

Balflex[®]

Steel Wire Braid Hydraulic Hoses



GESFLUID

100R2AT/ ISO 1436 - 1/2" - WP 27.5MPa
4000PSI - MSHA IC-252/00

BALFLEX // FORZA DUE 2SN - DN12

FORZA DUE 2SN - DN12 - DIN EN 853/SAE 100R2AT/ISO

BALFLEX // FORZA DUE 2SN - DN12

100R2AT/ISO

Steel Wire Braid Hydraulic Hoses

Balflex® hydraulic steel wire braided hoses are produced to Balflex® specifications and according to ISO 1436, ISO 11237, SAE J517 and EN 853 to EN 857 standards. They cover a wide variety of medium and high pressure applications, for petroleum and water base hydraulic fluids.

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® hydraulic steel wire braided hoses are designed with a safety factor of 4:1 relating minimum burst pressure and recommended working pressure. Working pressure [W P] and nominal diameter [D N] are always branded on the hose.

Hydraulic hoses are designed for petroleum base hydraulic fluids applications with a temperature range of -40°C (-40°F) to +100°C (+212°F). Special rubber compounds and other lining materials allow to exceed these limits. Hydraulic hoses may also be used for water base hydraulic fluids if the working temperature does not exceed +70°C (+158°F). For conveyance of Hot Air working temperature should be reduced to a maximum of +60°C (+140°F).

Selection, assembly and installation of hydraulic steel wire braid hoses should follow **Balflex®** recommendations and [SAE J1273](#) and [DIN 20066](#) standards. **Hydraulic hose assemblies should always be thoroughly inspected and hydraulically tested before installation.** All hydraulics systems should be tested against leakage and malfunction in an appropriate area after any intervention.

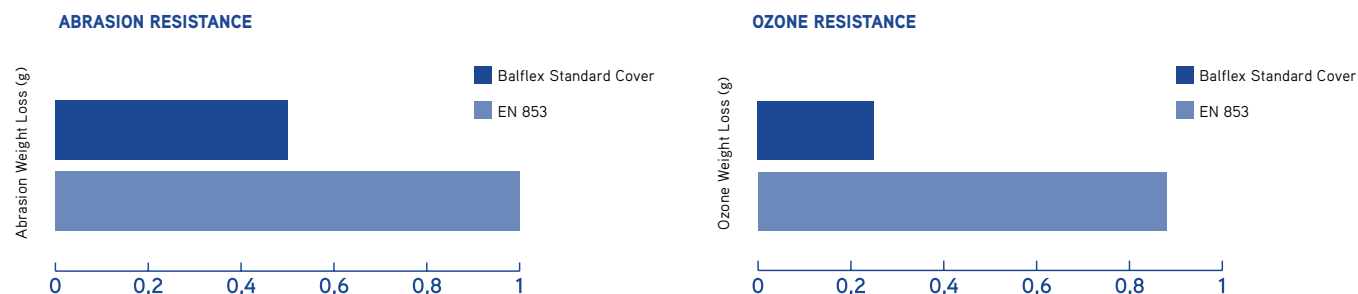
Installations that do not comply with an adequate layout geometry of the hose assembly may significantly reduce the lifetime of the hose. Likewise, the use of wrongly dimensioned hoses or application in a system where working characteristics exceed the hose and / or end fitting specifications may shorten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

The failure of a hydraulic steel wire braided 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 fittings and their parts, the whipping of unrestrained hose, spillage or combustion of the fluid, electrical shocks through contact with electrical sources, immovability, fall or sudden movement of masses controlled by the hydraulic system.



Balflex Hoses are manufactured with a tough outer cover that increases the resistance to environmental and external application damages and present the following main features:

- × Excellent abrasion resistant when tested according to modified ISO 6945 method, and according to ISO 20444 new abrasion test methods.
- × High level of resistance to cracking due to Ozone exposure, resulting in 4 times superior resistance than the relevant EN ISO 7326 requirement;



- × US MSHA Approved Cover (IC 252/00)

Table 1a: Rated working pressure at 20°C (+68°F) of Balflex® Hydraulic Steel Wire Braid Hoses (MPa / PSI)

Balflex	Standard	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
		-3	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32	-40	-48
		DN5	DN6	DN8	DN10	DN12	DN16	DN19	DN25	DN31	DN38	DN51	DN63	DN76
FORZA UNO	DIN EN 853 1SN / ISO 1436 / SAE J517 RIAT	25.0	22.5	21.5	18.0	16.0	13.0	10.5	8.8	6.3	5.0	4.0	3.0	2.0
		3700	3300	3200	2700	2400	1900	1600	1300	920	730	580	440	290
FORZA DUE	DIN EN 853 2SN / ISO 1436 / SAE J517 R2AT	41.5	40.0	35.0	33.0	27.5	25.0	21.5	16.5	12.5	9.0	8.0	7.0	5.5
		6100	5800	5100	4800	4000	3700	3200	2400	1900	1400	1200	1100	800
BALPAC PREMIUM	DIN EN 857 2SC / ISO 11237 / SAE J517 R16		42.5	40.0	35.0	34.5	31.0	28.0	28.0					
			6200	5800	5100	5000	4500	4000	4000					
BALPAC 3000	DIN EN 857 1SC / ISO 11237 / SAE J517 R17		22.5	21.5	21.0	21.0								
			3300	3200	3000	3000								
BALPAC 3000	SAE J517 R17						21.0	21.0	21.0					
							3000	3000	3000					
BALPAC	DIN EN 857 1SC						13.0	10.5	8.8					
							1900	1600	1300					
2-MAX JACK			70.0		70.0	55.2								
			10000		10000	8100								
3-MAX					50.0	47.0	41.0	37.5	33.0					
					7300	6900	6100	5500	4800					

Table 1b: Rated working pressure at 20 °C (+68 °F) of Balflex® Hydraulic Hoses (MPa / PSI)

Balflex	type	3/16"	1/4"	5/16"	13/32"	1/2"	5/8"	7/8"	1.1/8"	1.3/8"	1.13/16"	23/32"	3"
		-4	-5	-6	-8	-10	-12	-16	-20	-24	-32	-40	-48
BRAKEMASTER	SAE J517 R5 / SAE J1402	20.7	20.7	15.5	13.8	12.1	10.3	5.5	4.3	3.4	2.4	2.4	1.4
		3002	3002	2248	2001	1755	1464	798	624	493	348	348	203

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 Steel Wire Braid Hydraulic 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.

FORZA UNO



DIN EN 853 1SN / SAE 100R1AT / ISO 1436 – 10.1002.

High pressure, single steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R1AT-03	10.1002.03	DN5	3/16"	-3	4,8	11,4	25.0 3700	100.0 14800	89	0,23
R1AT-04	10.1002.04	DN6	1/4"	-4	6,3	13,0	22.5 3300	90.0 13200	100	0,23
R1AT-05	10.1002.05	DN8	5/16"	-5	8,0	14,7	21.5 3200	85.0 12800	114	0,23
R1AT-06	10.1002.06	DN10	3/8"	-6	9,5	17,2	18.0 2700	72.0 10800	127	0,33
R1AT-08	10.1002.08	DN12	1/2"	-8	12,7	20,5	16.0 2400	64.0 9600	178	0,42
R1AT-10	10.1002.10	DN16	5/8"	-10	16,0	23,8	13.0 1900	52.0 7600	200	0,52
R1AT-12	10.1002.12	DN19	3/4"	-12	19,0	27,8	10.5 1600	42.0 6400	240	0,65
R1AT-16	10.1002.16	DN25	1"	-16	25,4	35,9	8.8 1300	35.0 5200	300	1,00
R1AT-20	10.1002.20	DN31	1 1/4"	-20	32,0	44,0	6.3 920	25.0 3680	419	1,30
R1AT-24	10.1002.24	DN38	1 1/2"	-24	38,0	50,8	5.0 730	20.0 2920	500	1,63
R1AT-32	10.1002.32	DN51	2"	-32	50,8	64,3	4.0 580	16.0 2320	630	2,00
R1AT-40	10.1002.40	DN63	2 1/2"	-40	63,5	75,0	4.5 650	18.0 2610	760	2,35
R1AT-48	10.1002.48	DN76	3"	-48	76,2	88,0	3.5 510	14.0 2030	900	2,55

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 1 high tensile steel wire braid
OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids
TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules
 Balflex® Multicrimp fittings serie BW23/ BF21/P23
AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

COVER: U.S. MSHA APPROVED
NOTES: Sizes -40 (2 1/2") and - 48 (3") not included in the standards.
 Balflex® hydraulic hose DIN EN 853 1SN / SAE 100R1AT has a very superior working and burst pressure compared with only SAE 100R1AT

BALFLEX / FORZA UNO 1SN - DN5 - DIN EN 853 / SAE 100R1AT / ISO 1436 - 3/16" - WP 25MPa 3700PSI - Flame Resistant - MSHA IC-252/00



FORZA DUE



DIN EN 853 2SN / SAE 100R2AT / ISO 1436 - 10.1004.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R2AT-03	10.1004.03	DN5	3/16"	-3	4,8	13,4	41.5 6100	165.0 24400	89	0,32
R2AT-04	10.1004.04	DN6	1/4"	-4	6,3	14,7	40.0 5800	160.0 23200	100	0,38
R2AT-05	10.1004.05	DN8	5/16"	-5	8,0	16,5	35.0 5100	140.0 20400	114	0,45
R2AT-06	10.1004.06	DN10	3/8"	-6	9,5	18,7	33.0 4800	132.0 19200	127	0,53
R2AT-08	10.1004.08	DN12	1/2"	-8	12,7	21,9	27.5 4000	110.0 16000	178	0,65
R2AT-10	10.1004.10	DN16	5/8"	-10	16,0	25,3	25.0 3700	100.0 14800	200	0,76
R2AT-12	10.1004.12	DN19	3/4"	-12	19,0	29,3	21.5 3200	86.0 12800	240	1,00
R2AT-16	10.1004.16	DN25	1"	-16	25,4	37,9	16.5 2400	65.0 9600	300	1,48
R2AT-20	10.1004.20	DN31	1 1/4"	-20	32,0	47,5	12.5 1900	50.0 7600	419	2,14
R2AT-24	10.1004.24	DN38	1 1/2"	-24	38,0	54,6	9.0 1400	36.0 5600	500	2,55
R2AT-32	10.1004.32	DN51	2"	-32	50,8	67,4	8.0 1200	32.0 4800	630	3,30
R2AT-40	10.1004.40	DN63	2 1/2"	-40	63,5	78,0	7.0 1100	28.0 4400	760	3,96
R2AT-48	10.1004.48	DN76	3"	-48	76,2	90,0	5.5 800	22.0 3200	900	4,96

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braids

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

NOTES: : Size -48 (3") not included in the standards.

Balflex® hydraulic hose DIN EN 853 2SN / SAE 100R2AT has a very superior working and burst pressure compared with only SAE 100R2AT

BALFLEX // **FORZA DUE** 2SN - DN5 - DIN EN 853 / SAE 100R2AT / ISO 1436 - 3/16" - WP 41.5MPa 6100PSI - Flame Resistant - MSHA IC-252/00

BALPAC 3000



DIN EN 857 1SC / SAE 100R17 / ISO 11237 – 10.1017.

High pressure, single or double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1 Wire Braid												
R17-04	10.1017.04	DN6	1/4"	-4	6.3	12.5	22.5	3300	90.0	13200	51	0.22
R17-05	10.1017.05	DN8	5/16"	-5	8.0	13.8	21.5	3200	86.0	12800	60	0.27
R17-06	10.1017.06	DN10	3/8"	-6	9.5	16.2	21.0	3000	84.0	12000	64	0.34
R17-08	10.1017.08	DN12	1/2"	-8	12.7	19.4	21.0	3000	84.0	12000	89	0.42
2 Wire Braid												
R17-10	10.1017.10	DN16	5/8"	-10	15.9	24.2	21.0	3000	84.0	12000	102	0.51
R17-12	10.1017.12	DN19	3/4"	-12	19.0	28.2	21.0	3000	84.0	12000	122	0.63
R17-16	10.1017.16	DN25	1"	-16	25.4	35.6	21.0	3000	84.0	12000	152	1.00

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid on sizes 1/4", 5/16", 3/8" and 1/2" and 2 braids on sizes 5/8", 3/4" and 1"

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

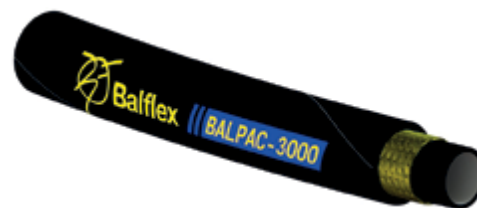
TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourgard)

BALFLEX BALPAC - 3000 SAE 100R17 / DIN EN 857 - 1SC / ISO 11237 - DN6 - 1/4" - WP 22.5 MPa 3300 PSI - Flame Resistant - MSHA IC-252/00

BALPAC 3000



DIN EN 857 1SC / ISO 11237 – 10.1018.

High pressure, single steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1SC-10	10.1018.10	DN16	5/8"	-10	15.9	22.6	13.0	1900	52.0	7600	200	0.73
1SC-12	10.1018.12	DN19	3/4"	-12	19.0	26.2	10.5	1600	42.0	6400	240	0.94
1SC-16	10.1018.16	DN25	1"	-16	25.4	33.6	8.8	1300	35.2	5200	300	1.49

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourgard)

BALFLEX BALPAC - 3000 DIN EN 857 - 1SC / ISO 11237 - DN16 - 5/8" - WP 13 MPa 1900 PSI - Flame Resistant - MSHA IC-252/00



BALPAC 4000



SAE 100R19 – 10.1020

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R19-04	10.1020.04	DN6	1/4"	-4	6,3	13,0	28,0	4000	112,0	16000	50	0,27
R19-06	10.1020.06	DN10	3/8"	-6	9,5	17,0	28,0	4000	112,0	16000	65	0,42
R19-08	10.1020.08	DN12	1/2"	-8	12,7	20,0	28,0	4000	112,0	16000	90	0,52
R19-10	10.1020.10	DN16	5/8"	-10	16,0	24,0	28,0	4000	112,0	16000	100	0,63
R19-12	10.1020.12	DN19	3/4"	-12	19,0	28,0	28,0	4000	112,0	16000	120	0,80

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules, Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

BALFLEX // BALPAC 4000 SAE 100R19 - DN6 - 1/4" - WP - 28 MPa 4000 PSI - Flame Resistant - MSHA IC-252/00 - DATE

BALPAC PREMIUM



DIN EN 857 2SC / SAE 100R16 / ISO 11237 – 10.1019.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R16-04	10.1019.04	DN6	1/4"	-4	6,3	13,2	42.5	6200	170	24800	50	0,27
R16-05	10.1019.05	DN8	5/16"	-5	8,0	15,1	40	5800	160	23200	57	0,30
R16-06	10.1019.06	DN10	3/8"	-6	9,5	17,0	35	5100	140	20400	65	0,42
R16-08	10.1019.08	DN12	1/2"	-8	12,7	20,5	34.5	5000	138	20000	90	0,52
R16-10	10.1019.10	DN16	5/8"	-10	16,0	24,2	28	4000	112	16000	100	0,63
R16-12	10.1019.12	DN19	3/4"	-12	19,0	28,2	28	4000	112	16000	120	0,80
R16-16	10.1019.16	DN25	1"	-16	25,4	35,6	21	3000	84	12000	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules, Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

NOTE: For sizes DN16(5/8"), DN19(3/4"), DN25(1"), consider Balflex Balpac Premium. Approved at 1 000 000 impulse cycles at 1.33% WP

BALFLEX // BALPAC - PREMIUM EXCEEDS DIN EN 857 - 2SC / SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 42.5 MPa 6200 PSI - Flame Resistant - MSHA IC-252/00

BALPAC IMPACTUS 2SC-K



Exceeds DIN EN 857 2SC / Exceeds SAE 100R16 – 10.1010

Extremely high pressure compact, double steel braid reinforced hydraulic hose

Balflex proprietary specification

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R16I-04	10.1010.04	DN6	1/4"	-4	6,3	13,4	45 6500	180 26000	50	0,27
R16I-05	10.1010.05	DN8	5/16"	-5	8,0	15,0	42 6100	168 24400	57	0,30
R16I-06	10.1010.06	DN10	3/8"	-6	9,5	17,2	40 5700	160 22800	65	0,42
R16I-08	10.1010.08	DN12	1/2"	-8	12,7	20,6	35 5100	140 20400	90	0,52
R16I-10	10.1010.10	DN16	5/8"	-10	16	23,9	29 4200	116 16800	100	0,63
R16I-12	10.1010.12	DN19	3/4"	-12	19	27,7	28 4100	112 16400	120	0,80
R16I-16	10.1010.16	DN25	1"	-16	25,4	35,4	20 2900	80 11600	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

BALFLEX // BALPAC - IMPACTUS 2SC-K EXCEEDS DIN EN 857 - 2SC / EXCEEDS SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 45 MPa 6500 PSI - Flame Resistant - MSHA IC-252/00

FORZA LIFT



Lift and Elevator complying EN 81/2 - 10.1013

High pressure, single or double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
1 Wire Braid										
LIFT-12	10.1013.12	DN19	3/4"	-12	19,0	27,8	5,0 725	40,0 5800	240	0,65
LIFT-16	10.1013.16	DN25	1"	-16	25,4	35,9	5,0 725	40,0 5800	300	1,00
LIFT-20	10.1013.20	DN31	1.1/4"	-20	32,0	44,0	5,0 725	40,0 5800	419	1,30
2 Wires Braid										
LIFT-24	10.1013.24	DN38	1.1/2"	-24	38,0	54,6	4,5 650	36,0 5250	500	2,55
LIFT-32	10.1013.32	DN51	2"	-32	50,8	67,4	4,0 580	32,0 4650	630	3,30

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid on sizes 3/4", 1", 1.1/4" and 2 braids on sizes 1.1/2" and 2"

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 8:1

TEMPERATURE RANGE: -40°C (-40°F)

APPLICATION: Hydraulic hose for Lift and Elevators

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

BALFLEX // FORZA LIFT DN31 - EN 81/2 - 1.1/4" - WP - 5 MPa 725 PSI - Flame Resistant - MSHA IC-252/00



FORZA UNO - SHARK SKIN



DIN EN 853 1SN / SAE 100R1AT / ISO 1436 - 10.10S2.

High pressure, single steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R1AT-03-SC	10.10S2.03	DN5	3/16"	-3	4,8	11,4	25.0 3700	100.0 14800	89	0,23
R1AT-04-SC	10.10S2.04	DN6	1/4"	-4	6,3	13,0	22.5 3300	90.0 13200	100	0,23
R1AT-05-SC	10.10S2.05	DN8	5/16"	-5	8,0	14,7	21.5 3200	85.0 12800	114	0,23
R1AT-06-SC	10.10S2.06	DN10	3/8"	-6	9,5	17,2	18.0 2700	72.0 10800	127	0,33
R1AT-08-SC	10.10S2.08	DN12	1/2"	-8	12,7	20,5	16.0 2400	64.0 9600	178	0,42
R1AT-10-SC	10.10S2.10	DN16	5/8"	-10	16,0	23,8	13.0 1900	52.0 7600	200	0,52
R1AT-12-SC	10.10S2.12	DN19	3/4"	-12	19,0	27,8	10.5 1600	42.0 6400	240	0,65
R1AT-16-SC	10.10S2.16	DN25	1"	-16	25,4	35,9	8.8 1300	35.0 5200	300	1,00

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules

Balflex® Multicrimp fittings serie BW23/BF21/P23

AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

COVER: U.S. MSHA APPROVED

NOTES: Sizes -40 (2.1/2") and -48 (3") not included in the standards.

Balflex® hydraulic hose DIN EN 853 1SN / SAE 100R1AT has a very superior working and burst pressure compared with only SAE 100R1AT

BALFLEX // FORZA UNO SHARK SKIN 1SN - DN6 - DIN EN 853 / SAE 100R1AT / ISO 1436 - 1/4" - WP 22.5 MPa 3300 PSI - Flame Resistant - MSHA IC-252/00

FORZA DUE - SHARK SKIN



DIN EN 853 2SN / SAE 100R2AT / ISO 1436 - 10.10S4.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R2AT-03-SC	10.10S4.03	DN5	3/16"	-3	4,8	13,4	41.5 6100	165.0 24400	89	0,32
R2AT-04-SC	10.10S4.04	DN6	1/4"	-4	6,3	14,7	40.0 5800	160.0 23200	100	0,38
R2AT-05-SC	10.10S4.05	DN8	5/16"	-5	8,0	16,5	35.0 5100	140.0 20400	114	0,45
R2AT-06-SC	10.10S4.06	DN10	3/8"	-6	9,5	18,7	33.0 4800	132.0 19200	127	0,53
R2AT-08-SC	10.10S4.08	DN12	1/2"	-8	12,7	21,9	27.5 4000	110.0 16000	178	0,65
R2AT-10-SC	10.10S4.10	DN16	5/8"	-10	16,0	25,3	25.0 3700	100.0 14800	200	0,76
R2AT-12-SC	10.10S4.12	DN19	3/4"	-12	19,0	29,3	21.5 3200	86.0 12800	240	1,00
R2AT-16-SC	10.10S4.16	DN25	1"	-16	25,4	37,9	16.5 2400	65.0 9600	300	1,48

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braids

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules

Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

NOTES: : Size -48 (3") not included in the standards.

Balflex® hydraulic hose DIN EN 853 2SN / SAE 100R2AT has a very superior working and burst pressure compared with only SAE 100R2AT

BALFLEX // FORZA DUE SHARK SKIN 2SN - DN16 - DIN EN 853 / SAE 100R2AT / ISO 1436 - 5/8" - WP 25 MPa 3700 PSI - Flame Resistant - MSHA IC-252/00

BALPAC 3000 - SHARK SKIN



DIN EN 857 1SC / SAE 100R17 / ISO 11237 – 10.1S17.

High pressure, single or double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
1 Wire Braid										
R17-04-SC	10.1S17.04	DN6	1/4"	-4	6.3	12.5	22.5 3300	90.0 13200	51	0.22
R17-05-SC	10.1S17.05	DN8	5/16"	-5	8.0	13.8	21.5 3200	86.0 12800	60	0.27
R17-06-SC	10.1S17.06	DN10	3/8"	-6	9.5	16.2	21.0 3000	84.0 12000	64	0.34
R17-08-SC	10.1S17.08	DN12	1/2"	-8	12.7	19.4	21.0 3000	84.0 12000	89	0.42
2 Wire Braid										
R17-10-SC	10.1S17.10	DN16	5/8"	-10	15.9	24.2	21.0 3000	84.0 12000	102	0.51
R17-12-SC	10.1S17.12	DN19	3/4"	-12	19.0	28.2	21.0 3000	84.0 12000	122	0.63
R17-16-SC	10.1S17.16	DN25	1"	-16	25.4	35.6	21.0 3000	84.0 12000	152	1.00

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid on sizes 1/4", 5/16", 3/8" and 1/2" and 2 braids on sizes 5/8", 3/4" and 1"

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

BALFLEX // BALPAC - 3000 SAE 100R17 / DIN EN 857 - 1SC / ISO 11237 - DN6 - 1/4" - WP 22.5 MPa 3300 PSI - Flame Resistant - MSHA IC-252/00

BALPAC PREMIUM - SHARK SKIN



DIN EN 857 2SC / SAE 100R16 / ISO 11237 – 10.1S19.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
R16-04-SC	10.1S19.04	DN6	1/4"	-4	6,3	13,2	42.5 6200	170 24800	50	0,27
R16-05-SC	10.1S19.05	DN8	5/16"	-5	8,0	15,1	40 5800	160 23200	57	0,30
R16-06-SC	10.1S19.06	DN10	3/8"	-6	9,5	17,0	35 5100	140 20400	65	0,42
R16-08-SC	10.1S19.08	DN12	1/2"	-8	12,7	20,5	34.5 5000	138 20000	90	0,52
R16-10-SC	10.1S19.10	DN16	5/8"	-10	16,0	24,2	28 4000	112 16000	100	0,63
R16-12-SC	10.1S19.12	DN19	3/4"	-12	19,0	28,2	28 4000	112 16000	120	0,80
R16-16-SC	10.1S19.16	DN25	1"	-16	25,4	35,6	21 3000	84 12000	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

NOTE: For sizes DN16(5/8"), DN19(3/4"), DN25(1"), consider Balflex Balpac Premium. Approved at 1 000 000 impulse cycles at 1.33% WP

BALFLEX // BALPAC - PREMIUM EXCEEDS DIN EN 857 - 2SC / SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 42.5 MPa 6200 PSI - Flame Resistant - MSHA IC-252/00



BALPAC IMPACTUS 2SC-K – SHARK SKIN



Exceeds DIN EN 857 2SC / Exceeds SAE 100R16 – 10.1S10

Extremely high pressure compact, double steel braid reinforced hydraulic hose
Balflex proprietary specification

REFERENCE	#	DN	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	kg/m
R16I-04-SC	10.1S10.04	DN6	1/4"	-4	6,3	13,4	45 6500	180 26000	50	0,27
R16I-05-SC	10.1S10.05	DN8	5/16"	-5	8,0	15,0	42 6100	168 24400	57	0,30
R16I-06-SC	10.1S10.06	DN10	3/8"	-6	9,5	17,2	40 5700	160 22800	65	0,42
R16I-08-SC	10.1S10.08	DN12	1/2"	-8	12,7	20,6	35 5100	140 20400	90	0,52
R16I-10-SC	10.1S10.10	DN16	5/8"	-10	16	23,9	29 4200	116 16800	100	0,63
R16I-12-SC	10.1S10.12	DN19	3/4"	-12	19	27,7	28 4100	112 16400	120	0,80
R16I-16-SC	10.1S10.16	DN25	1"	-16	25,4	35,4	20 2900	80 11600	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

BALFLEX // BALPAC - IMPACTUS 2SC-K // SHARK SKIN EXCEEDS DIN EN 857 - 2SC / EXCEEDS SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 45 MPa 6500 PSI - Flame Resistant - MSHA IC-252/00

BRAKEMASTER R5



SAE 100R5 / SAE J1402 AII – 10.1007.

High pressure hydraulic hose with steel and textile braids reinforcement with rubber impregnated textile cover

REFERENCE	#	inch	SAE Dash	ID	OD	MPa	PSI	MPa	PSI	MIN BEND RAD	KG
				mm	mm					mm	kg/m
R5-04	10.1007.04	3/16"	-4	4,8	13,2	20.7	3100	82.8	12400	76	0,19
R5-05	10.1007.05	1/4"	-5	6,3	14,8	20.7	3100	82.8	12400	86	0,27
R5-06	10.1007.06	5/16"	-6	8,0	17,2	15.5	2300	62.0	9200	102	0,29
R5-08	10.1007.08	13/32"	-8	10,4	19,5	13.8	2100	55.2	8400	117	0,36
R5-10	10.1007.10	1/2"	-10	12,7	23,4	12.1	1800	48.3	7200	140	0,45
R5-12	10.1007.12	5/8"	-12	16,0	27,4	10.3	1500	41.4	6100	165	0,56
R5-16	10.1007.16	7/8"	-16	22,2	31,4	5.5	800	22.1	3200	187	0,78
R5-20	10.1007.20	1 1/8"	-20	28,6	38,1	4.3	630	17.2	2520	229	1,06
R5-24	10.1007.24	1 3/8"	-24	34,9	44,5	3.4	500	13.8	2000	267	1,45
R5-32	10.1007.32	1 13/16"	-32	46,0	56,4	2.4	350	9.7	1400	337	1,70
R5-40	10.1007.40	2 3/8"	-40	60,3	73,0	2.4	350	9.7	1400	610	2,15
R5-48	10.1007.48	3"	-48	76,2	90,5	1.4	210	5.5	840	838	3,08

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high resistance synthetic textile braids with an intermediate high tensile steel wire braid

OUTER TUBE: impregnation of the outer textile braid with black, oil, weather and abrasion resistant synthetic rubber

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® Multicrimp fittings serie P25

AVAILABLE VERSIONS: High Temperature (Heatmaster) / Rubber Cover (Breakmaster R)





2 – MAX JACK



700 BAR JACK HOSE and 1/2" 8000PSI – 10.1029.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
JH-04	10.1029.04	1/4"	-4	6,3	14,7	70.0 10000	160.0 23200	100	0,38
JH-06	10.1029.06	3/8"	-6	9,5	18,7	70.0 10000	140.0 20000	127	0,53
JH-08	10.1029.08	1/2"	-8	12,7	21,9	55.2 8100	110.4 16200	178	0,65

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braids

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 2.3:1 (1/4") and 2:1 (3/8" and 1/2")

APPLICATION: hydraulic jacks

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

BALFLEX /// 2-MAX JACK DN6 - 1/4" - WP 70 MPa 10000 PSI - Flame Resistant - MSHA IC-252/00

3 – MAX



10.1005.

Very high pressure, triple steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
3M-06	10.1005.06	3/8"	-6	9,5	21,3	50.0 7300	200.0 29200	180	0,70
3M-08	10.1005.08	1/2"	-8	12,7	24,3	47.0 6900	188.0 27600	230	0,80
3M-10	10.1005.10	5/8"	-10	16,0	28,0	41,0 6100	164,0 24000	250	1,05
3M-12	10.1005.12	3/4"	-12	19,0	31,5	37,5 5500	150,0 22000	300	1,15
3M-16	10.1005.16	1"	-16	25,4	38,7	33,0 4800	132,0 19200	340	1,60

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 3 high tensile steel wire braids

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 24 with 20 serie ferrules

BALFLEX /// 3-MAX DN10 - 3/8" - WP 50 MPa 7250 PSI - DATE

FIRE SUPPRESSION

MEETS PERFORMANCE DIN EN 853 1SN
/ SAE 100R1AT – 10.1011.

Medium pressure hose for fire suppression



REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
FIRE-04	10.1011.04	1/4"	-4	6.3	13.0	22.5 3263	90.0 13050	100	0.23
FIRE-05	10.1011.05	5/16"	-5	8.0	14.7	21.5 3118	85.0 12325	114	0.23
FIRE-06	10.1011.06	3/8"	-6	9.5	17.2	18.0 2610	72.0 10440	127	0.33
FIRE-08	10.1011.08	1/2"	-8	12.7	20.5	16.0 2320	64.0 9280	178	0.42
FIRE-10	10.1011.10	5/8"	-10	16.0	23.8	13.0 1885	52.0 7540	200	0.52
FIRE-12	10.1011.12	3/4"	-12	19.0	27.8	10.5 1523	42.0 6090	240	0.65
FIRE-16	10.1011.16	1"	-16	25.4	35.9	8.8 1276	35.0 5075	300	1.00

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: red wrapped; oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4:1
APPLICATION: mining, forestry and firefighting equipment.

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® c2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED
AVAILABLE VERSIONS: Smooth Cover (Shark Skin)

BALFLEX / FIRE SUPPRESSION HOSE 1SN - DN6 - DIN EN 853 / SAE 100R1AT / ISO 1436 - 1/4" - WP 22.5 MPa 3263 PSI - Flame Resistant - MSHA IC-252/00

BALWASH MICROLINE

Balflex® Balwash MICROLINE 22.0MPa - 10.1WSK.04

High pressure, single wire braid, slim outer diameter for high flexibility, smooth cover hose



#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
10.1WSK.04	1/4"	-4	6,3	11,8	22,0 3200	90.0 12800	100	0,21

INNER TUBE: seamless hot water resistant synthetic rubber
REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant smooth pin-pricked synthetic rubber
SAFETY FACTOR: 4:1

APPLICATION: hobby and high pressure cleaning professional equipments

TEMPERATURE RANGE: -60°C (-76°F) +70°C (+158°F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

BALFLEX / BALWASH MICROLINE DN6 - 1/4" - WP 22 MPa 3190 PSI - DATE



BALWASH 1W



Balflex® Balwash 155°C (+311°F) 1W 22.0MPa - 10.1W00

High pressure, single wire braid reinforced high temperature car wash hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
BW1W-04	10.1W00.04	1/4"	-4	6,3	13,0	22,0 3200	90.0 12800	100	0,23
BW1W-05	10.1W00.05	5/16"	-5	8,0	14,7	22,0 3200	85.0 12800	114	0,28
BW1W-06	10.1W00.06	3/8"	-6	9,5	17,2	22,0 3200	72.0 12800	127	0,33
BW1W-08	10.1W00.08	1/2"	-8	12,7	20,5	22,0 3200	64.0 12800	178	0,42

INNER TUBE: seamless hot water resistant synthetic rubber

REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant wrapped pin-pricked synthetic rubber

SAFETY FACTOR: 4:1 in 1/4"; 3.9:1 in 5/16"; 3.3:1 in 3/8"; 2.9:1 in 1/2"

APPLICATION: high temperature and high pressure cleaning professional equipments

TEMPERATURE RANGE: 0°C (+32°F) +155°C (+311°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

BALFLEX BALWASH UNO 1W - 155°C / 311°F - DN6 - 1/4" - WP 22 MPa 3190 PSI - DATE

BALWASH 2W



Balflex® Balwash 155°C (+311°F) 2W 40.0MPa - 10.2W00

High pressure, double wire braid reinforced high temperature car wash hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
BW2W-04	10.2W00.04	1/4"	-4	6,3	14,7	40.0 5800	160.0 23200	100	0,38
BW2W-05	10.2W00.05	5/16"	-5	8,0	16,5	40.0 5800	140.0 23200	114	0,45
BW2W-06	10.2W00.06	3/8"	-6	9,5	18,7	40.0 5800	132.0 23200	127	0,53
BW2W-08	10.2W00.08	1/2"	-8	12,7	21,9	40.0 5800	110.0 23200	178	0,65

INNER TUBE: seamless hot water resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braids

OUTER TUBE: black wrapped, oil, weather and abrasion resistant wrapped pin-pricked synthetic rubber

SAFETY FACTOR: 4:1 in 1/4"; 3.9:1 in 5/16"; 3.3:1 in 3/8"; 2.9:1 in 1/2"

APPLICATION: high temperature and high pressure cleaning professional equipments

TEMPERATURE RANGE: 0°C (+32°F) +155°C (+311°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

BALFLEX BALWASH DUE 2W - 155°C / 311°F - DN6 - 1/4" - WP 40 MPa 5800 PSI - DATE

BALWASH 1W BLUE



Balflex® Balwash 155°C (+311°F) 1W 22.0MPa - 10.1W00.B

High pressure, single wire braid reinforced high temperature car wash hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
BW1W-04B	10.1W00.04B	1/4"	-4	6,3	13,0	22,0 3200	90,0 12800	100	0,23
BW1W-05B	10.1W00.05B	5/16"	-5	8,0	14,7	22,0 3200	85,0 12800	114	0,28
BW1W-06B	10.1W00.06B	3/8"	-6	9,5	17,2	22,0 3200	72,0 12800	127	0,33
BW1W-08B	10.1W00.08B	1/2"	-8	12,7	20,5	22,0 3200	64,0 12800	178	0,42

INNER TUBE: seamless hot water resistant synthetic rubber
REINFORCEMENT: 1 high tensile steel wire braid

OUTER TUBE: blue, oil, weather and abrasion resistant wrapped pin-pricked synthetic rubber
SAFETY FACTOR: 4:1 in 1/4"; 3.9:1 in 5/16"; 3.3:1 in 3/8"; 2.9:1 in 1/2"

APPLICATION: high temperature and high pressure cleaning professional equipments

TEMPERATURE RANGE: 0°C (+32°F) +155°C (+311°F)
COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

BALFLEX BALWASH UNO 1W - 155°C (+311°F) - DMS - 1/4" - WP 22.0MPa - DATE

BALWASH 2W BLUE



Balflex® Balwash 155°C (+311°F) 2W 40.0MPa - 10.2W00.B

High pressure, double wire braid reinforced high temperature car wash hose

REFERENCE	#	inch	SAE Dash	ID mm	OD mm	MPa PSI	MPa PSI	MIN BEND RAD mm	KG kg/m
BW2W-04B	10.2W00.04B	1/4"	-4	6,3	14,7	40,0 5800	160,0 23200	100	0,38
BW2W-05B	10.2W00.05B	5/16"	-5	8,0	16,5	40,0 5800	140,0 23200	114	0,45
BW2W-06B	10.2W00.06B	3/8"	-6	9,5	18,7	40,0 5800	132,0 23200	127	0,53
BW2W-08B	10.2W00.08B	1/2"	-8	12,7	21,9	40,0 5800	110,0 23200	178	0,65

INNER TUBE: seamless hot water resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braids

OUTER TUBE: blue, oil, weather and abrasion resistant wrapped pin-pricked synthetic rubber
SAFETY FACTOR: 4:1 in 1/4"; 3.9:1 in 5/16"; 3.3:1 in 3/8"; 2.9:1 in 1/2"

APPLICATION: high temperature and high pressure cleaning professional equipments
TEMPERATURE RANGE: 0°C (+32°F) +155°C (+311°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
AVAILABLE VERSIONS: Smooth cover (Shark Skin)

BALFLEX BALWASH DUE 2W - 155°C (+311°F) - DMS - 1/4" - WP 40.0MPa - DATE



FLAT HDPE SPRING GUARD



HYDRAULIC AND INDUSTRIAL HOSE FLAT GUARD – 11.103.

Black Colour, High Density Polyethylene Protection Spring Guard

REFERENCE	#	ID mm	OD mm	mm	Pitch mm	Recommended usage range (OD of hose mm)
SG-09-15	11.103.09-15	12,0	9,6	1,2	9,0	9-13
SG-14-20	11.103.14-20	16,0	13,4	1,3	12,0	13-18
SG-18-24	11.103.18-24	20,0	16,0	2,0	16,0	16-22
SG-22-30	11.103.22-30	25,0	20,6	2,2	22,0	20-27
SG-30-38	11.103.30-38	32,0	27,0	2,5	22,0	27-36
SG-36-45	11.103.36-45	40,0	34,6	2,7	24,0	34-44
SG-44-65	11.103.44-65	50,0	43,0	3,5	30,0	43-45
SG-44-70	11.103.44-70	63,0	55,6	3,7	37,0	55-67
SG-65-78	11.103.65-78	75,0	66,2	4,4	42,0	66-80
SG-80-98	11.103.80-98	90,0	80,2	4,9	45,0	80-98
SG-96-116	11.103.96-116	100,0	99,0	5,5	50,0	99-115

RAW MATERIAL: high density polyethylene resistant to abrasion and UV rays

COLOR: black

TEMPERATURE RANGE: -20°C (-4°F) +95°C (-203°F)

APPLICATION: protection of external rubber layer of hydraulic and industrial hoses, against the early wearing due to abrasion

FLAT HDPE SPRING GUARD



HYDRAULIC AND INDUSTRIAL HOSE FLAT GUARD – 11.103.Y

Yellow colour, High Density Polyethylene Protection Spring Guard

REFERENCE	#	ID mm	OD mm	mm	Pitch mm	Recommended usage range (OD of hose mm)
SG-09-15Y	11.103.09-15Y	12,0	9,6	1,2	9,0	9-13
SG-14-20Y	11.103.14-20Y	16,0	13,4	1,3	12,0	13-18
SG-18-24Y	11.103.18-24Y	20,0	16,0	2,0	16,0	16-22
SG-22-30Y	11.103.22-30Y	25,0	20,6	2,2	22,0	20-27
SG-30-38Y	11.103.30-38Y	32,0	27,0	2,5	22,0	27-36
SG-36-45Y	11.103.36-45Y	40,0	34,6	2,7	24,0	34-44
SG-44-65Y	11.103.44-65Y	50,0	43,0	3,5	30,0	43-45
SG-44-70Y	11.103.44-70Y	63,0	55,6	3,7	37,0	55-67
SG-65-78Y	11.103.65-78Y	75,0	66,2	4,4	42,0	66-80
SG-80-98Y	11.103.80-98Y	90,0	80,2	4,9	45,0	80-98
SG-96-116Y	11.103.96-116Y	100,0	99,0	5,5	50,0	99-115

RAW MATERIAL: high density polyethylene resistant to abrasion and UV rays

COLOR: Yellow

TEMPERATURE RANGE: -20°C (-4°F) +95°C (-203°F)

APPLICATION: protection of external rubber layer of hydraulic and industrial hoses, against the early wearing due to abrasion

HOSESHIELD XT PROTECTIVE SLEEVE



Hydraulic and industrial hose protection sleeve – 11.400

Nylon black colour, US MSHA IC-252/02 approval.

REFERENCE	#	I.D. inch	flat width inch	thickness inch	length ft
HS-017	11.400.017	0.67	1.18	0.03	164
HS-020	11.400.020	0.79	1.42	0.03	164
HS-023	11.400.023	0.91	1.57	0.03	164
HS-025	11.400.025	0.98	1.69	0.03	164
HS-027	11.400.027	1.06	1.77	0.03	164
HS-031	11.400.031	1.22	2.05	0.03	164
HS-033	11.400.033	1.30	2.17	0.03	164
HS-036	11.400.036	1.42	2.36	0.03	164
HS-040	11.400.040	1.57	2.60	0.03	164
HS-044	11.400.044	1.73	2.91	0.03	164
HS-047	11.400.047	1.85	3.03	0.03	164
HS-053	11.400.053	2.09	3.39	0.03	164
HS-055	11.400.055	2.17	3.54	0.03	164
HS-060	11.400.060	2.36	3.86	0.03	164
HS-066	11.400.066	2.60	4.17	0.03	164
HS-073	11.400.073	2.87	4.65	0.03	164
HS-078	11.400.078	3.07	4.96	0.03	164
HS-085	11.400.085	3.35	5.35	0.03	164
HS-093	11.400.093	3.66	5.91	0.03	164
HS-112	11.400.112	4.41	7.01	0.03	164

CONSTRUCTION: 100% high tensile Nylon 6 Multifilament Yarn into a high tenacity braid

THICKNESS: 0.031 inch thick overlapping layers of synthetic Nylon 6 Yarn with 840 denier yarn

ABRASION RESISTANCE: according to ISO 6945, for more than 50 000 cycles

STRETCHING BREAK: up to 33 to 43%

TEMPERATURE: -40°C (-40°F) / +120°C (+248°F)