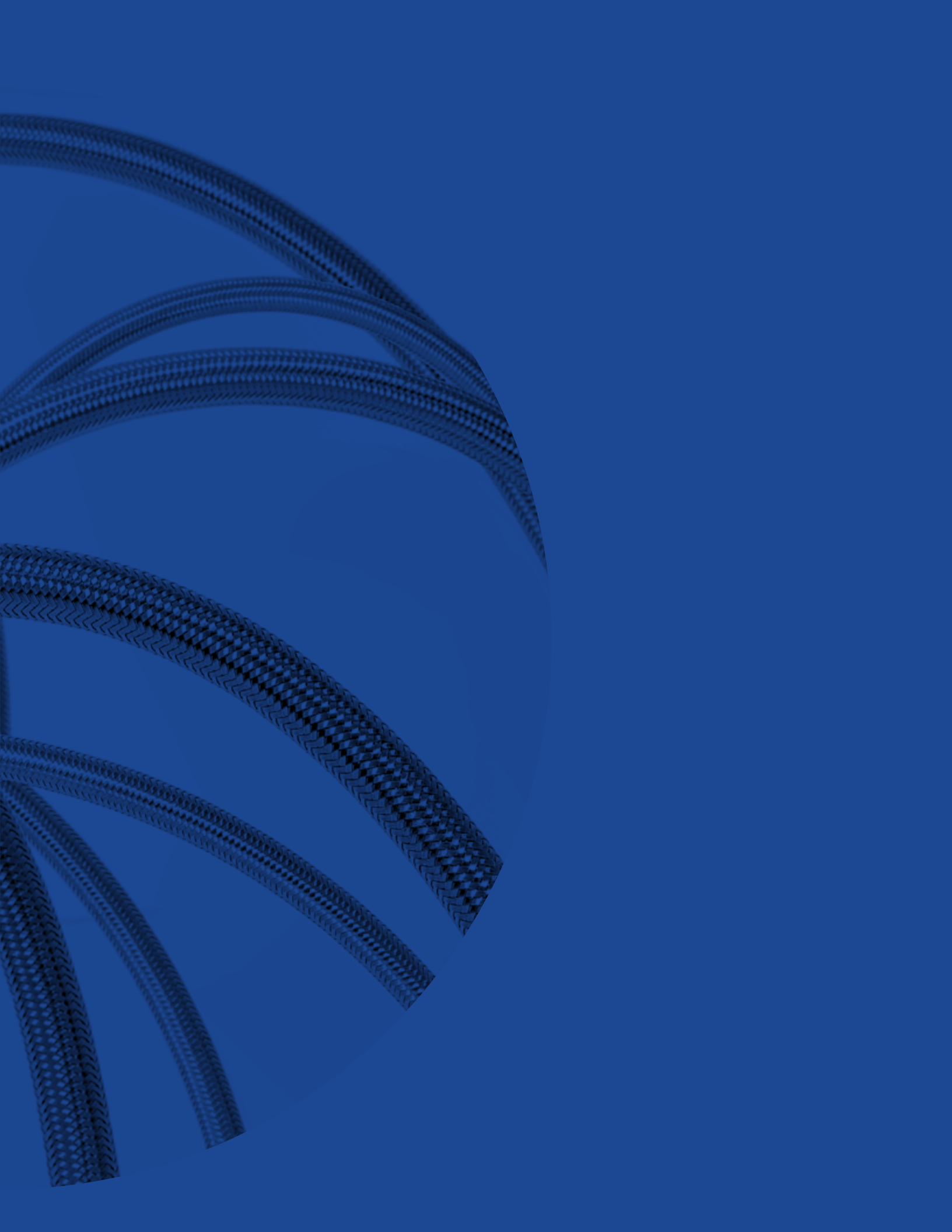


Balflex[®]

PTFE Hoses



GESFLUID



PTFE Hoses

Balflex® Balflex hoses are produced to Balflex® specifications and meet and exceed SAE J517 R14 standard. They cover a wide variety of medium pressure applications, in PTFE, smooth and convoluted with stainless steel reinforcement, for a very large variety of chemical fluids, as well as traditional hydraulic fluids and steam.

Balflex® optimized the production of these hoses and their compatibility with a wide range of connectors, in order to assure the highest performance and the most extensive range of applications.

General Guidelines

Balflex® Balflex hoses are designed with different safety factors relating minimum burst pressure and recommended working pressure.

Balflex hoses are designed for petroleum base hydraulic fluids applications with a temperature range of -70°C (-95°F) to +260°C (+500°F).

Selection, assembly and installation of thermoplastic hoses should follow **Balflex®** recommendations and SAE J1273 and DIN 20066 standards. **Balflex hose assemblies should always be inspected and hydraulically tested before installation.** All hydraulics systems should be tested against leakage and malfunction in an appropriate area after any intervention.

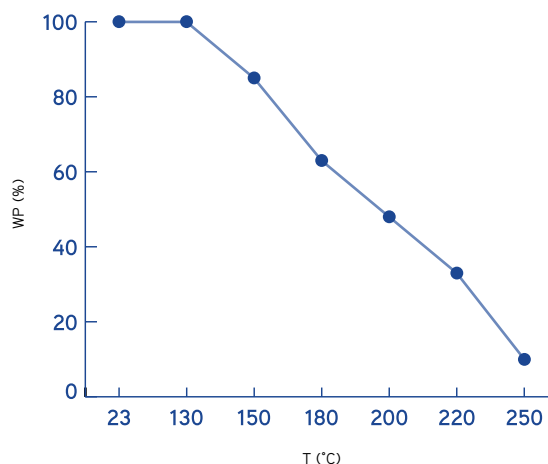
Installations that do not comply with an adequate geometry of the hose assembly may reduce significantly the lifetime of the hose. Likewise, the use of wrongly dimensioned hoses or application in a system where working characteristics exceed the hose specifications may shorten drastically the hose lifetime.

The failure of an Balflex hose assembly may be dangerous and expose people and property to irreversible damage. Among other occurrences that must be prevented are the high velocity and high temperature projections of hydraulic fluid, the projection of couplings and it's parts, the whipping of unrestrained hose, spillage of combustion of the fluid, electrical shocks through contact with electrical sources, immovability, fall or sudden movement of masses controlled by the hydraulic system.



Temperature affects BALFLON smooth PTFE lining hoses pressure rating. For temperatures above 130°C (266°F) reduce the working pressure by 0.75% for each 1°C (33.8°F)

Temperature		Pressure
Up to 130°C	Up to 266°F	100%
150°C	302°F	85%
180°C	356°F	63%
200°C	392°F	48%
220°C	428°F	33%
250°C	482°F	10%



Temperature affects BALFLON convoluted PTFE hoses pressure rating. For temperatures above 130°C (266°F) reduce the working pressure by 1% for each 1°C (33.8°F)

Temperature		Pressure
Up to 130°C	Up to 266°F	100%
150°C	302°F	80%
180°C	356°F	50%
200°C	392°F	30%
220°C	428°F	10%

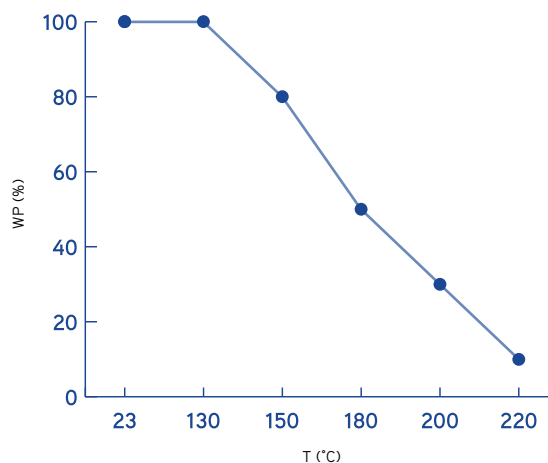


Table 1a: Rated working pressure at 20°C (+68°F) of Balflex® Balflon hoses (MPa / PSI)

Balflex	Standard	1/8"	3/16"	1/4"	5/16"	3/8"	13/32"	1/2"	5/8"	3/4"	7/8"	1"	1.1/8"	1.1/4"	1.1/2"	2"
BALFLON R14	SAE 100R14	27.5 4000	20.0 2900	17.5 2600	15.0 2200	13.5 2000	12.0 1800	12.0 1800	10.0 1500	9.0 1400	6.5 950	6.5 950	5.5 800			
BALFLON HEAVY WALL DOUBLE BRAID			27.5 4000	25.0 3700	22.5 3300	21.0 3100		17.5 2600	16.0 2400	14.0 2100		9.5 1400				
BALFLON CONVOLUTED				16.0 2400	13.5 2000	12.0 1800		11.0 1600	8.0 1200	7.0 1100		5.0 730		4.5 660	4.0 580	3.6 530

Table 2: Pressure Conversion

bar	0,00134	0,0025	0,0339	0,069	0,098	1,00	1,01	10,0	100
PSI	0,0194	0,036	0,492	1,001	1,421	14,504	14,69	145,04	1450,38
MPa	-	-	0,003	0,007	0,0098	0,10	0,101	1,00	10,00
1 atm	0,001	0,0025	0,0335	0,068	0,097	0,987	1	9,87	98,69
m H2O (20 °C)	0,014	0,026	0,346	0,704	1	10,207	10,34	102,074	3.4
in Hg (20 °C)	0,0396	0,074	1,001	2,04	2,89	29,53	29,91	295,3	3.4
in H2O (20 °C)	0,538	1,005	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20 °C)	1,005	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

Example: 1 MPa = 145,04 PSI ; 1 MPa = 10,0 bar

Table 3: Conversion Factors

Unit	Factor	Converted Unit
1 m (meter)	1000	mm (millimeter)
1 m (meter)	1,09362	yard
1 m (meter)	3,28084	foot
1 mm (millimeter)	0,001	m (meter)
1 mm (millimeter)	0,03937	Inch
1 inch	25,4	mm (millimeter)
1 inch	0,0254	m (meter)
1 foot	0,3048	m (meter)
1 yard	0,9144	m (meter)
F°	C° x 1,8 + 32	F° (Fahrenheit)
C°	(F° - 32): 1,8	C° (Celsius)

Example : 1 m = 3,28084 feet ; 1 inch = 25,4 mm

Example : +100°C = +212°F



Fluid Compatibility and Resistance Chart for Balflex PTFE Hoses

● Recommended

● Recommended with Restrictions

● Not Recommended

Acetic Acid	●	Ethyl Glycol	●	Oil of Turpentine	
Acetic Acid (30%)	●	Ethyleneoxide		Oleic Acid	●
Acetone	●	Fluorine		Oxalic Acid	●
Acetylene	●	Formaldehyde	●	Perchloroethylene	●
Ammonia, Gas (Hot)		Formaldehyde 40%		Phenol	●
Ammonia, Liquid		Fuel Oil	●	Phosphoric Acid (10%)	●
Ammoniumchloride	●	Gaseous Hydrogen		Phosphoric Acid (70%)	●
Amyl Acetate	●	Gasoline	●	Phosphate Ester Base Oil	●
Aniline	●	Glycerin / Glycerol	●	Saturated Steam	●
Animal Oils		Glycol to 66°C	●	Sea Water	●
Benzol / Benzene		Hexane		Silicone Oils	●
Butane	●	Hydraulic Oil	●	Soap Solutions	●
Butyl Acetate	●	Hydrochloric Acid 37%		Soda	●
Butyl Alcohol / Butanol	●	Hydroger Peroxide (Dil.)		Sodium Chloride Solutions	●
Calcium Chloride Solutions	●	Hydroger Peroxide (Conc.)		Sodium Hydroxide 20%	●
Carbon Dioxide		Isocyanates		Sodium Hypochloride 10%	●
Carbon Disulfide		Isopropil Alcohol	●	Sulphur	
Carbonates		Kerosene	●	Sulphur Dioxide	
Caustic Soda	●	Liquid Oxygen	●	Sulphuric Acid up to 50%	●
Chlorinated Solvents		LPG	●	Sulphuric Acid above 50%	●
Chlorine		Lubricating Oils	●	Toluene	●
Chloroform	●	Mercury	●	Trichloroethylene	●
Citric and Solutions	●	Methyl Alcohol / Methanol		Vegetable Greases	●
Compressed Air	●	Methyl Chloride (Cold)		Water	●
Cyclohexane	●	Methyl Ethyl Khetone	●	Xylene	●
Crude Petroleum Oil		Mineral Oils	●		
Diocetyl Phthalate		Naphtha	●		
Diesel Fuel	●	Naphthalene	●		
Ethers		Natural Gas	●		
Ethyl Acetate	●	Nitric Acid (Dil.)	●		
Ethyl Alcohol	●	Nitric Acid (Conc.)	●		
Ethyl Chloride		Nitrobenzen	●		

The following data is based on tests and believed to be reliable; however the tabulation should be used as a guide ONLY, since it does not take into consideration all variables, such as elevated temperatures, fluid contamination, concentration, etc. that may be encountered in actual use. All critical applications should be tested. Note: All data based on 20°C/70°F unless otherwise noted.

BALFLON SAE 100R14



SAE 100R14 - 10.2003. - European size

High pressure, standard wall, single steel wire reinforced hydraulic hose with smooth PTFE lining

REFERENCE	#	inch	DN	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R14-02-TB	10.2001.02	1/8"	-2	3,2	5,9	27,5 4000	110,0 16000	40	0,06
R14-03-TB	10.2003.03	3/16"	-3	4,8	7,4	20,0 2900	80,0 11600	50	0,08
R14-04-TB	10.2003.04	1/4"	-4	6,3	9,0	17,5 2600	70,0 10400	75	0,09
R14-05-TB	10.2003.05	5/16"	-5	8,0	10,8	15,0 2200	60,0 8800	100	0,14
R14-06-TB	10.2003.06	3/8"	-6	9,5	12,4	13,5 2000	54,0 8000	125	0,16
R14-08-TB	10.2003.08	1/2"	-8	12,7	15,7	12,0 1800	48,0 7200	165	0,21
R14-10-TB	10.2003.10	5/8"	-10	16,0	19,1	10,0 1500	40,0 6100	200	0,27
R14-12-TB	10.2003.12	3/4"	-12	19,0	22,2	9,0 1400	36,0 5600	280	0,37
R14-16-TB	10.2003.16	1"	-16	25,4	29,3	6,5 950	26,0 3800	400	0,49

INNER TUBE: seamless smooth polytetrafluorethylene (PTFE)
OUTER TUBE: 1 stainless steel wire braid
SAFETY FACTOR: 4:1

APPLICATION: water base, petroleum base or synthetic base hydraulic fluids, corrosive, food liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70 °C (-95 °F) +260 °C (+500 °F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules

AVAILABLE VERSIONS: Black Conductive
NOTE: Operating temperatures in excess of +204 °C with petroleum base hydraulic fluids can materially reduce the life of the hose.

BALFLON SAE 100R14



SAE 100R14 - 10.2000. - SAE Dash Size

High pressure, standard wall, single steel wire reinforced hydraulic hose with smooth PTFE lining

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R14-03	10.2001.03	1/8"	-3	3,2	5,9	27,5 4000	110,0 16000	40	0,07
R14-04	10.2000.04	3/16"	-4	4,8	7,4	20,0 2900	80,0 11600	50	0,08
R14-05	10.2000.05	1/4"	-5	6,3	9,0	17,5 2600	70,0 10400	75	0,09
R14-06	10.2000.06	5/16"	-6	8,0	10,8	15,0 2200	60,0 8800	100	0,14
R14-08	10.2000.08	13/32"	-8	10,3	13,3	13,0 1900	54,0 7600	130	0,17
R14-10	10.2000.10	1/2"	-10	12,7	15,7	12,0 1800	48,0 7200	165	0,21
R14-12	10.2000.12	5/8"	-12	16,0	19,1	10,0 1500	40,0 6100	200	0,27
R14-16	10.2000.16	7/8"	-16	22,0	25,6	6,5 950	26,0 3800	350	0,51
R14-20	10.2000.20	1 1/8"	-20	28,6	32,5	5,5 800	22,0 3200	450	0,53

INNER TUBE: seamless smooth polytetrafluorethylene (PTFE)
OUTER TUBE: 1 stainless steel wire braid
SAFETY FACTOR: 4:1

APPLICATION: water base, petroleum base or synthetic base hydraulic fluids, corrosive, food liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70 °C (-95 °F) +260 °C (+500 °F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules.

AVAILABLE VERSIONS: Black Conductive
NOTE: Operating temperatures in excess of +204 °C with petroleum base hydraulic fluids can materially reduce the life of the hose.



BALFLON HEAVY WALL DOUBLE BRAID



10.2002.

High pressure, heavy wall, double steel wire reinforced hydraulic hose with smooth PTFE lining

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R14-03-DB	10.2002.03	3/16"	-3	4,8	8,8	27,5 4000	110,0 16000	45	0,14
R14-04-DB	10.2002.04	1/4"	-4	6,3	10,4	25,0 3700	100,0 14800	50	0,17
R14-05-DB	10.2002.05	5/16"	-5	8,0	12,0	22,5 3300	90,0 13200	55	0,24
R14-06-DB	10.2002.06	3/8"	-6	9,5	13,7	21,0 3100	84,0 12400	70	0,26
R14-08-DB	10.2002.08	1/2"	-8	12,7	17,0	17,5 2600	70,0 10400	110	0,35
R14-10-DB	10.2002.10	5/8"	-10	16,0	20,5	16,0 2400	64,0 9600	150	0,50
R14-12-DB	10.2002.12	3/4"	-12	19,0	23,5	14,0 2100	56,0 8400	190	0,62
R14-16-DB	10.2002.16	1"	-16	25,4	30,8	9,5 1400	38,0 5600	270	0,77

INNER TUBE: seamless smooth
polytetrafluorethylene (PTFE)
OUTER TUBE: 2 stainless steel wire braids
SAFETY FACTOR: 4:1

APPLICATION: water base, petroleum base or
synthetic base hydraulic fluids, corrosive, food
liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70°C (-95°F)
+260°C (+500°F)
COUPLINGS: Balflex® 2-piece fittings serie 23
with 20 serie ferrules.

AVAILABLE VERSIONS: Black Conductive
NOTE: Operating temperatures in excess of
+204°C with petroleum base hydraulic fluids
can materially reduce the life of the hose

BALFLON CONVOLUTED (CORRUGATED)



10.2010.

High pressure, single Stainless Steel wire braid reinforced corrugated PTFE hose

											
REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	mm	kg/m
R14-04-CV	10.2010.04	1/4"	-4	6,5	11,5	16,0	2400	64,0	9600	20	0,10
R14-05-CV	10.2010.05	5/16"	-5	8,1	12,3	13,5	2000	54,0	8000	30	0,17
R14-06-CV	10.2010.06	3/8"	-6	9,7	15,6	12,0	1800	48,0	7200	30	0,20
R14-08-CV	10.2010.08	1/2"	-8	12,7	18,9	11,0	1600	44,0	6400	40	0,27
R14-10-CV	10.2010.10	5/8"	-10	16,0	22,2	8,0	1200	32,0	4800	50	0,33
R14-12-CV	10.2010.12	3/4"	-12	19,1	26,4	7,0	1100	28,0	4400	80	0,47
R14-16-CV	10.2010.16	1"	-16	25,4	33,0	5,0	730	20,0	2920	100	0,63
R14-20-CV	10.2010.20	1.1/4"	-20	32,0	40,5	4,5	660	18,0	2640	120	0,98
R14-24-CV	10.2010.24	1.1/2"	-24	39,0	47,0	4,0	580	16,0	2320	140	0,30
R14-32-CV	10.2010.32	2"	-32	51,0	61,2	3,6	530	14,4	2120	175	1,20

INNER TUBE: seamless corrugated polytetrafluorethylene (PTFE)
OUTER TUBE: 1 stainless steel wire braid
SAFETY FACTOR: 4:1

APPLICATION: water base, petroleum base or synthetic base hydraulic fluids, corrosive, food liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70 °C (-95 °F) +260 °C (+500 °F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules.

NOTE: Operating temperatures in excess of +204 °C with petroleum base hydraulic fluids can materially reduce the life of the hose.



BALFLON CONVOLUTED (CORRUGATED) BLACK CONDUCTIVE



10.2010.B

High pressure, single Stainless Steel wire braid reinforced black conductive corrugated PTFE hose

REFERENCE	#	inch	SAE Dash	 ID mm	 OD mm	 MPa	PSI	 MPa	PSI	 MIN BEND RAD mm	 KG kg/m
R14-04-CV-B	10.2010.04B	1/4"	-4	6,5	11,5	16,0	2400	64,0	9600	20	0,10
R14-05-CV-B	10.2010.05B	5/16"	-5	8,1	12,3	13,5	2000	54,0	8000	30	0,17
R14-06CV-B	10.2010.06B	3/8"	-6	9,7	15,6	12,0	1800	48,0	7200	30	0,20
R14-08CV-B	10.2010.08B	1/2"	-8	12,7	18,9	11,0	1600	44,0	6400	40	0,27
R14-10CV-B	10.2010.10B	5/8"	-10	16,0	22,2	8,0	1200	32,0	4800	50	0,33
R14-12CV-B	10.2010.12B	3/4"	-12	19,1	26,4	7,0	1100	28,0	4400	80	0,47
R14-16CV-B	10.2010.16B	1"	-16	25,4	33,0	5,0	730	20,0	2920	100	0,63
R14-20CV-B	10.2010.20B	1.1/4"	-20	32,0	40,5	4,5	660	18,0	2640	120	0,98
R14-24CV-B	10.2010.24B	1.1/2"	-24	39,0	47,0	4,0	580	16,0	2320	140	0,30
R14-32CV-B	10.2010.32B	2"	-32	51,0	61,2	3,6	530	14,4	2120	175	1,20

INNER TUBE: seamless black conductive corrugated polytetrafluorethylene (PTFE)
OUTER TUBE: 1 stainless steel wire braid
SAFETY FACTOR: 4:1

APPLICATION: water base, petroleum base or synthetic base hydraulic fluids, corrosive, food liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70°C (-95°F)
+260°C (+500°F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules.

NOTE: Operating temperatures in excess of +204°C with petroleum base hydraulic fluids can materially reduce the life of the hose.