VM FLEX

AUTOMAÇÃO E MANUTENÇÃO INDUSTRIAL

MANGUEIRAS HIDRÁULICAS

HYDRAULIC HOSES

MANGUERAS HIDRÁULICAS

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Este catálogo contém informações de carácter geral, para obter mais detalhes sobre as características técnicas dos produtos e sobre os relativos valores a se respeitar para seu correto funcionamento, consultar com o nosso serviço técnico.

Balflex® Group

Quality

Quality is very important for us. We have fully equipped, modern laboratories and equipment, employing the industries most experienced personnel.

Balflex® has obtained various certifications for our Management Systems and Products. This reliable and consistent approach has allowed us to achieve our ISO 9001:2015 certification. At Balflex® quality and service always comes first. We are dedicated to continue the development of new products with a strong amphasis on quality.

Member of:

Certified by:

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

This is to certify that the management system of

BALFLEX PORTUGAL - Componentes Hidráulicos e Industriais, SA
Rua Bouça dos Estilhadouros 226/254, Zona Industrial Alto de Vilar, 4445-044, Alfena, Porto, Portugal

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
MANUFACTURE, ASSEMBLY AND DISTRIBUTION OF HYDRAULIC AND INDUSTRIAL HOSES, CONNECTORS AND V-BELTS.

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

This is to certify that the management system of

BALFLEX BRASIL LTDA
Rua Padre Cesari Lelli, 1014, 83420-000, Quatro Barras, PR, Brazil

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Manufacture and distribution of hydraulic and industrial hoses of rubber and pvc, with braided and spiral reinforcement.

Fabricação e distribuição de mangueiras hidráulicas e industriais de composto de borracha e pvc, com reforço de trança e espiral.

Balflex®

Textile Braid Hydraulic Hoses

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Balflex®

Textile Braid Hydraulic Hoses

Balflex® hydraulic textile braid hoses are produced to Balflex® specifications and according to ISO 4079, SAE J517 and EN 854 standards. They cover a wide variety of medium pressure applications, in rubber, textile reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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 textile braid hoses are designed with a safety factor of 4: 1 relating minimum burst pressure and recommended working pressure. Working pressure and nominal diameter are always branded on the hose.

Hydraulic hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 40ºC (- 40ºF) to + 100ºC (+ 212ºF). 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 + 70ºC (+ 158ºF). With the presence of air in the fluid working temperature should be reduced to + 60ºC (+ 140ºF).

Selection, assembly and installation of hydraulic textile braid hoses should follow **Balflex®** recommendations and SAE J1273 and DIN 20066 standards. **Hydraulic 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 hydraulic textile braid 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.

Table 1: Nominal working pressure at 20ºC (+68ºF) of Balflex® Hydraulic Textile Braid Hoses

Balflex	Standard	3/16" -3	1/4" -4	5/16" -5	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/4" -20	1.1/2" -24	2" -32	2.1/2" -40	3" -48	3.1/2" -56	4" -64
TEXMASTER 1	DIN EN 854 1TE / ISO 4079 / SAE J517 R6	3.4	2.8	2.8	2.8	2.8	2.4	2.1	1.7							
		493	406	406	406	406	348	305	247							
TEXMASTER 2	DIN EN 854 2TE / ISO 4079	8.0	7.5	6.8	6.3	5.8	5.5	4.5	4.0							
		1160	1088	986	914	841	725	653	580							
TEXMASTER 3	DIN EN 854 3TE / ISO 4079 / SAE J517 R3	16.0	14.5	13.0	11.0	9.3	8.0	7.0	5.5	4.5	4.0	3.3				
		2320	2103	1885	1595	1349	1160	1015	798	653	580	479				
MULTIPURPOSE		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
		290	290	290	290	290	290	290	290	290	290	290				
PUSH-ON			2.4	2.4	2.4	2.1	2.1	2.1	1.4							
			348	348	348	305	305	305	203							
TORNARE	SAE J517 R4							2.1	1.7	1.4	1.05	0.7	0.4	0.4	0.3	0.3
								305	247	203	152	102	58	58	44	36

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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

Fluid Compatibility and Resistance Chart for Balflex Textile Braid 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 66ºC	●	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 Hypochloryde 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	●		
Dioctyl Phthalate		Naphtha	●		
Diesel Fuel	●	Naphthalene	●		
Ethers	●	Natural Gas	●		
Ethyl Acetate	●	Nitric Acid (Dil.)	●		
Ethyl Alcohol	●	Nitric Acid (Conc.)	●		
Ethyl Chloride	●	Nitrobenzen	●		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

TEXMASTER 1

DIN EN 854 1TE / SAE 100R6 – 10.1216.

Medium pressure, single textile braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1TE-R6-03	10.1216.03	3/16"	-3	4,8	10,8	**3.4**	493	**13.8**	2001	51	0,13
1TE-R6-04	10.1216.04	1/4"	-4	6,3	12,4	**2.8**	406	**11.0**	1595	64	0,14
1TE-R6-05	10.1216.05	5/16"	-5	8,0	13,9	**2.8**	406	**11.0**	1595	76	0,18
1TE-R6-06	10.1216.06	3/8"	-6	9,5	15,4	**2.8**	406	**11.0**	1595	76	0,19
1TE-R6-08	10.1216.08	1/2"	-8	12,7	18,6	**2.8**	406	**11.0**	1595	102	0,27
1TE-R6-10	10.1216.10	5/8"	-10	16,0	22,9	**2.4**	348	**9.7**	1407	127	0,31
1TE-R6-12	10.1216.12	3/4"	-12	19,0	26,6	**2.1**	305	**8.3**	1204	152	0,43
1TE-R6-14	10.1216.14	7/8'	-14	22,0	31,3	**2.2**	319	**8.8**	1276	200	0,59
1TE-R6-16	10.1216.16	1"	-16	25,4	33,0	**1.7**	247	**6.8**	986	203	0,59

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 1 high resistance synthetic fiber braid
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

APPLICATION: petroleum base hydraulic fluids
TEMPERATURE RANGE: -40ºC (-40ºF) + 100ºC (+ 212ºF); Max. temperature recommended for water base hydraulic fluids: + 70ºC (+ 158ºF); Max. temperature recommended for air: + 50ºC (+ 122ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20.107. serie on sizes 1/4", 5/16", 3/8", 1", 1.1/4", 1.1/2" and 2", and 20.202. series on sizes 1/2", 5/8" and 3/4".

COVER: U.S. MSHA APPROVED
NOTES: Sizes - 14 (DN 22) 7/8" and - 16 (DN 25) 1" not included in the standards

BALFLEX TEXMASTER 1 SAE 100R6 / EXCEEDS DIN EN 854 - 1TE - DN10 - 3/8" - ISO 4079 - WP 3 MPa 435 PSI - Flame Resistant - MSHA IC-252/00 - DATE

TEXMASTER 2

DIN EN 854 2TE – 10.1217.

Medium pressure, single textile braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	MPa	MPa	MPa	MIN BEND RAD mm	KG kg/m
2TE-03	10.1217.03	3/16"	-3	4,8	11,8	**8.0**	1160	**32.0**	4640	25	0,12
2TE-04	10.1217.04	1/4"	-4	6,3	13,4	**7.5**	1088	**30.0**	4350	40	0,14
2TE-05	10.1217.05	5/16"	-5	8,0	14,9	**6.8**	986	**27.2**	3944	50	0,18
2TE-06	10.1217.06	3/8"	-6	9,5	16,5	**6.3**	914	**25.2**	3654	60	0,19
2TE-08	10.1217.08	1/2"	-8	12,7	19,7	**5.8**	841	**23.2**	3364	70	0,27
2TE-10	10.1217.10	5/8"	-10	16,0	23,9	**5.0**	725	**20.0**	2900	90	0,31
2TE-12	10.1217.12	3/4"	-12	19,0	27,0	**4.5**	653	**18.0**	2610	110	0,43
2TE-16	10.1217.16	1"	-16	25,4	34,4	**4.0**	580	**16.0**	2320	150	0,59

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 1 high resistance synthetic fiber braid

OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) + 100ºC (+ 212ºF); Max. temperature recommended for water base hydraulic fluids: + 70ºC (+ 158ºF); Max. temperature recommended for air: + 50ºC (+ 122ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20.107. serie on sizes 1/4", 5/16", 3/8", 1", 1.1/4", 1.1/2" and 2", and 20.202. series on sizes 1/2", 5/8" and 3/4".
COVER: U.S. MSHA APPROVED

BALFLEX TEXMASTER 2 DIN EN 854 - 2TE - DN10 - 3/8" - ISO 4079 - WP 6.3 MPa 913 PSI - Flame Resistant - MSHA IC-252/00 - DATE

TEXMASTER 3

DIN EN 854 3TE / SAE 100R3 – 10.1220

Medium pressure, double textile braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R3-3TE-03	10.1220.03	3/16"	-3	4,8	12,8	**16.0**	2320	**64.0**	9280	40	0,13
R3-3TE-04	10.1220.04	1/4"	-4	6,3	14,4	**14.5**	2103	**58.0**	8410	45	0,18
R3-3TE-05	10.1220.05	5/16"	-5	8,0	16,9	**13.0**	1885	**52.0**	7540	55	0,25
R3-3TE-06	10.1220.06	3/8"	-6	9,5	18,5	**11.0**	1595	**44.0**	6380	70	0,28
R3-3TE-08	10.1220.08	1/2"	-8	12,7	21,7	**9.3**	1349	**37.2**	5394	85	0,44
R3-3TE-10	10.1220.10	5/8"	-10	16,0	25,9	**8.0**	1160	**32.0**	4640	105	0,49
R3-3TE-12	10.1220.12	3/4"	-12	19,0	29,0	**7.0**	1015	**28.0**	4060	130	0,70
R3-3TE-16	10.1220.16	1"	-16	25,4	35,9	**5.5**	798	**22.0**	3190	150	0,79
R3-3TE-20	10.1220.20	1.1/4"	-20	32,0	42,3	**4.5**	653	**18.0**	2610	190	0,88
R3-3TE-24	10.1220.24	1.1/2"	-24	38,0	49,6	**4.0**	580	**16.0**	2320	240	1,17
R3-3TE-32	10.1220.32	2"	-32	50,8	62,3	**3.3**	479	**13.2**	1914	300	1,63

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high resistance synthetic fiber braids

OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) + 100ºC (+ 212ºF); Max. temperature recommended for water base hydraulic fluids: + 70ºC (+ 158ºF); Max. temperature recommended for air: + 50ºC (+ 122ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20.201. serie on sizes 1/4", 5/16", 3/8", 1", 1.1/4", 1.1/2" and 2", and 20.202. series on sizes 1/2", 5/8" and 3/4".
COVER: U.S. MSHA APPROVED

BALFLEX TEXMASTER 3 SAE 100R3 / DIN EN 854 - 3TE - DN10 - 3/8" - ISO 4079 - WP 11 MPa 1600 PSI - Flame Resistant - MSHA IC-252/00 - DATE

Balflex®

MULTIPURPOSE

2.0MPa / 300PSI (100% rubber hose) – 10.1215.

Oil, Fuel and Gasoline

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
MULTI-03	10.1215.03	3/16"	-3	4,8	11,0	**2,0**	300	**6,0**	900	50	0,10
MULTI-04	10.1215.04	1/4"	-4	6,3	14,0	**2,0**	300	**6,0**	900	60	0,16
MULTI-05	10.1215.05	5/16"	-5	8,0	17,0	**2,0**	300	**6,0**	900	80	0,24
MULTI-06	10.1215.06	3/8"	-6	9,5	19,0	**2,0**	300	**6,0**	900	100	0,29
MULTI-08	10.1215.08	1/2"	-8	12,7	21,0	**2,0**	300	**6,0**	900	125	0,40
MULTI-10	10.1215.10	5/8"	-10	16,0	26,0	**2,0**	300	**6,0**	900	160	0,50
MULTI-12	10.1215.12	3/4"	-12	19,0	29,0	**2,0**	300	**6,0**	900	190	0,66
MULTI-16	10.1215.16	1"	-16	25,4	36,0	**2,0**	300	**6,0**	900	254	0,90
MULTI-20	10.1215.20	1.1/4"	-20	32,0	42,0	**2,0**	300	**6,0**	900	320	1,20
MULTI-24	10.1215.24	1.1/2"	-24	38,0	49,5	**2,0**	300	**6,0**	900	380	0,89
MULTI-32	10.1215.32	2"	-32	50,8	62,2	**2,0**	300	**6,0**	900	510	1,89

INNER TUBE: seamless oil, fuel and gasoline resistant synthetic rubber
REINFORCEMENT: 1 high resistance synthetic fiber braid
SAFETY FACTOR: 3: 1

OUTER TUBE: black wrapped, weather and abrasion resistant synthetic rubber
APPLICATION: oil, fuel and gasoline on automotive, and service stations

TEMPERATURE RANGE: -40ºC (-40ºF) + 100ºC (+ 212ºF); Max. temperature recommended for water base hydraulic fluids: + 70ºC (+ 158ºF); Max. temperature recommended for air: + 50ºC (+ 122ºF)

COVER: U.S. MSHA APPROVED

BALFLEX / MULTIPURPOSE OIL - FUEL - AIR - GASOLINE - DN10 - 3/8" - WP 2 MPa 300 PSI - Flame Resistant - MSHA IC-252/00 - DATE

PUSH-ON

MULTIPURPOSE - 10.PL15.- R / B

Low pressure, single textile braid reinforced Multipurpose PUSH-ON hose
High Temperature + 135ºC (+ 275ºF) continuous service

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
PUSH-04	10.PL15.04B (R)	1/4"	-4	6,3	12,5	**2,4**	348	**7,2**	1044	64	0,14
PUSH-05	10.PL15.05B (R)	5/16"	-5	8,0	14,3	**2,4**	348	**7,2**	1044	76	0,16
PUSH-06	10.PL15.06B (R)	3/8"	-6	9,5	15,7	**2,4**	348	**7,2**	1044	76	0,20
PUSH-08	10.PL15.08B (R)	1/2"	-8	12,7	19,6	**2,1**	305	**6,3**	914	102	0,24
PUSH-10	10.PL15.10B (R)	5/8"	-10	16,0	22,8	**2,1**	305	**6,3**	914	127	0,32
PUSH-12	10.PL15.12B (R)	3/4"	-12	19,0	26,0	**2,1**	305	**6,3**	914	152	0,38
PUSH-16	10.PL15.16B (R)	1"	-16	25,4	32,6	**1,4**	203	**4,2**	609	203	0,52

INNER TUBE: seamless oil resistant synthetic rubber resistant to high temperature
REINFORCEMENT: 1 high resistance synthetic fiber braid
SAFETY FACTOR: 3: 1

OUTER TUBE: Blue or Red Smooth Cover, oil, weather and abrasion resistant synthetic rubber
APPLICATION: petroleum base hydraulic fluids, water based fluids; Injection Mould applications

TEMPERATURE RANGE: continuous service: +135ºC (+257ºF). Max. temperature recommended for water base hydraulic fluids: +85ºC (+185ºF). Max. temperature recommended for air: +70ºC (+158ºF)

COUPLINGS: Balflex® push-on fittings 22 serie
COVER: U.S. MSHA APPROVED
WARNING: This hose is a high temperature multipurpose oil / water hose but cannot be used with phosphate-ester based oils.

BALFLEX MULTIPURPOSE PUSH-ON (135ºC / 302ºF) - DN6 - 1/4" - WP 2.4 MPa / 360 PSI

BALFLEX MULTIPURPOSE PUSH-ON (135ºC / 302ºF) - DN6 - 1/4" - WP 2.4 MPa / 360 PSI

TORNARE 4

SAE 100R4 – 10.1219.

According to SAE J517 type SAE 100R4, suction & delivery hydraulic hose.

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R4-12	10.1219.12	3/4"	-12	19,0	34,9	**2.1**	305	**8.4**	1218	127	0,75
R4-16	10.1219.16	1"	-16	25,4	41,3	**1.7**	247	**6.8**	986	152	0,93
R4-20	10.1219.20	1.1/4"	-20	31,8	50,8	**1.4**	203	**5.6**	812	203	1,25
R4-24	10.1219.24	1.1/2"	-24	38,1	57,2	**1.05**	152	**4.2**	609	254	1,54
R4-32	10.1219.32	2"	-32	50,8	69,9	**0.7**	102	**2.8**	406	305	2,00
R4-40	10.1219.40	2.1/2"	-40	63,5	82,6	**0.4**	58	**1.6**	232	356	2,50
R4-48	10.1219.48	3"	-48	76,2	95,3	**0.4**	58	**1.6**	232	457	3,20
R4-56	10.1219.56	3.1/2"	-56	88,9	108,0	**0.3**	44	**1.2**	174	533	4,03
R4-64	10.1219.64	4"	-64	101,6	121,0	**0.25**	36	**1.0**	145	610	5,04

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: textile braids and 1 high strength steel wire helix
SAFETY FACTOR: 4: 1

OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
APPLICATION: suction, delivery, return & discharge of petroleum base hydraulic fluids

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

COUPLINGS: Balflex® fittings 23 serie up to 2" and 44 serie from 3" up to 4" with clamps
COVER: U.S. MSHA approved

BALFLEX TORNARE 4 SAE 100R4 - DN51 - 2" - WP 0.7 MPa 105 PSI - Flame Resistant - MSHA IC-252/00 - DATE

Balflex®

Steel Wire Braid Hydraulic Hoses

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Steel Wire Braid Hydraulic Hoses

Balflex® hydraulic steel wire braid 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 pressure applications, in rubber, steel reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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 braid hoses are designed with a safety factor of 4: 1 relating minimum burst pressure and recommended working pressure (except 2-MAX hose which is 2.3: 1). Working pressure and nominal diameter are always branded on the hose.

Hydraulic hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 40ºC (- 40ºF) to + 100ºC (+ 212ºF). 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 + 70ºC (+ 158ºF). With the presence of air in the fluid working temperature should be reduced to + 60ºC (+ 140ºF).

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 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 hydraulic steel wire braid 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.

Table 1a: Nominal working pressure at 20ºC (+68ºF) of Balflex® Hydraulic Steel Wire Braid Hoses

Balflex	Standard	3/16" -3	1/4" -4	5/16" -5	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/4" -20	1.1/2" -24	2" -32	2.1/2" -40	3" -48
FORZA UNO	DIN EN 853 1SN / ISO 1436 / SAE J517 R1AT	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
		3625	3263	3118	2610	2320	1885	1523	1276	914	725	580	435	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
		6018	5800	5075	4785	3988	3625	3118	2393	1813	1305	1160	1015	798
BALPAC PREMIUM	DIN EN 857 2SC / ISO 11237 / SAE J517 R16		40.0	35.0	33.0	27.6	25.0	21.5	16.5					
			5800	5075	4785	4002	3625	3117.5	2392.5					
BALPAC 3000	DIN EN 857 1SC / ISO 11237 / SAE J517 R17		22.5	21.5	21.0	21.0								
			3262.5	3117.5	3045	3045								
BALPAC 3000	SAE J517 R17						21.0	21.0	16.5					
							3045	3045	2392.5					
BALPAC	DIN EN 857 1SC						13.0	10.5	8.8					
							1885	1523	1276					
2-MAX JACK			70.0		70.0	55.2								
			10150		10150	8004								
3-MAX					50.0	47.0	41.0	37.5	33.0					
					7250	6815	5945	5438	4785					

Table 1b: Nominal working pressure at 20ºC (+ 68ºF) of Balflex® Hydraulic Hoses

Balflex	type	1/4" -4	5/16" -5	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/4" -20	1.1/2" -24	2" -32	2.1/2" -40	3" -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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

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 66ºC	🟢	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 Hypochloryde 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	🟢		
Dioctyl Phthalate		Naphtha	🟢		
Diesel Fuel	🟢	Naphthalene	🔴		
Ethers	🟡	Natural Gas	🟢		
Ethyl Acetate	🔴	Nitric Acid (Dil.)	🔴		
Ethyl Alcohol	🟢	Nitric Acid (Conc.)	🔴		
Ethyl Chloride	🔴	Nitrobenzen	🔴		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

Balflex®

FORZA UNO

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

High pressure, single steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1SN-03	10.1002.03	3/16"	-3	4,8	11,4	**25.0**	3625	**100.0**	14500	89	0,23
1SN-04	10.1002.04	1/4"	-4	6,3	13,0	**22.5**	3263	**90.0**	13050	100	0,23
1SN-05	10.1002.05	5/16"	-5	8,0	14,7	**21.5**	3118	**85.0**	12325	114	0,23
1SN-06	10.1002.06	3/8"	-6	9,5	17,2	**18.0**	2610	**72.0**	10440	127	0,33
1SN-08	10.1002.08	1/2"	-8	12,7	20,5	**16.0**	2320	**64.0**	9280	178	0,42
1SN-10	10.1002.10	5/8"	-10	16,0	23,8	**13.0**	1885	**52.0**	7540	200	0,52
1SN-12	10.1002.12	3/4"	-12	19,0	27,8	**10.5**	1523	**42.0**	6090	240	0,65
1SN-16	10.1002.16	1"	-16	25,4	35,9	**8.8**	1276	**35.0**	5075	300	1,00
1SN-20	10.1002.20	1.1/4"	-20	32,0	44,0	**6.3**	914	**25.0**	3625	419	1,30
1SN-24	10.1002.24	1.1/2"	-24	38,0	50.8	**5.0**	725	**20.0**	2900	500	1,63
1SN-32	10.1002.32	2"	-32	50,8	64,3	**4.0**	580	**16.0**	2320	630	2,00
1SN-40	10.1002.40	2.1/2"	-40	63,5	75,0	**3.0**	435	**12.0**	1740	760	2,35
1SN-48	10.1002.48	3 "	-48	76,2	88,0	**2.0**	290	**8.0**	1160	900	2,55

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

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

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED
AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / Tough Cover (Armourguard)

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 - DN10 - DIN EN 853 / SAE 100R1AT / ISO 1436 - 3/8" - WP 18MPa 2600PSI - Flame Resistant - MSHA IC-252/00 - DATE

FORZA DUE

DIN EN 853 2SN / SAE 100R2AT – 10.1004.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
2SN-03	10.1004.03	3/16"	-3	4,8	13,4	**41.5**	6018	**165.0**	23925	89	0,32
2SN-04	10.1004.04	1/4"	-4	6,3	14,7	**40.0**	5800	**160.0**	23200	100	0,38
2SN-05	10.1004.05	5/16"	-5	8,0	16,5	**35.0**	5075	**140.0**	20300	114	0,45
2SN-06	10.1004.06	3/8"	-6	9,5	18,7	**33.0**	4785	**132.0**	19140	127	0,53
2SN-08	10.1004.08	1/2"	-8	12,7	21,9	**27.5**	3988	**110.0**	15950	178	0,65
2SN-10	10.1004.10	5/8"	-10	16,0	25,3	**25.0**	3625	**100.0**	14500	200	0,76
2SN-12	10.1004.12	3/4"	-12	19,0	29,3	**21.5**	3118	**86.0**	12470	240	1,00
2SN-16	10.1004.16	1"	-16	25,4	37,9	**16.5**	2393	**65.0**	9425	300	1,48
2SN-20	10.1004.20	1.1/4"	-20	32,0	47,5	**12.5**	1813	**50.0**	7250	419	2,14
2SN-24	10.1004.24	1.1/2"	-24	38,0	54,6	**9.0**	1305	**36.0**	5220	500	2,55
2SN-32	10.1004.32	2"	-32	50,8	67,4	**8.0**	1160	**32.0**	4640	630	3,30
2SN-40	10.1004.40	2.1/2"	-40	63,5	78,0	**7.0**	1015	**28.0**	4060	760	3,96
2SN-48	10.1004.48	3 "	-48	76,2	90,0	**5.5**	798	**22.0**	3190	900	4,96

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED
AVAILABLE VERSIONS: Smooth cover (Shark Skin) / 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 2SN - DN10 - DIN EN 853 / SAE 100R2AT / ISO 1436 - 3/8" - WP 33MPa 4800PSI - Flame Resistant - MSHA IC-252/00 - DATE

BALPAC 3000

SAE 100R17 – 10.1017.

High pressure, single or double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1 Wire Braid											
R17-04	10.1017.04	1/4"	-4	6.3	12.5	**22.5**	3263	**90.0**	13050	51	0.22
R17-05	10.1017.05	5/16"	-5	8.0	13.8	**21.5**	3118	**86.0**	12470	60	0.27
R17-06	10.1017.06	3/8"	-6	9.5	16.2	**21.0**	3000	**84.0**	12000	64	0.34
R17-08	10.1017.08	1/2"	-8	12.7	19.4	**21.0**	3000	**84.0**	12000	89	0.42
2 Wire Braid											
R17-10	10.1017.10	5/8"	-10	15.9	24.2	**21.0**	3000	**84.0**	12000	102	0.51
R17-12	10.1017.12	3/4"	-12	19.0	28.2	**21.0**	3000	**84.0**	12000	122	0.63
R17-16	10.1017.16	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, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED

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

BALFLEX // BALPAC - 3000 SAE 100R17 / DIN EN 857 - 1SC / ISO 11237 - DN10 - 3/8" - WP 21 MPa 3045 PSI - Flame Resistant - MSHA IC-252/00 - DATE

BALPAC 3000

DIN EN 857 1SC – 10.1018.

High pressure, single steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1SC-10	10.1018.10	5/8"	-10	15,9	22,6	**13.0**	1885	**52.0**	7540	102	0.51
1SC-12	10.1018.12	3/4"	-12	19,0	26,2	**10.5**	1523	**42.0**	6090	122	0.63
1SC-16	10.1018.16	1"	-16	25,4	33,6	**8.8**	1276	**35.2**	5104	152	1.00

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

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: BBalflex® crimped fittings series 23 with ferrules series 20
COVER: U.S. MSHA APPROVED

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

BALFLEX // BALPAC - 3000 DIN EN 857 - 1SC / ISO 11237 - DN19 - 3/4" - WP 10.5 MPa 1523 PSI - Flame Resistant - MSHA IC-252/00 - DATE

BALPAC 4000

SAE 100R19 – 10.1020

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1SC-10	10.1020.04	1/4"	-4	6,3	13,0	**28,0**	4000	**112,0**	16000	50	0,27
1SC-12	10.1020.06	3/8"	-6	9,5	17,0	**28,0**	4000	**112,0**	16000	65	0,42
1SC-10	10.1020.08	1/2"	-8	12,7	20,0	**28,0**	4000	**112,0**	16000	90	0,52
1SC-12	10.1020.10	5/8"	-10	16,0	24,0	**28,0**	4000	**112,0**	16000	100	0,63
1SC-16	10.1020.12	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, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Artic) / 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 – 10.1019.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
2SC-04	10.1019.04	1/4"	-4	6,3	13,2	**40.0**	5800	**160.0**	23200	50	0,27
2SC-05	10.1019.05	5/16"	-5	8,0	15,1	**35.0**	5075	**140.0**	20300	57	0,30
2SC-06	10.1019.06	3/8"	-6	9,5	17,0	**33.0**	4785	**132.0**	19140	65	0,42
2SC-08	10.1019.08	1/2"	-8	12,7	20,5	**27.6**	4002	**110.4**	16008	90	0,52
2SC-10	10.1019.10	5/8"	-10	16,0	24,2	**25.0**	3625	**100.0**	14500	100	0,63
2SC-12	10.1019.12	3/4"	-12	19,0	28,2	**21.5**	3118	**86.0**	12470	120	0,80
2SC-16	10.1019.16	1"	-16	25,4	35,6	**16.5**	2393	**66.0**	9570	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braid
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20
COVER: U.S. MSHA APPROVED

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

BALFLEX // BALPAC - PREMIUM DIN EN 857 - 2SC / EXCEEDS SAE 100R16 / ISO 11237 - DN10 - 3/8" - WP 33 MPa 4785 PSI - Flame Resistant - MSHA IC-252/00 - DATE

Balflex®

BALPAC IMPACTUS

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

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R16I-04	10.1010.04	1/4"	-4	6,3	13,4	**42,5**	6163	**170,0**	24650	50	0,27
R16I-05	10.1010.05	5/16"	-5	8,0	15,0	**40,0**	5800	**160,0**	23200	57	0,30
R16I-06	10.1010.06	3/8"	-6	9,5	17,2	**35,0**	5075	**140,0**	20300	65	0,42
R16I-08	10.1010.08	1/2"	-8	12,7	20,6	**31,0**	4495	**124,0**	17980	90	0,52
R16I-10	10.1010.10	5/8"	-10	16,0	23,8	**28,0**	4060	**112,0**	16240	100	0,63
R16I-12	10.1010.12	3/4"	-12	19,0	27,7	**28,0**	4060	**112,0**	16240	120	0,80
R16I-16	10.1010.16	1"	-16	25,4	35,6	**21,0**	3045	**84,0**	12180	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braid
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20
COVER: U.S. MSHA APPROVED

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

BALFLEX /// BALPAC - IMPACTUS EXCEEDS DIN EN 857 - 2SC / EXCEEDS SAER16 / ISO 11237 - DN6 - 1/4" - WP 42.5 MPa 6163 PSI - Flame Resistant - MSHA IC-252/00 - DATE

BRAKEMASTER R5

SAE 100R5 / SAE J 1402 AII – 10.1007.

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

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R5-04	10.1007.04	3/16"	-4	4,8	13,2	**20.7**	3002	**82.8**	12006	76	0,19
R5-05	10.1007.05	1/4"	-5	6,3	14,8	**20.7**	3002	**82.8**	12006	86	0,27
R5-06	10.1007.06	5/16"	-6	8,0	17,2	**15.5**	2248	**62.0**	8990	102	0,29
R5-08	10.1007.08	13/32"	-8	10,4	19,5	**13.8**	2001	**55.2**	8004	117	0,36
R5-10	10.1007.10	1/2"	-10	12,7	23,4	**12.1**	1755	**48.3**	7004	140	0,45
R5-12	10.1007.12	5/8"	-12	16,0	27,4	**10.3**	1494	**41.4**	6003	165	0,56
R5-16	10.1007.16	7/8"	-16	22,2	31,4	**5.5**	798	**22.1**	3205	187	0,78
R5-20	10.1007.20	1.1/8"	-20	28,6	38,1	**4.3**	624	**17.2**	2494	229	1,06
R5-24	10.1007.24	1.3/8"	-24	34,9	44,5	**3.4**	493	**13.8**	2001	267	1,45
R5-32	10.1007.32	1.13/16"	-32	46,0	56,4	**2.4**	348	**9.7**	1407	337	1,70
R5-40	10.1007.40	2.3/8"	-40	60,3	73,0	**2.4**	348	**9.7**	1407	610	2,15
R5-48	10.1007.48	3"	-48	76,2	90,5	**1.4**	203	**5.5**	798	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: -40ºC (-40ºF) +100ºC (+212ºF); Intermittent service: +120ºC (+248ºF) Max. temperature recommended for water base hydraulic fluids: +70ºC (+158ºF) Max. temperature recommended for air: +60ºC (+140ºF)

SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings P25 serie

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	mm	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**	20300	127	0,53
JH-08	10.1029.08	1/2"	-8	12,7	21,9	**55.2**	8004	**110.4**	16008	178	0,65

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: black, 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: -40ºC (-40ºF) +100ºC (+212ºF); Intermittent service: +120ºC (+248ºF) Max. temperature recommended for water base hydraulic fluids: +70ºC (+158ºF) Max. temperature recommended for air: +60ºC (+140ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED

BALFLEX 2 - MAX JACK DN6 - 1/4" - WP 70 MPa 10150 PSI - Flame Resistant - MSHA IC-252/00 - DATE

3 – MAX JACK

10.1005.

Very high pressure, triple steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
3M-06	10.1005.06	3/8"	-6	9,5	17,7	**50.0**	7250	**200.0**	29000	180	0,70
3M-08	10.1005.08	1/2"	-8	12,7	20,5	**47.0**	6815	**188.0**	27260	230	0,80
3M-10	10.1005.10	5/8"	-10	16,0	24,4	**41,0**	5945	**164,0**	23780	250	1,05
3M-12	10.1005.12	3/4"	-12	19,0	27,8	**37,5**	5438	**150,0**	21750	300	1,15
3M-16	10.1005.16	1"	-16	25,4	34,7	**33,0**	4785	**132,0**	19140	340	1,60

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 3 high tensile steel wire braids
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

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

COUPLINGS: Balflex® crimped fittings 23 serie or 24 with ferrules 20 serie

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

FIRE

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

Medium pressure hose for fire suppression.

REFERENCE	#	inch	SAE Dash	mm	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; oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: mining, forestry and firefighting equipment.

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

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED

BALFLEX FIRE - DN6 - 1/4" - WP 22.5 MPa 3263 PSI - Flame Resistant - MSHA IC-252/00 - DATE

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	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
10.1WSK.04	1/4"	-4	6,3	11,8	**22,0**	3190	**90.0**	13050	100	0,21

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

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

APPLICATION: hobby and high pressure cleaning profissional equipments

TEMPERATURE RANGE: - 60ºC (- 76ºF) + 70ºC (+ 158ºF)
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20

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

BALWASH 1W

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

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

#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
10.1W00.04	1/4"	-4	6,3	13,0	**22,0**	3190	**90.0**	13050	100	0,23
10.1W00.05	5/16"	-5	8,0	14,7	**22,0**	3190	**85.0**	12325	114	0,28
10.1W00.06	3/8"	-6	9,5	17,2	**22,0**	3190	**72.0**	10440	127	0,33
10.1W00.08	1/2"	-8	12,7	20,5	**22,0**	3190	**64.0**	9280	178	0,42

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

OUTER TUBE: black, 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 profissional equipments

TEMPERATURE RANGE: 0ºC (+ 32ºF) + 155ºC (+ 311ºF)
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20.

BALFLEX // BALWASH UNO 1W - 155ºC / 311ºF - DN6 - 1/4" - WP 22 MPa 3190 PSI - DATE

BALWASH 2W

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

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

#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
10.2W00.04	1/4"	-4	6,3	14,7	**40.0**	#VALUE!	**160.0**	23200	100	0,38
10.2W00.05	5/16"	-5	8,0	16,5	**40.0**	#VALUE!	**140.0**	20300	114	0,45
10.2W00.06	3/8"	-6	9,5	18,7	**40.0**	#VALUE!	**132.0**	19140	127	0,53
10.2W00.08	1/2"	-8	12,7	21,9	**40.0**	#VALUE!	**110.0**	15950	178	0,65

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

OUTER TUBE: black, 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 profissional equipments

TEMPERATURE RANGE: 0ºC (+ 32ºF) + 155ºC (+ 311ºF)
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20.

BALFLEX // BALWASH DUE 2W - 155ºC / 311ºF - DN6 - 1/4" - WP 40 MPa 5800 PSI - DATE

BALWASH 1W BLUE

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

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

#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
10.1W00.04B	1/4"	-4	6,3	13,0	**22,0**	3190	**90.0**	13050	100	0,23
10.1W00.05B	5/16"	-5	8,0	14,7	**22,0**	3190	**85.0**	12325	114	0,28
10.1W00.06B	3/8"	-6	9,5	17,2	**22,0**	3190	**72.0**	10440	127	0,33
10.1W00.08B	1/2"	-8	12,7	20,5	**22,0**	3190	**64.0**	9280	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 profissional equipments

TEMPERATURE RANGE: 0ºC (+ 32ºF) + 155ºC (+ 311ºF)
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20.

BALWASH 2W BLUE

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

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

#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
10.2W00.04B	1/4"	-4	6,3	14,7	**40.0**	#VALUE!	**160.0**	23200	100	0,38
10.2W00.05B	5/16"	-5	8,0	16,5	**40.0**	#VALUE!	**140.0**	20300	114	0,45
10.2W00.06B	3/8"	-6	9,5	18,7	**40.0**	#VALUE!	**132.0**	19140	127	0,53
10.2W00.08B	1/2"	-8	12,7	21,9	**40.0**	#VALUE!	**110.0**	15950	178	0,65

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 profissional equipments

TEMPERATURE RANGE: 0ºC (+ 32ºF) + 155ºC (+ 311ºF)
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20.

FLAT HDPE SPRING GUARD

HYDRAULIC AND INDUSTRIAL HOSE FLAT GUARD – 11.103.

Black Colour, High Density Polyethylene Protection Spring Guard

#	mm	mm	mm	Pitch mm	Recommended usage range (OD of hose mm)
11.103.09-15	12,0	9,6	1,2	9.0	9-13
11.103.14-20	16,0	13,4	1,3	12.0	13-18
11.103.18-24	20,0	16,0	2,0	16.0	16-22
11.103.22-30	25,0	20,6	2,2	22.0	20-27
11.103.30-38	32,0	27,0	2,5	22.0	27-36
11.103.36-45	40,0	34,6	2,7	24.0	34-44
11.103.44-65	50,0	43,0	3,5	30.0	43-45
11.103.44-70	63,0	55,6	3,7	37.0	55-67
11.103.65-78	75,0	66,2	4,4	42.0	66-80
11.103.80-98	90,0	80,2	4,9	45.0	80-98
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: - 20ºC (- 4ºF) + 95ºC (- 203ºF)

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

#	mm	mm	mm	Pitch mm	Recommended usage range (OD of hose mm)
11.103.09-15Y	12,0	9,6	1,2	9.0	9-13
11.103.14-20Y	16,0	13,4	1,3	12.0	13-18
11.103.18-24Y	20,0	16,0	2,0	16.0	16-22
11.103.22-30Y	25,0	20,6	2,2	22.0	20-27
11.103.30-38Y	32,0	27,0	2,5	22.0	27-36
11.103.36-45Y	40,0	34,6	2,7	24.0	34-44
11.103.44-65Y	50,0	43,0	3,5	30.0	43-45
11.103.44-70Y	63,0	55,6	3,7	37.0	55-67
11.103.65-78Y	75,0	66,2	4,4	42.0	66-80
11.103.80-98Y	90,0	80,2	4,9	45.0	80-98
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: - 20ºC (- 4ºF) + 95ºC (- 203ºF)

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

Balflex®

Spiral Hydraulic Hoses

pag. 38 **BALMASTER BESTFLEX 4SP**

pag. 39 **POWERSPIR BESTFLEX 4SH**

pag. 40 **BALMASTER BESTFLEX R12**

pag. 40 **POWERSPIR BESTFLEX R13**

pag. 41 **POWERSPIR BESTFLEX R15**

Spiral Hydraulic Hoses

Balflex® hydraulic Spiral Braid hoses are produced to Balflex® specifications and according to ISO 3862, SAE J517 and EN 856 standards. They cover a wide variety of medium pressure applications, in rubber, textile reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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 Spiral Braid hoses are designed with a safety factor of 4: 1 relating minimum burst pressure and recommended working pressure. Working pressure and nominal diameter are always branded on the hose.

Hydraulic hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 40ºC (- 40ºF) to + 100ºC (+ 212ºF). 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 + 70ºC (+ 158ºF). With the presence of air in the fluid working temperature should be reduced to + 60ºC (+ 140ºF).

Selection, assembly and installation of hydraulic Spiral Braid hoses should follow **Balflex®** recommendations and SAE J1273 and DIN 20066 standards. **Hydraulic 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 hydraulic Spiral Braid 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.

Table 1: Nominal working pressure at 20ºC (+68ºF) of Balflex® hydraulic Spiral Braid hoses MPa / PSI

Balflex	Standard	11/4" -4	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/4" -20	1.1/2" -24	2" -32
BALMASTER	DIN EN 856 R12 / ISO 3862 / SAE J517 R12		28.0	28.0	28.0	28.0	28.0	21.0	17.5	17.5
			4060	4060	4060	4060	4060	3045	2538	2538
BALMASTER	DIN EN 856 4SP / ISO 3862	45.0	44.5	41.5	35.0	38.0	32.0	21.0	21.0	17.5
		6525	6453	6018	5075	5510	4640	3045	3045	2538
POWERSPIR	DIN EN 856 4SH / ISO 3862					42.0	38.5	35.0	30.0	25.0
						6090	5583	5075	4350	3625
POWERSPIR	DIN EN 856 R13 / ISO 3862 / SAE J517 R13					42.0	38.5	35.0	35.0	35.0
						6090	5583	5075	5075	5075
POWERSPIR	ISO 3862 / SAE J517 R15		42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
			6090	6090	6090	6090	6090	6090	6090	6090

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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

Fluid Compatibility and Resistance Chart for Balflex Spiral Braid 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 66ºC	●	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 Hypochloryde 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	●		
Dioctyl Phthalate		Naphtha	●		
Diesel Fuel	●	Naphthalene	●		
Ethers	●	Natural Gas	●		
Ethyl Acetate	●	Nitric Acid (Dil.)	●		
Ethyl Alcohol	●	Nitric Acid (Conc.)	●		
Ethyl Chloride	●	Nitrobenzen	●		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

Balflex®

BALMASTER BESTFLEX 4SP

10.1008.-F

Very high pressure, extra flexible, four steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
4SP-04-F	10.1008.04F	1/4"	-4	6.5	17,4	**45,0**	6500	**180,0**	26000	150	0,70
4SP-06-F	10.1008.06F	3/8"	-6	9.6	19,9	**44,5**	6450	**178,0**	25800	180	0,80
4SP-08-F	10.1008.08F	1/2"	-8	12,9	22,8	**41,5**	6000	**166,0**	24000	230	1,15
4SP-10-F	10.1008.10F	5/8"	-10	16.0	26,4	**35,0**	5050	**140,0**	20200	250	1,26
4SP-12-F	10.1008.12F	3/4"	-12	19.2	30,6	**38,0**	5510	**152,0**	22040	300	1,44
4SP-16-F	10.1008.16F	1"	-16	25,6	37,7	**32,0**	4640	**128,0**	18560	340	2,15
4SP-20-F	10.1008.20F	1.1/4"	-20	32.1	48,6	**21,0**	3045	**84,0**	12180	460	2,75
4SP-24-F	10.1008.24F	1.1/2"	-24	38.3	55,0	**21,0**	3045	**84,0**	12180	560	3,35
4SP-32-F	10.1008.32F	2"	-32	51.0	68,1	**17,5**	2540	**70,0**	10160	660	4,60

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

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

COUPLINGS: Balflex® crimped fittings series 23/24 with ferrules 20 serie
*On sizes – 6 (3/8") and - 8 (1/2") the Balflex® BALMASTER DIN EN 856 4SP and Balflex® POWERSPIR SAE 100R15 hoses are the same, and they are branded Balflex® POWERSPIR.

AVAILABLE VERSIONS: tough cover / Armourguard

BALFLEX BALMASTER BESTFLEX DIN EN 856 - 4SP - DN19 - 3/4" - ISO 3862 - WP 38 MPa 5510 PSI - Flame Resistant - MSHA IC-252/00 - DATE

POWERSPIR BESTFLEX 4SH

10.1009.-F

Very high pressure, extra flexible, four steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
4SH-12-R13/15-F	10.1009.12F	3/4"	-12	19.2	30,8	**42,0**	6090	**168,0**	24360	280	1,56
4SH-16-R13-F	10.1009.16F	1"	-16	25,6	37,6	**38,5**	5585	**154,0**	22340	340	2,09
4SH-20-F	10.1009.20F	1.1/4"	-20	32.1	44,5	**35,0**	5075	**140,0**	20300	460	2,57
4SH-24-F	10.1009.24F	1.1/2"	-24	38.3	51,7	**30,0**	4350	**120,0**	17400	560	3,44
4SH-32-F	10.1009.32F	2"	-32	51.0	66,0	**25,0**	3600	**100,0**	14400	700	4,90

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 24/26 with ferrules 20 serie
AVAILABLE VERSIONS: tough cover / Armourguard

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF); Intermittent service: +120ºC (+248ºF) Max. temperature recommended for water base hydraulic fluids: +70ºC (+158ºF) Max. temperature recommended for air: +60ºC (+140ºF)
*On sizes – 12 (3/4") and – 16 (1") the Balflex® POWERSPIR DIN EN 856 4SH and SAE 100R13 hoses are the same. The working pressure of Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 3/4" and Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 1" are higher than standard SAE 100R13.
*On size – 12 (3/4") the Balflex® POWERSPIR DIN EN 856 4SH, SAE 100R13 and SAE 100R15 hoses are the same

BALFLEX POWERSPIR BESTFLEX DIN EN 856 - 4SH / SAE 100R13 / R15 - DN19 - 3/4" - ISO 3862 - WP 42 MPa 6090 PSI - Flame Resistant - MSHA IC-252/00 - DATE

BALMASTER BESTFLEX R12

10.1012.-F

Very high pressure, extra flexible, four steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R12-06-A	10.1012.06F	3/8"	-6	9.6	19,6	**28,0**	4060	**112,0**	16240	120	0,80
R12-08-A	10.1012.08F	1/2"	-8	12,9	23,1	**28,0**	4060	**112,0**	16240	170	1,15
R12-10-A	10.1012.10F	5/8"	-10	16.0	27,0	**28,0**	4060	**112,0**	16240	190	1,26
R12-12-A	10.1012.12F	3/4"	-12	19.2	30,1	**28,0**	4060	**112,0**	16240	230	1,44
R12-16-A	10.1012.16F	1"	-16	25,6	37,3	**28,0**	4060	**112,0**	16240	290	2,15
R12-20-A	10.1012.20F	1.1/4"	-20	32.1	46,5	**21,0**	3045	**84,0**	12180	400	2,75
R12-24-A	10.1012.24F	1.1/2"	-24	38.3	53,0	**17,5**	2538	**70,0**	10150	480	3,35
R12-32-A	10.1012.32F	2"	-32	51.0	66,5	**17,5**	2538	**70,0**	10150	630	4,60

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 4 spirals of high tensile steel wire

OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

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

COUPLINGS: Balflex® crimped fittings 23 or 24 series with ferrules 20 serie
AVAILABLE VERSIONS: tough cover / Armourguard

BALFLEX //// BALMASTER BESTFLEX SAE 100R12 / DIN EN 856 - DN19 - 3/4" - ISO 3862 - WP 28 MPa 4060 PSI - Flame Resistant - MSHA IC-252/00 - DATE

POWERSPIR BESTFLEX R13

VV.

Very high pressure, extra flexible, four or six steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
4SH-12-R13/15-A	10.1009.12F	3/4"	-12	19.2	30,8	**42,0**	6090	**168,0**	24360	280	1,56
4SH-16-R13-A	10.1009.16F	1"	-16	25,6	37,6	**38,5**	5585	**154,0**	22340	340	2,09
R13-20-A	10.1014.20F	1.1/4"	-20	32.1	49,4	**35,0**	5075	**140,0**	20300	420	3,90
R13-24-A	10.1014.24F	1.1/2"	-24	38.3	56,9	**35,0**	5075	**140,0**	20300	500	4,96
R13-32-A	10.1014.32F	2"	-32	51.0	70,9	**35,0**	5075	**140,0**	20300	620	7,09

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 4 or 6 spirals of high tensile steel wire
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF); Intermittent service: +120ºC (+248ºF) Max. temperature recommended for water base hydraulic fluids: +70ºC (+158ºF) Max. temperature recommended for air: +60ºC (+140ºF)
COUPLINGS: Balflex® crimped fittings series 26 with ferrules 20 serie

AVAILABLE VERSIONS: tough cover / Armourguard
NOTES: According to ISO 3862/EN 856 type R13/SAE J517 type R13, the Balflex® POWERSPIR SAE 100R13 hose is of 4 steel wire spirals on sizes -12 (3/4") and -16 (1") and of 6 steel wire spirals on sizes -20 (1.1/4"), -24 (1.1/2") and -32 (2").

*On sizes -12 (3/4") and -16 (1") the Balflex® POWERSPIR DIN EN 856 4SH and SAE 100R13 hoses are the same. The working pressure of Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 3/4" and Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 1" are higher than standard SAE 100R13.

BALFLEX //// POWERSPIR BESTFLEX EXCEEDS SAE 100R13 / DIN EN 856 / ISO 3862 - DN19 - 3/4" - WP 42 MPa 6090 PSI - Flame Resistant - MSHA IC-252/00 - DATE

POWERSPIR BESTFLEX R15

10.1016.-F

Very high pressure, extra flexible, four or six steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R15-06-A	10.1016.06F	3/8"	-6	9,7	22,0	**42,0**	6090	**168,0**	24360	140	0,80
R15-08-A	10.1016.08F	1/2"	-8	12,9	25,2	**42,0**	6090	**168,0**	24360	190	1,15
R15-10-A	10.1016.10F	5/8"	-10	16,0	27,2	**42,0**	6090	**168,0**	24360	200	1,35
4SH-12-R13/15-A	10.1009.12F	3/4"	-12	19.2	30,8	**42,0**	6090	**168,0**	24360	224	1,56
R15-16-A	10.1016.16F	1"	-16	25,6	38,4	**42,0**	6090	**168,0**	24360	272	2,10
R15-20-A	10.1016.20F	1.1/4"	-20	32,1	50,2	**42,0**	6090	**168,0**	24360	400	3,65
R15-24-A	10.1016.24F	1.1/2"	-24	38,3	56,8	**42,0**	6090	**168,0**	24360	450	4,75
R15-32-A	10.1016.32F	2"	-32	51,0	58,4	**42,0**	6090	**168,0**	24360	650	6,62

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 4 or 6 spirals of high tensile steel wire
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 26 with ferrules 20 serie
AVAILABLE VERSIONS: tough cover / Armourguard

NOTE: On size – 12 (3/4") the Balflex® POWERSPIR DIN EN 856 4SH and SAE 100R15 hoses are the same

BALFLEX POWERSPIR BESTFLEX SAE 100R15 / ISO 3862 - DN19 - 3/4" - WP 42 MPa 6090 PSI - Flame Resistant - MSHA IC-252/00 - DATE

Balflex®

High Temperature Hydraulic Hose

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pag. 49 **FORZA DUE TROPIC**
pag. 50 **BALPAC PREMIUM TROPIC**
pag. 51 **BRAKEMASTER R5R HEATMASTER**

High Temperature Hydraulic Hose

Balflex® hydraulic high temperature 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 pressure applications, in rubber, steel reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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 high temperature hoses are designed with a safety factor of 4: 1 relating minimum burst pressure and recommended working pressure.. Working pressure and nominal diameter are always branded on the hose.

Hydraulic high temperature hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 40ºC (- 40ºF) to + 150ºC (+ 302ºF) with intermittent service and – 40ºC (- 40ºF) to + 135ºC (+ 275ºF) continuous service. Hydraulic hoses may also be used for water base hydraulic fluids if the working temperature does not exceed + 120ºC (+ 248ºF). With the presence of air in the fluid working temperature should be reduced to + 60ºC (+ 140ºF).

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 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 hydraulic steel wire braid 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.

Table 1a: Nominal working pressure at 20ºC (+68ºF) of Balflex® hydraulic high temperature hoses

Balflex	Standard	3/16" -3	1/4" -4	5/16" -5	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/4" -20	1.1/2" -24	2" -32	2.1/2" -40	3" -48
FORZA UNO TROPIC	DIN EN 853 1SN / ISO 1436 / SAE J517 R1AT	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
		3625	3263	3118	2610	2320	1885	1523	1276	914	725	580	435	290
FORZA DUE TROPIC	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
		6018	5800	5075	4785	3988	3625	3118	2393	1813	1305	1160	1015	798
BALPAC PREMIUM TROPIC	DIN EN 857 2SC / ISO 11237 / SAE J517 R16		40.0	35.0	33.0	27.6	25.0	21.5	16.5					
			5800	5075	4785	4002	3625	3117.5	2392.5					

Table 1b: Nominal working pressure at 20ºC (+ 68ºF) of Balflex® hydraulic high temperature hoses

Balflex	type	3/16" -4	1/4" -5	5/16" -6	13/32" -8	1/2" -10	5/8" -12	7/8" -16	1.1/8" -20	1.3/8" -24	1.13/16" -32	2.3/8" -40	3" -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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

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 66ºC	🟢	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 Hypochloryde 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	🟢		
Dioctyl Phthalate		Naphtha	🟢		
Diesel Fuel	🟢	Naphthalene	🔴		
Ethers	🟡	Natural Gas	🟢		
Ethyl Acetate	🔴	Nitric Acid (Dil.)	🔴		
Ethyl Alcohol	🟢	Nitric Acid (Conc.)	🔴		
Ethyl Chloride	🔴	Nitrobenzen	🔴		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

Balflex®

FORZA UNO TROPIC

DIN EN 853 1SN / SAE 100R1AT – 10.1002.-HT

High pressure, high temperature, single steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
1SN-03-HT	10.1002.03HT	3/16"	-3	4,8	11,4	**25.0**	3625	**100.0**	14500	89	0,23
1SN-04-HT	10.1002.04HT	1/4"	-4	6,3	13,0	**22.5**	3263	**90.0**	13050	100	0,23
1SN-05-HT	10.1002.05HT	5/16"	-5	8,0	14,7	**21.5**	3118	**85.0**	12325	114	0,23
1SN-06-HT	10.1002.06HT	3/8"	-6	9,5	17,2	**18.0**	2610	**72.0**	10440	127	0,33
1SN-08-HT	10.1002.08HT	1/2"	-8	12,7	20,5	**16.0**	2320	**64.0**	9280	178	0,42
1SN-10-HT	10.1002.10HT	5/8"	-10	16,0	23,8	**13.0**	1885	**52.0**	7540	200	0,52
1SN-12-HT	10.1002.12HT	3/4"	-12	19,0	27,8	**10.5**	1523	**42.0**	6090	240	0,65
1SN-16-HT	10.1002.16HT	1"	-16	25,4	35,9	**8.8**	1276	**35.0**	5075	300	1,00
1SN-20-HT	10.1002.20HT	1.1/4"	-20	32,0	44,0	**6.3**	914	**25.0**	3625	419	1,30
1SN-24-HT	10.1002.24HT	1.1/2"	-24	38,0	50.8	**5.0**	725	**20.0**	2900	500	1,63
1SN-32-HT	10.1002.32HT	2"	-32	50,8	64,3	**4.0**	580	**16.0**	2320	630	2,00

INNER TUBE: seamless oil resistant synthetic rubber resistant to high temperature
REINFORCEMENT: 1 high tensile steel wire braid
OUTER TUBE: pin-pricked blue, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

TEMPERATURE RANGE: intermittent: -40ºC (-40ºF) +150ºC (+302ºF); continuous service: +125ºC (+257ºF) Max. temperature recommended for water base hydraulic fluids: +120ºC (+248ºF) Max. temperature recommended for air: +135ºC (+275ºF)

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED

NOTES: this hose is a high temperature hydraulic hose but cannot be used with phosphate-ester based oils. And cannot be used in aircrafts

FORZA DUE TROPIC

DIN EN 853 2SN / SAE 100R2AT – 10.1004.-HT

High pressure, high temperature, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
2SN-03-HT	10.1004.03HT	3/16"	-3	4,8	13,4	**41.5**	6018	**165.0**	23925	89	0,32
2SN-04-HT	10.1004.04HT	1/4"	-4	6,3	14,7	**40.0**	5800	**160.0**	23200	100	0,38
2SN-05-HT	10.1004.05HT	5/16"	-5	8,0	16,5	**35.0**	5075	**140.0**	20300	114	0,45
2SN-06-HT	10.1004.06HT	3/8"	-6	9,5	18,7	**33.0**	4785	**132.0**	19140	127	0,53
2SN-08-HT	10.1004.08HT	1/2"	-8	12,7	21,9	**27.5**	3988	**110.0**	15950	178	0,65
2SN-10-HT	10.1004.10HT	5/8"	-10	16,0	25,3	**25.0**	3625	**100.0**	14500	200	0,76
2SN-12-HT	10.1004.12HT	3/4"	-12	19,0	29,3	**21.5**	3118	**86.0**	12470	240	1,00
2SN-16-HT	10.1004.16HT	1"	-16	25,4	37,9	**16.5**	2393	**65.0**	9425	300	1,48
2SN-20-HT	10.1004.20HT	1.1/4"	-20	32,0	47,5	**12.5**	1813	**50.0**	7250	419	2,14
2SN-24-HT	10.1004.24HT	1.1/2"	-24	38,0	54,6	**9.0**	1305	**36.0**	5220	500	2,55
2SN-32-HT	10.1004.32HT	2"	-32	50,8	67,4	**8.0**	1160	**32.0**	4640	630	3,30

INNER TUBE: seamless oil resistant synthetic rubber resistant to high temperature
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: pin-pricked blue, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

TEMPERATURE RANGE: intermittent: -40ºC (-40ºF) +150ºC (+302ºF); continuous service: +125ºC (+257ºF) Max. temperature recommended for water base hydraulic fluids: +120ºC (+248ºF) Max. temperature recommended for air: +135ºC (+275ºF)

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie. Multicrimp P23 serie
COVER: U.S. MSHA APPROVED

NOTES: this hose is a high temperature hydraulic hose but cannot be used with phosphate-ester based oils. And cannot be used in aircrafts

Balflex®

BALPAC PREMIUM TROPIC

DIN EN 857 2SC – 10.1019.-HT

High pressure, high temperature, double steel braid reinforced hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
2SC-04-HT	10.1019.04HT	1/4"	-4	6,3	13,2	**40.0**	5800	**160.0**	23200	50	0,27
2SC-05-HT	10.1019.05HT	5/16"	-5	8,0	15,1	**35.0**	5075	**140.0**	20300	57	0,30
2SC-06-HT	10.1019.06HT	3/8"	-6	9,5	17,0	**33.0**	4785	**132.0**	19140	65	0,42
2SC-08-HT	10.1019.08HT	1/2"	-8	12,7	20,5	**27.6**	4002	**110.4**	16008	90	0,52
2SC-10-HT	10.1019.10HT	5/8"	-10	16,0	24,2	**25.0**	3625	**100.0**	14500	100	0,63
2SC-12-HT	10.1019.12HT	3/4"	-12	19,0	28,2	**21.5**	3118	**86.0**	12470	120	0,80
2SC-16-HT	10.1019.16HT	1"	-16	25,4	35,6	**16.5**	2393	**66.0**	9570	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braid
OUTER TUBE: black, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1

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

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings series 23 with ferrules series 20
COVER: U.S. MSHA APPROVED

NOTES: this hose is a high temperature hydraulic hose but cannot be used with phosphate-ester based oils. And cannot be used in aircrafts

BRAKEMASTER R5R HEATMASTER

SAE 100R5R – 10.1006.-HT

High pressure, high temperature hydraulic hose with steel and textile braid reinforcement with blue pin-pricked rubber cover

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R5R-04-HT	10.1006.04HT	3/16"	-4	4,8	13,2	**20.7**	3002	**82.8**	12006	76	0,19
R5R-05-HT	10.1006.05HT	1/4"	-5	6,3	14,8	**20.7**	3002	**82.8**	12006	86	0,27
R5R-06-HT	10.1006.06HT	5/16"	-6	8,0	17,2	**15.5**	2248	**62.0**	8990	102	0,29
R5R-08-HT	10.1006.08HT	13/32"	-8	10,4	19,5	**13.8**	2001	**55.2**	8004	117	0,36
R5R-10-HT	10.1006.10HT	1/2"	-10	12,7	23,4	**12.1**	1755	**48.3**	7004	140	0,45
R5R-12-HT	10.1006.12HT	5/8"	-12	16,0	27,4	**10.3**	1494	**41.4**	6003	165	0,56
R5R-16-HT	10.1006.16HT	7/8"	-16	22,2	31,4	**5.5**	798	**22.1**	3205	187	0,78
R5R-20-HT	10.1006.20HT	1.1/8"	-20	28,6	38,1	**4.3**	624	**17.2**	2494	229	1,06
R5R-24-HT	10.1006.24HT	1.3/8"	-24	34,9	44,5	**3.4**	493	**13.8**	2001	267	1,45
R5R-32-HT	10.1006.32HT	1.13/16"	-32	46,0	56,4	**2.4**	348	**9.7**	1407	337	1,70
R5R-40-HT	10.1006.40HT	2.3/8"	-40	60,3	73,0	**2.4**	348	**9.7**	1407	610	2,15
R5R-48-HT	10.1006.48HT	3"	-48	76,2	90,5	**1.4**	203	**5.5**	798	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: blue, pin-pricked, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids and hot air in compressors

TEMPERATURE RANGE: intermittent: -40ºC (-40ºF) +150ºC (+302ºF); continuous service +125ºC (+257ºF) Max. temperature recommended for water base hydraulic fluids: +70ºC (+158ºF) Max. temperature recommended for air: +135ºC (+275ºF)

COUPLINGS: Balflex® crimped fittings P25 serie
NOTES: this hose is a high temperature hydraulic hose but cannot be used with phosphate-ester based oils. And cannot be used in aircrafts

Balflex®

PTFE Hoses

pag. 58 **BALFLON SAE 100R14**

pag. 58 **BALFLON SAE 100R14**

pag. 59 **BALFLON HEAVY WALL DOUBLE BRAID**

pag. 60 **BALFLON CONVOLUTED (CORRUGATED)**

pag. 61 **BALFLON CONVOLUTED (CORRUGATED) BLACK CONDUCTIVE**

PTFE Hoses

Balflex® Balflon hoses are produced to Balflex® specifications and according to SAE J517 R14 standards. They cover a wide variety of medium pressure applications, in PTFE, smooth and corrugated with stainless steel reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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® Balflon hoses are designed with different safety factors relating minimum burst pressure and recommended working pressure. Working pressure and nominal diameter are always branded on the hose.

Balflon hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 54ºC (- 65ºF) to + 204ºC (+ 399ºF).

Selection, assembly and installation of thermoplastic hoses should follow **Balflex®** recommendations and **SAE J1273** and **DIN 20066** standards. **Balflon 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 Balflon 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.

Table 1a: Nominal working pressure at 20ºC (+68ºF) of Balflex® Balflon hoses

Balflex	Standard	1/8" -2	3/16" -3	1/4" -4	5/16" -5	3/8" -6	13/32" -8	1/2" -8	5/8" -10	3/4" -12	1" -16	1.1/8" -20	1.1/4" -20	1.1/2" -24	2" -32
BALFLON R14	SAE 100R14	7.5	20.0	17.5	15.0	13.5	13.0	12.0	10.0	9.0	6.5	5.5			
		3988	2900	2538	2175	1958	1885	1740	1450	1305	943	798			
BALFLON HEAVY WALL DOUBLE BRAID			27.5	25.0	22.5	21.0		17.5	16.0	14.0	9.5				
			3988	3625	3263	3045		2538	2320	2030	1378				
BALFLON CON-VOLUTED				16.0	13.5	12.0		11.0	8.0	7.0	5.0		4.5	4.0	3.6
				2320	1958	1740		1595	1160	1015	725		653	580	522

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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

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 66ºC	●	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 Hypochloryde 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	●		
Dioctyl Phthalate		Naphtha	●		
Diesel Fuel	●	Naphthalene	●		
Ethers		Natural Gas	●		
Ethyl Acetate	●	Nitric Acid (Dil.)	●		
Ethyl Alcohol	●	Nitric Acid (Conc.)	●		
Ethyl Chloride		Nitrobenzen	●		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

Balflex®

BALFLON SAE 100R14

SAE 100R14 - 10.2003.

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

REFERENCE	#	inch	SAE Dash	mm	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**	3988	**110.0**	15950	25	0,06
R14-03-TB	10.2003.03	3/16"	-3	4,8	7,4	**20,0**	2900	**80,0**	11600	35	0,08
R14-04-TB	10.2003.04	1/4"	-4	6,3	9,0	**17,5**	2538	**70,0**	10150	45	0,09
R14-05-TB	10.2003.05	5/16"	-5	8,0	10,8	**15,0**	2175	**60,0**	8700	50	0,14
R14-06-TB	10.2003.06	3/8"	-6	9,5	12,4	**13,5**	1958	**54,0**	7830	55	0,16
R14-08-TB	10.2003.08	1/2"	-8	12,7	15,7	**12,0**	1740	**48,0**	6960	70	0,21
R14-10-TB	10.2003.10	5/8"	-10	16,0	19,1	**10,0**	1450	**40,0**	5800	130	0,27
R14-12-TB	10.2003.12	3/4"	-12	19,0	22,2	**9,0**	1305	**36,0**	5220	190	0,37
R14-16-TB	10.2003.16	1"	-16	25,4	29,3	**6,5**	943	**26,0**	3770	270	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: -70ºC (-95ºF) +260ºC (+500ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie.

AVAILABLE VERSIONS: Black Conductive

BALFLON SAE 100R14

SAE 100R14 - 10.2000.

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

REFERENCE	#	inch	SAE Dash	mm	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**	3988	**110.0**	15950	25	0,07
R14-04	10.2000.04	3/16"	-4	4,8	7,4	**20,0**	2900	**80,0**	11600	35	0,08
R14-05	10.2000.05	1/4"	-5	6,3	9,0	**17,5**	2538	**70,0**	10150	45	0,09
R14-06	10.2000.06	5/16"	-6	8,0	10,8	**15,0**	2175	**60,0**	8700	50	0,14
R14-08	10.2000.08	13/32"	-8	10,3	13,3	**13,0**	1885	**54,0**	7830	65	0,17
R14-10	10.2000.10	1/2"	-10	12,7	15,7	**12.0**	1740	**48.0**	6960	70	0,21
R14-12	10.2000.12	5/8"	-12	16,0	19,1	**10,0**	1450	**40,0**	5800	130	0,27
R14-16	10.2000.16	7/8"	-16	22,0	25,6	**6,5**	943	**26,0**	3770	250	0,51
R14-20	10.2000.20	1.1/8"	-20	28,6	32,5	**5,5**	798	**22,0**	3190	300	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: -70ºC (-95ºF) +260ºC (+500ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie.

AVAILABLE VERSIONS: Black Conductive

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	mm	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**	3988	**110,0**	15950	45	0,14
R14-04-DB	10.2002.04	1/4"	-4	6,3	10,4	**25,0**	3625	**100,0**	14500	50	0,17
R14-05-DB	10.2002.05	5/16"	-5	8,0	12,0	**22,5**	3263	**90,0**	13050	55	0,24
R14-06-DB	10.2002.06	3/8"	-6	9,5	13,7	**21,0**	3045	**84,0**	12180	70	0,26
R14-08-DB	10.2002.08	1/2"	-8	12,7	17,0	**17,5**	2538	**70,0**	10150	110	0,35
R14-10-DB	10.2002.10	5/8"	-10	16,0	20,5	**16,0**	2320	**64,0**	9280	150	0,50
R14-12-DB	10.2002.12	3/4"	-12	19,0	23,5	**14,0**	2030	**56,0**	8120	190	0,62
R14-16-DB	10.2002.16	1"	-16	25,4	30,8	**9,5**	1378	**38,0**	5510	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: -70ºC (-95ºF) +260ºC (+500ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie.

AVAILABLE VERSIONS: Black Conductive

Balflex®

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	MIN BEND RAD mm	KG kg/m
R14-04-CV	10.2010.04	1/4"	-4	6,5	11,5	**16,0**	2320	**64,0**	9280	20	0,10
R14-05-CV	10.2010.05	5/16"	-5	8,1	12,3	**13,5**	1958	**54,0**	7830	30	0,17
R14-06-CV	10.2010.06	3/8"	-6	9,7	15,6	**12,0**	1740	**48,0**	6960	30	0,20
R14-08-CV	10.2010.08	1/2"	-8	12,7	18,9	**11,0**	1595	**44,0**	6380	40	0,27
R14-10-CV	10.2010.10	5/8"	-10	16,0	22,2	**8,0**	1160	**32,0**	4640	50	0,33
R14-12-CV	10.2010.12	3/4"	-12	19,1	26,4	**7,0**	1015	**28,0**	4060	80	0,47
R14-16-CV	10.2010.16	1"	-16	25,4	33,0	**5,0**	725	**20,0**	2900	100	0,63
R14-20-CV	10.2010.20	1.1/4"	-20	32,0	40,5	**4,5**	653	**18,0**	2610	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**	522	**14,4**	2088	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: -70ºC (-95ºF) +260ºC (+500ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie.

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	mm	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**	2320	**64,0**	9280	20	0,10
R14-05-CV-B	10.2010.05B	5/16"	-5	8,1	12,3	**13,5**	1958	**54,0**	7830	30	0,17
R14-06CV-B	10.2010.06B	3/8"	-6	9,7	15,6	**12,0**	1740	**48,0**	6960	30	0,20
R14-08CV-B	10.2010.08B	1/2"	-8	12,7	18,9	**11,0**	1595	**44,0**	6380	40	0,27
R14-10CV-B	10.2010.10B	5/8"	-10	16,0	22,2	**8,0**	1160	**32,0**	4640	50	0,33
R14-12CV-B	10.2010.12B	3/4"	-12	19,1	26,4	**7,0**	1015	**28,0**	4060	80	0,47
R14-16CV-B	10.2010.16B	1"	-16	25,4	33,0	**5,0**	725	**20,0**	2900	100	0,63
R14-20CV-B	10.2010.20B	1.1/4"	-20	32,0	40,5	**4,5**	653	**18,0**	2610	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**	522	**14,4**	2088	175	1,20

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

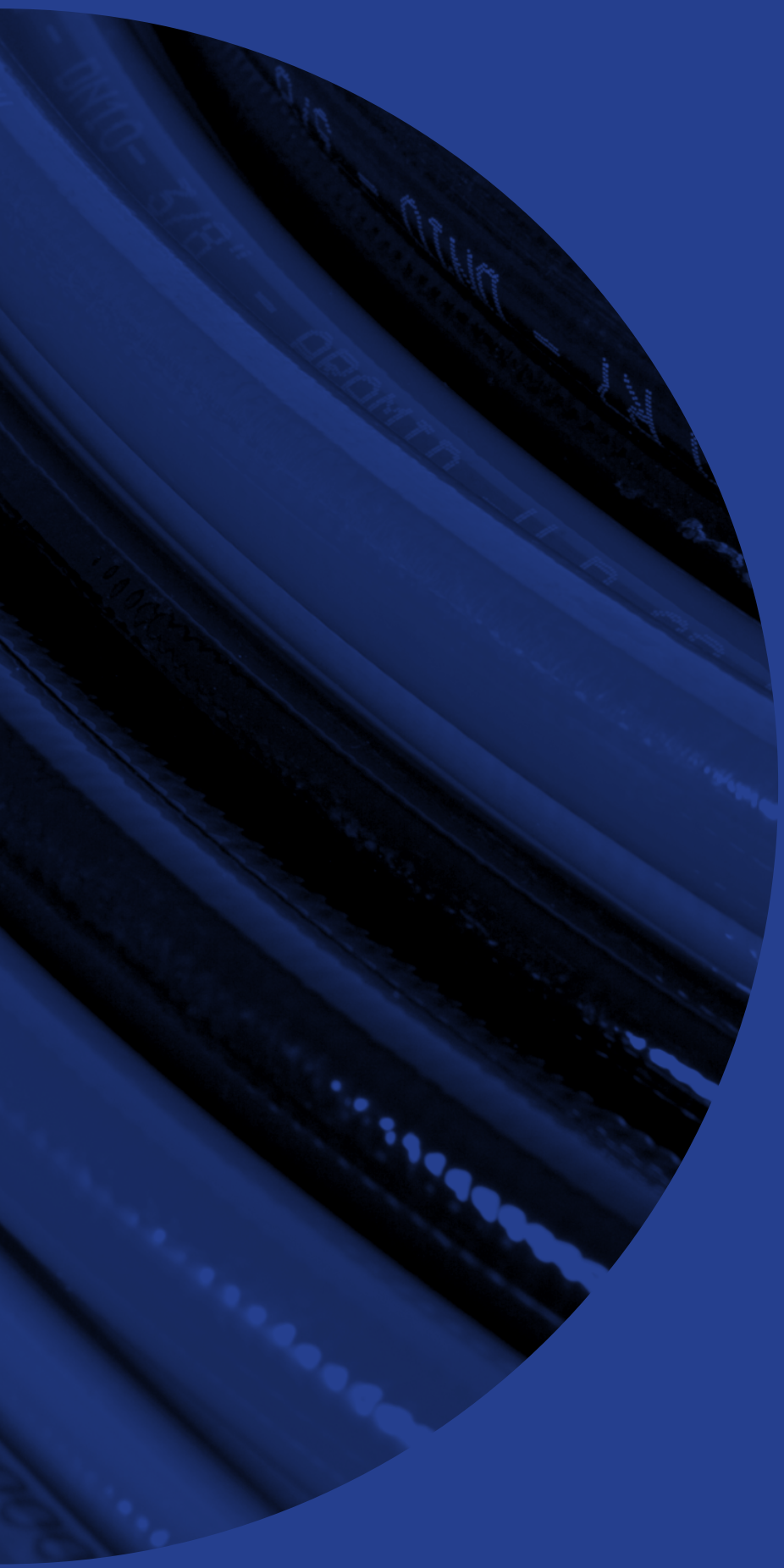
APPLICATION: water base, petroleum base or synthetic base hydraulic fluids, corrosive, food liquids and high temperature gases and liquids

TEMPERATURE RANGE: -70ºC (-95ºF) +260ºC (+500ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie.

Balflex®

Thermoplastic Hoses



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pag. 68 **ZETAFLEX TWIN**

pag. 69 **ZETAFLEX NON CONDUCTIVE**

pag. 69 **ZETAFLEX NON CONDUCTIVE TWIN**

pag. 70 **ZETAFLEX STEEL**

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pag. 75 **ZETAFLEX 3000**

pag. 75 **ZETAFLEX 3000 TWIN**

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Thermoplastic Hoses

Balflex® Thermoplastic hoses are produced to Balflex® specifications and according to ISO 3949, SAE J517 and EN 855 standards. They cover a wide variety of medium pressure applications, in thermoplastic, textile and steel reinforcement, for petroleum and water base hydraulic fluids.

Balflex® optimised 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. *highest performance and the most extensive range of applications.*

General Guidelines

Balflex® thermoplastic hoses are designed with different safety factors relating minimum burst pressure and recommended working pressure. Working pressure and nominal diameter are always branded on the hose.

Thermoplastic hoses are designed for petroleum base hydraulic fluids applications with a temperature range of – 40ºC (- 40ºF) to + 100ºC (+ 100ºF). Thermoplastic hoses may also be used for water base hydraulic fluids if the working temperature does not exceed + 65ºC (+ 149ºF).

Selection, assembly and installation of thermoplastic hoses should follow **Balflex®** recommendations and **SAE J1273** and **DIN 20066** standards. **Thermoplastic 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 thermoplastic 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.

Table 1a: Nominal working pressure at 20ºC (+68ºF) of Balflex® Thermoplastic hoses

Balflex	Standard	1/8" -2	53/16" -3	1/4" -4	5/16" -5	3/8" -6	1/2" -8	5/8" -10	3/4" -12	1" -16
ZETAFLEX ZETAFLEX TWIN ZETAFLEX NC ZETAFLEX NC TWIN	DIN EN 855 R7 / SAE 100R7 / ANSI A92.2	28.0	21.0	19.0	19.0	16.0	15.5	10.5	9.0	7.0
		4060	3045	2755	2755	2320	2250	1523	1305	1015
ZETAFLEX STEEL ZETAFLEX STEEL TWIN		35.0	30.0	27.5	24.0	22.0	17.5	14.0	11.5	10.0
		5075	4350	3988	3480	3190	2538	2030	1668	1450
OMEGALFEX PLUS OMEGAFLEX PLUS TWIN OMEGALFEX PLUS NC OMEGAFLEX PLUS NC TWIN	DIN EN 855 R8 / SAE 100R8		35.0	35.0	30.	28.0	24.5	20.0	16.5	14.0
			5075	5075	4350	4060	3553	2900	2393	2030
OMEGALFEX OMEGAFLEX TWIN OMEGAFLEX NC OMEGAFLEX NC TWIN	DIN EN 855 R8 / SAE 100R8		35.0	35.0	30.	28.0	24.5	20.0	16.5	14.0
			5075	5075	4350	4060	3553	2900	2393	2030
ZETAFLEX 3000 ZETAFLEX 3000 TWIN ZETAFLEX 3000 NC ZETAFLEX 3000 NC TWIN	SAE 100R18		21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
			3000	3000	3000	3000	3000	3000	3000	3000

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 H20 (20ºC)	0,014	0,026	0,346	0,704	**1**	10,207	10,34	102,074	3.4
in Hg (20ºC)	0,0396	0,074	**1,001**	2,04	2,89	29,53	29,91	295,3	3.4
in H20 (20ºC)	0,538	**1,005**	13,623	27,73	39,38	401,86	407,09	4018,65	40186,47
mm Hg (20ºC)	**1,005**	1,88	25,43	51,75	73,51	750,06	759,81	7500,62	75006,17

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

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 = 25,4mm
Example: : + 100ºC = + 212ºF

Fluid Compatibility and Resistance Chart for Balflex Thermoplastic 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 66ºC	●	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 Hypochloryde 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	●		
Dioctyl Phthalate	●	Naphtha	●		
Diesel Fuel	●	Naphthalene	●		
Ethers		Natural Gas	●		
Ethyl Acetate		Nitric Acid (Dil.)	●		
Ethyl Alcohol	●	Nitric Acid (Conc.)	●		
Ethyl Chloride		Nitrobenzen	●		

These chart informations are based on Balflex® knowledgement and experience and is intended as a guide and not as a guarantee. We cannot assure the perfect performance of the hoses as that depends on many factors as working pressure, pressure picks, fluid, ambient temperature, fluid temperature, concentration, duration of exposure, etc...

ZETAFLEX

DIN EN 855 R7 / SAE 100R7 - 10.1030.

High pressure, synthetic polyester braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-02	10.1030.02	1/8"	-2	3,2	8,1	**28.0**	4060	**112.0**	16240	25	0,05
R7-03	10.1030.03	3/16"	-3	4,8	10,3	**21.0**	3045	**84.0**	12180	25	0,07
R7-04	10.1030.04	1/4"	-4	6,4	12,4	**19.0**	2755	**76.0**	11020	32	0,09
R7-05	10.1030.05	5/16"	-5	8,0	14,2	**19.0**	2755	**76.0**	11020	45	0,13
R7-06	10.1030.06	3/8"	-6	9,5	15,7	**16.0**	2320	**64.0**	9280	55	0,16
R7-08	10.1030.08	1/2"	-8	12,7	19,3	**15,5**	2250	**62,0**	9000	77	0,22
R7-10	10.1030.10	5/8"	-10	16,0	23,1	**10.5**	1523	**42.0**	6090	110	0,28
R7-12	10.1030.12	3/4"	-12	19,0	26,4	**9.0**	1305	**36.0**	5220	140	0,33
R7-16	10.1030.16	1"	-16	25,4	33,3	**7.0**	1015	**28.0**	4060	200	0,40

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile polyester braid

OUTER TUBE: black, oil and weather resistant polyurethane, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20
NOTE: Size - 2 (1/8") not included in the standards.

BALFLEX ZETAFLEX - DIN EN 855 / SAE 100R7 - DN12 - 1/2" - WP 15.5 MPa / 2050 PSI - DATE

ZETAFLEX TWIN

DIN EN 855 R7 / SAE 100R7 - 10.1034.

High pressure, synthetic polyester braid reinforced thermoplastic hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-03-TB	10.1034.03	3/16"	-3	4,8	10,3	**21.0**	3045	**84.0**	12180	25	0,07
R7-04-TB	10.1034.04	1/4"	-4	6,4	12,4	**19.0**	2755	**76.0**	11020	32	0,09
R7-05-TB	10.1034.05	5/16"	-5	8,0	14,2	**19.0**	2755	**76.0**	11020	45	0,13
R7-06-TB	10.1034.06	3/8"	-6	9,5	15,7	**16.0**	2320	**64.0**	9280	55	0,16
R7-08-TB	10.1034.08	1/2"	-8	12,7	19,3	**15,5**	2250	**62,0**	9000	77	0,22
R7-10-TB	10.1034.10	5/8"	-10	16,0	23,1	**10.5**	1523	**42.0**	6090	110	0,28
R7-12-TB	10.1034.12	3/4"	-12	19,0	26,4	**9.0**	1305	**36.0**	5220	140	0,33
R7-16-TB	10.1034.16	1"	-16	25,4	33,3	**7.0**	1015	**28.0**	4060	200	0,40

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile polyester braid

OUTER TUBE: black, oil and weather resistant polyurethane, pin-pricked
SAFETY FACTOR: 4: 1

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

BALFLEX ZETAFLEX - DIN EN 855 / SAE 100R7 - DN12 - 1/2" - WP 15.5 MPa / 2050 PSI - DATE

ZETAFLEX NON CONDUCTIVE

DIN EN 855 R7 / SAE 100R7 / ANSI A92.2 - 10.1030.L

High pressure, synthetic fiber braid reinforced thermoplastic Non Conductive hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-02LNC	10.1030.02L	1/8"	-2	3,2	8,1	**28.0**	4060	**112.0**	16240	25	0,05
R7-03LNC	10.1030.03L	3/16"	-3	4,8	10,3	**21.0**	3045	**84.0**	12180	25	0,07
R7-04LNC	10.1030.04L	1/4"	-4	6,4	12,4	**19.0**	2755	**76.0**	11020	32	0,09
R7-05LNC	10.1030.05L	5/16"	-5	8,0	14,2	**19.0**	2755	**76.0**	11020	45	0,13
R7-06LNC	10.1030.06L	3/8"	-6	9,5	15,7	**16.0**	2320	**64.0**	9280	55	0,16
R7-08LNC	10.1030.08L	1/2"	-8	12,7	19,3	**15,5**	2250	**62,0**	9000	77	0,22
R7-10LNC	10.1030.10L	5/8"	-10	16,0	23,1	**10.5**	1523	**42.0**	6090	110	0,28
R7-12LNC	10.1030.12L	3/4"	-12	19,0	26,4	**9.0**	1305	**36.0**	5220	140	0,33
R7-16LNC	10.1030.16L	1"	-16	25,4	33,3	**7.0**	1015	**28.0**	4060	200	0,40

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile polyester braid

OUTER TUBE: orange, oil and weather resistant polyurethane, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20
NOTE: Size - 2 (1/8") not included in the standards.

BALFLEX ZETAFLEX - NON CONDUCTIVE - DIN EN 855 / SAE 100R7 - DN3 - 1/8" - WP 28 MPa / 4060 PSI - [ANSI A92.2 - WP 20.7 MPa / 3000 PSI]

ZETAFLEX NON CONDUCTIVE TWIN

DIN EN 855 R7 / SAE 100R7 / ANSI A92.2 - 10.1034.L

High pressure, synthetic fiber braid reinforced thermoplastic Non Conductive hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-03TNC	10.1034.03L	3/16"	-3	4,8	10,3	**21.0**	3045	**84.0**	12180	25	0,07
R7-04TNC	10.1034.04L	1/4"	-4	6,4	12,4	**19.0**	2755	**76.0**	11020	32	0,09
R7-05TNC	10.1034.05L	5/16"	-5	8,0	14,2	**19.0**	2755	**76.0**	11020	45	0,13
R7-06TNC	10.1034.06L	3/8"	-6	9,5	15,7	**16.0**	2320	**64.0**	9280	55	0,16
R7-08TNC	10.1034.08L	1/2"	-8	12,7	19,3	**15,5**	2250	**62,0**	9000	77	0,22
R7-10TNC	10.1034.10L	5/8"	-10	16,0	23,1	**10.5**	1523	**42.0**	6090	110	0,28
R7-12TNC	10.1034.12L	3/4"	-12	19,0	26,4	**9.0**	1305	**36.0**	5220	140	0,33
R7-16TNC	10.1034.16L	1"	-16	25,4	33,3	**7.0**	1015	**28.0**	4060	200	0,40

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile polyester braid

OUTER TUBE: orange, oil and weather resistant polyurethane, pin-pricked
SAFETY FACTOR: 4: 1

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

BALFLEX ZETAFLEX - NON CONDUCTIVE - DIN EN 855 / SAE 100R7 - DN3 - 1/8" - WP 28 MPa / 4060 PSI - [ANSI A92.2 - WP 20.7 MPa / 3000 PSI]

ZETAFLEX STEEL

10.1031.

High pressure, steel wire braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-02-S	10.1031.02	1/8"	-2	3,2	7,1	**35.0**	5075	**140.0**	20300	25	0,10
R7-03-S	10.1031.03	3/16"	-3	4,8	9,7	**30.0**	4350	**120.0**	17400	30	0,13
R7-04-S	10.1031.04	1/4"	-4	6,4	11,7	**27.5**	3988	**110.0**	15950	40	0,17
R7-05-S	10.1031.05	5/16"	-5	8,0	13,6	**24.0**	3480	**96.0**	13920	50	0,22
R7-06-S	10.1031.06	3/8"	-6	9,5	15,2	**22.0**	3190	**88.0**	12760	60	0,26
R7-08-S	10.1031.08	1/2"	-8	12,7	18,4	**17.5**	2538	**70.0**	10150	75	0,39
R7-10-S	10.1031.10	5/8"	-10	16,0	22,2	**14.0**	2030	**56.0**	8120	110	0,41
R7-12-S	10.1031.12	3/4"	-12	19,0	25,9	**11.5**	1668	**46.0**	6670	150	0,45
R7-16-S	10.1031.16	1"	-16	25,4	32,4	**10.0**	1450	**40.0**	5800	230	0,62

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

OUTER TUBE: black, oil and weather resistant thermoplastic
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

BALFLEX ZETAFLEX - STEEL - EXCEEDS SAE 100R7 - DN10 - 3/8" - WP 22.4 MPa / 3250 PSI - DATE

ZETAFLEX STEEL TWIN

R7 SteelFlex TWIN – 10.1035.

High pressure, steel wire braid reinforced thermoplastic hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R7-03-ST	10.1035.03	3/16"	-3	4,8	9,7	**30.0**	4350	**120.0**	17400	30	0,13
R7-04-ST	10.1035.04	1/4"	-4	6,4	11,7	**27.5**	3988	**110.0**	15950	40	0,17
R7-05-ST	10.1035.05	5/16"	-5	8,0	13,6	**24.0**	3480	**96.0**	13920	50	0,22
R7-06-ST	10.1035.06	3/8"	-6	9,5	15,2	**22.0**	3190	**88.0**	12760	60	0,26
R7-08-ST	10.1035.08	1/2"	-8	12,7	18,4	**17.5**	2538	**70.0**	10150	75	0,39
R7-10-ST	10.1035.10	5/8"	-10	16,0	22,2	**14.0**	2030	**56.0**	8120	110	0,41
R7-12-ST	10.1035.12	3/4"	-12	19,0	25,9	**11.5**	1668	**46.0**	6670	150	0,45
R7-16-ST	10.1035.16	1"	-16	25,4	32,4	**10.0**	1450	**40.0**	5800	230	0,62

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

OUTER TUBE: black, oil and weather resistant thermoplastic
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

BALFLEX ZETAFLEX - STEEL - EXCEEDS SAE 100R7 - DN16 - 5/8" - WP 15.5 MPa / 2250 PSI - DATE

OMEGAFLEX PLUS

DIN EN 855 R8 / SAE 100R8 - 10.1033.

High pressure, single aramid braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R8-03	10.1033.03	3/16"	-3	4,8	10,3	**35.0**	5075	**140.0**	20300	25	0,09
R8-04	10.1033.04	1/4"	-4	6,4	12,4	**35.0**	5075	**140.0**	20300	32	0,10
R8-05	10.1033.05	5/16"	-5	8,0	14,2	**30.0**	4350	**120.0**	17400	45	0,13
R8-06	10.1033.06	3/8"	-6	9,5	15,7	**28.0**	4060	**112.0**	16240	55	0,18
R8-08	10.1033.08	1/2"	-8	12,7	19,3	**24.5**	3553	**98.0**	14210	77	0,22
R8-10	10.1033.10	5/8"	-10	16,0	23,1	**20.0**	2900	**80.0**	11600	110	0,31
R8-12	10.1033.12	3/4"	-12	19,0	26,4	**16.5**	2393	**66.0**	9570	140	0,36
R8-16	10.1033.16	1"	-16	25,4	33,3	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile aramidic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX OMEGAFLEX PLUS - DIN EN 855 / SAE 100R8 - DN6 - 1/4" - ARAMID - WP 35 MPa / 5075 PSI - DATE

OMEGAFLEX PLUS TWIN LINE

DIN EN 855 R8 / SAE 100R8 - 10.1136.

High pressure, single aramidic braid reinforced thermoplastic hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R8-03-TB	10.1136.03	3/16"	-3	4,8	10,3	**35.0**	5075	**140.0**	20300	25	0,09
R8-04-TB	10.1136.04	1/4"	-4	6,4	12,4	**35.0**	5075	**140.0**	20300	32	0,10
R8-05-TB	10.1136.05	5/16"	-5	8,0	14,2	**30.0**	4350	**120.0**	17400	45	0,13
R8-06-TB	10.1136.06	3/8"	-6	9,5	15,7	**28.0**	4060	**112.0**	16240	55	0,18
R8-08-TB	10.1136.08	1/2"	-8	12,7	19,3	**24.5**	3553	**98.0**	14210	77	0,22
R8-10-TB	10.1136.10	5/8"	-10	16,0	23,1	**20.0**	2900	**80.0**	11600	110	0,31
R8-12-TB	10.1136.12	3/4"	-12	19,0	26,4	**16.5**	2393	**66.0**	9570	140	0,36
R8-16-TB	10.1136.16	1"	-16	25,4	33,3	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile aramidic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

BALFLEX OMEGAFLEX PLUS - DIN EN 855 / SAE 100R8 - DN3 - 1/8" - ARAMID - WP 42 MPa / 6090 PSI - DATE

OMEGALFLEX PLUS
(NON CONDUCTIVE)

DIN EN 855 R8 / SAE 100R8 / ANSI A92.2 - 10.1033.L

High pressure, single aramidic braid reinforced thermoplastic Non Conductive hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R8-03LNC	10.1033.03L	3/16"	-3	4,8	10,3	**35.0**	5075	**140.0**	20300	25	0,09
R8-04LNC	10.1033.04L	1/4"	-4	6,4	12,4	**35.0**	5075	**140.0**	20300	32	0,10
R8-05LNC	10.1033.05L	5/16"	-5	8,0	14,2	**30.0**	4350	**120.0**	17400	45	0,13
R8-06LNC	10.1033.06L	3/8"	-6	9,5	15,7	**28.0**	4060	**112.0**	16240	55	0,18
R8-08LNC	10.1033.08L	1/2"	-8	12,7	19,3	**24.5**	3553	**98.0**	14210	77	0,22
R8-10LNC	10.1033.10L	5/8"	-10	16,0	23,1	**20.0**	2900	**80.0**	11600	110	0,31
R8-12LNC	10.1033.12L	3/4"	-12	19,0	26,4	**16.5**	2393	**66.0**	9570	140	0,36
R8-16LNC	10.1033.16L	1"	-16	25,4	33,3	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile aramidic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX OMEGAFLEX PLUS - NON CONDUCTIVE - DIN EN 855 / SAE 100R8 - DN3 - 1/8" - ARAMID - WP 42 MPa / 6090 PSI - DATE

OMEGAFLEX PLUS TWIN
(NON CONDUCTIVE)

DIN EN 855 R8 / SAE 100R8 / ANSI A92.2 - 10.1136.L

High pressure, single aramidic braid reinforced thermoplastic Non Conductive hydraulic twin line hoses

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R8-03TNC	10.1136.03L	3/16"	-3	4,8	10,3	**35.0**	5075	**140.0**	20300	25	0,09
R8-04TNC	10.1136.04L	1/4"	-4	6,4	12,4	**35.0**	5075	**140.0**	20300	32	0,10
R8-05TNC	10.1136.05L	5/16"	-5	8,0	14,2	**30.0**	4350	**120.0**	17400	45	0,13
R8-06TNC	10.1136.06L	3/8"	-6	9,5	15,7	**28.0**	4060	**112.0**	16240	55	0,18
R8-08TNC	10.1136.08L	1/2"	-8	12,7	19,3	**24.5**	3553	**98.0**	14210	77	0,22
R8-10TNC	10.1136.10L	5/8"	-10	16,0	23,1	**20.0**	2900	**80.0**	11600	110	0,31
R8-12TNC	10.1136.12L	3/4"	-12	19,0	26,4	**16.5**	2393	**66.0**	9570	140	0,36
R8-16TNC	10.1136.16L	1"	-16	25,4	33,3	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile aramidic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX OMEGAFLEX PLUS - NON CONDUCTIVE - DIN EN 855 / SAE 100R8 - DN6 - 1/4" - ARAMID - WP 35 MPa / 5075 PSI - DATE

OMEGAFLEX

DIN EN 855 R8 / SAE 100R8 - 10.1032.

High pressure, double polyester braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R82P-03	10.1032.03	3/16"	-3	4,8	12,4	**35.0**	5075	**140.0**	20300	40	0,09
R82P-04	10.1032.04	1/4"	-4	6,4	16,1	**35.0**	5075	**140.0**	20300	45	0,10
R82P-05	10.1032.05	5/16"	-5	8,0	16,7	**29.0**	4205	**116.0**	16820	55	0,13
R82P-06	10.1032.06	3/8"	-6	9,5	18,5	**28.0**	4060	**112.0**	16240	65	0,18
R82P-08	10.1032.08	1/2"	-8	12,7	22,6	**24.5**	3553	**98.0**	14210	77	0,22
R82P-10	10.1032.10	5/8"	-10	16,0	25,6	**19.0**	2755	**76.0**	11020	100	0,31
R82P-12	10.1032.12	3/4"	-12	19,0	28,6	**15.5**	2248	**62.0**	8990	140	0,36
R82P-16	10.1032.16	1"	-16	25,4	35,8	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 2 high tensile polyester braids

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

BALFLEX OMEGAFLEX - DIN EN 855 / SAE 100R8 - DN19 - 3/4" - POLYESTER - WP 15.7 MPa / 2277 PSI - DATE

OMEGAFLEX TWIN

DIN EN 855 R8 / SAE 100R8 - 10.1036.

High pressure, double polyester braid reinforced thermoplastic hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R82P-03LNC	10.1036.03	3/16"	-3	4,8	12,4	**35.0**	5075	**140.0**	20300	40	0,18
R82P-04LNC	10.1036.04	1/4"	-4	6,4	16,1	**35.0**	5075	**140.0**	20300	45	0,20
R82P-05LNC	10.1036.05	5/16"	-5	8,0	16,7	**29.0**	4205	**116.0**	16820	55	0,26
R82P-06LNC	10.1036.06	3/8"	-6	9,5	18,5	**28.0**	4060	**112.0**	16240	65	0,36
R82P-08LNC	10.1036.08	1/2"	-8	12,7	22,6	**24.5**	3553	**98.0**	14210	77	0,44
R82P-10LNC	10.1036.10	5/8"	-10	16,0	25,6	**19.0**	2755	**76.0**	11020	100	0,62
R82P-12LNC	10.1036.12	3/4"	-12	19,0	28,6	**15.5**	2248	**62.0**	8990	140	0,72
R82P-16LNC	10.1036.16	1"	-16	25,4	35,8	**14.0**	2030	**56.0**	8120	200	1,02

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 2 high tensile polyester braids

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules serie 20

BALFLEX OMEGAFLEX PLUS - DIN EN 855 / SAE 100R8 - DN10 - 3/8" - ARAMID - WP 28 MPa / 4060 PSI - DATE

OMEGAFLEX (NON CONDUCTIVE)

DIN EN 855 R8 / SAE 100R8 / ANSI A92.2 - 10.1032.L

High pressure, double polyester braid reinforced thermoplastic Non Conductive hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R82P-03-TB	10.1032.03L	3/16"	-3	4,8	12,4	**35.0**	5075	**140.0**	20300	40	0,09
R82P-04-TB	10.1032.04L	1/4"	-4	6,4	16,1	**35.0**	5075	**140.0**	20300	45	0,10
R82P-05-TB	10.1032.05L	5/16"	-5	8,0	16,7	**29.0**	4205	**116.0**	16820	55	0,13
R82P-06-TB	10.1032.06L	3/8"	-6	9,5	18,5	**28.0**	4060	**112.0**	16240	65	0,18
R82P-08-TB	10.1032.08L	1/2"	-8	12,7	22,6	**24.5**	3553	**98.0**	14210	77	0,22
R82P-10-TB	10.1032.10L	5/8"	-10	16,0	25,6	**19.0**	2755	**76.0**	11020	100	0,31
R82P-12-TB	10.1032.12L	3/4"	-12	19,0	28,6	**15.5**	2248	**62.0**	8990	140	0,36
R82P-16-TB	10.1032.16L	1"	-16	25,4	35,8	**14.0**	2030	**56.0**	8120	200	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 2 high tensile polyester braids

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX OMEGAFLEX - NON CONDUCTIVE - DIN EN 855 / SAE 100R8 - DN10 - 3/8" - POLYESTER - WP 28 MPa / 4060 PSI - DATE

OMEGAFLEX TWIN (NON CONDUCTIVE)

DIN EN 855 R8 / SAE 100R8 / ANSI A92.2 - 10.1036.L

High pressure, double polyester braid reinforced thermoplastic Non Conductive hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R82P-03TNC	10.1036.03L	3/16"	-3	4,8	12,4	**35.0**	5075	**140.0**	20300	40	0,18
R82P-04TNC	10.1036.04L	1/4"	-4	6,4	16,1	**35.0**	5075	**140.0**	20300	45	0,20
R82P-05TNC	10.1036.05L	5/16"	-5	8,0	16,7	**29.0**	4205	**116.0**	16820	55	0,26
R82P-06TNC	10.1036.06L	3/8"	-6	9,5	18,5	**28.0**	4060	**112.0**	16240	65	0,36
R82P-08TNC	10.1036.08L	1/2"	-8	12,7	22,6	**24.5**	3553	**98.0**	14210	77	0,44
R82P-10TNC	10.1036.10L	5/8"	-10	16,0	25,6	**19.0**	2755	**76.0**	11020	100	0,62
R82P-12TNC	10.1036.12L	3/4"	-12	19,0	28,6	**15.5**	2248	**62.0**	8990	140	0,72
R82P-16TNC	10.1036.16L	1"	-16	25,4	35,8	**14.0**	2030	**56.0**	8120	200	1,02

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 2 high tensile polyester braids

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1

APPLICATION: petroleum base hydraulic fluids
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

BALFLEX OMEGAFLEX - NON CONDUCTIVE - DIN EN 855 / SAE 100R8 - DN10 - 3/8" - POLYESTER - WP 28 MPa / 4060 PSI - DATE

ZETAFLEX 3000

SAE 100R18 - 10.1130.

High pressure, single or double polyester braid reinforced thermoplastic Isobaric hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R18-03	10.1130.03	3/16"	-3	4,8	10,3	**21,0**	3000	**84,0**	12000	30	0,09
R18-04	10.1130.04	1/4"	-4	6,4	12,4	**21,0**	3000	**84,0**	12000	45	0,10
R18-05	10.1130.05	5/16"	-5	8,0	14,2	**21,0**	3000	**84,0**	12000	50	0,13
R18-06	10.1130.06	3/8"	-6	9,5	16,6	**21,0**	3000	**84,0**	12000	75	0,18
R18-08	10.1130.08	1/2"	-8	12,7	22,5	**21,0**	3000	**84,0**	12000	90	0,22
R18-10	10.1130.10	5/8"	-10	16,0	25,4	**21,0**	3000	**84,0**	12000	120	0,31
R18-12	10.1130.12	3/4"	-12	19,0	31,5	**21,0**	3000	**84,0**	12000	150	0,36
R18-16	10.1130.16	1"	-16	25,4	39,6	**21,0**	3000	**84,0**	12000	250	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 or 2 high tensile synthetic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX ZETAFLEX 3000 - SAE 100R18 - DN10 - 3/8" - WP 21 MPa / 3050 PSI - DATE

ZETAFLEX 3000 TWIN

SAE 100R18 - 10.1134.

High pressure, single or double polyester braid reinforced thermoplastic Isobaric hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R18-03-TB	10.1134.03	3/16"	-3	4,8	10,3	**21,0**	3000	**84,0**	12000	30	0,09
R18-04-TB	10.1134.04	1/4"	-4	6,4	12,4	**21,0**	3000	**84,0**	12000	45	0,10
R18-05-TB	10.1134.05	5/16"	-5	8,0	14,2	**21,0**	3000	**84,0**	12000	50	0,13
R18-06-TB	10.1134.06	3/8"	-6	9,5	16,6	**21,0**	3000	**84,0**	12000	75	0,18
R18-08-TB	10.1134.08	1/2"	-8	12,7	22,5	**21,0**	3000	**84,0**	12000	90	0,22
R18-10-TB	10.1134.10	5/8"	-10	16,0	25,4	**21,0**	3000	**84,0**	12000	120	0,31
R18-12-TB	10.1134.12	3/4"	-12	19,0	31,5	**21,0**	3000	**84,0**	12000	150	0,36
R18-16-TB	10.1134.16	1"	-16	25,4	39,6	**21,0**	3000	**84,0**	12000	250	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 or 2 high tensile synthetic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX ZETAFLEX 3000 - SAE 100R18 - DN10 - 3/8" - WP 21 MPa / 3050 PSI - DATE

ZETAFLEX 3000 (NON CONDUCTIVE)

SAE 100R8 - 10.1130.L

High pressure, single or double polyester braid reinforced Non Conductive thermoplastic Isobaric hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R18-03TNC	10.1130.03L	3/16"	-3	4,8	10,3	**21,0**	3000	**84,0**	12000	30	0,09
R18-04TNC	10.1130.04L	1/4"	-4	6,4	12,4	**21,0**	3000	**84,0**	12000	45	0,10
R18-05TNC	10.1130.05L	5/16"	-5	8,0	14,2	**21,0**	3000	**84,0**	12000	50	0,13
R18-06TNC	10.1130.06L	3/8"	-6	9,5	16,6	**21,0**	3000	**84,0**	12000	75	0,18
R18-08TNC	10.1130.08L	1/2"	-8	12,7	22,5	**21,0**	3000	**84,0**	12000	90	0,22
R18-10TNC	10.1130.10L	5/8"	-10	16,0	25,4	**21,0**	3000	**84,0**	12000	120	0,31
R18-12TNC	10.1130.12L	3/4"	-12	19,0	31,5	**21,0**	3000	**84,0**	12000	150	0,36
R18-16TNC	10.1130.16L	1"	-16	25,4	39,6	**21,0**	3000	**84,0**	12000	250	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 or 2 high tensile synthetic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX ZETAFLEX 3000 - NON CONDUCTIVE - SAE 100R18 - DN10 - 3/8" - WP 21 MPa / 3050 PSI - DATE

ZETAFLEX 3000 TWIN
(NON CONDUCTIVE)

SAE 100R18 - 10.1134.L

High pressure, single or double polyester braid reinforced Non Conductive thermoplastic Isobaric hydraulic twin line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
R18-03TNC	10.1134.03L	3/16"	-3	4,8	10,3	**21,0**	3000	**84,0**	12000	30	0,09
R18-04TNC	10.1134.04L	1/4"	-4	6,4	12,4	**21,0**	3000	**84,0**	12000	45	0,10
R18-05TNC	10.1134.05L	5/16"	-5	8,0	14,2	**21,0**	3000	**84,0**	12000	50	0,13
R18-06TNC	10.1134.06L	3/8"	-6	9,5	16,6	**21,0**	3000	**84,0**	12000	75	0,18
R18-08TNC	10.1134.08L	1/2"	-8	12,7	22,5	**21,0**	3000	**84,0**	12000	90	0,22
R18-10TNC	10.1134.10L	5/8"	-10	16,0	25,4	**21,0**	3000	**84,0**	12000	120	0,31
R18-12TNC	10.1134.12L	3/4"	-12	19,0	31,5	**21,0**	3000	**84,0**	12000	150	0,36
R18-16TNC	10.1134.16L	1"	-16	25,4	39,6	**21,0**	3000	**84,0**	12000	250	0,51

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 or 2 high tensile synthetic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic, pin-pricked
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX ZETAFLEX 3000 - NON CONDUCTIVE - SAE 100R18 - DN10 - 3/8" - WP 21 MPa / 3050 PSI - DATE

ULTRAFLEX

10.1038

High pressure, single aramidic braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
ULTRA-06	10.1038.06	3/8"	-6	9,5	16,0	**38.0**	5510	**152.0**	22040	80	0,18
ULTRA-08	10.1038.08	1/2"	-8	12,7	20,3	**34.5**	5003	**138.0**	20010	95	0,22

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile aramidic fiber braid

OUTER TUBE: black, oil and weather resistant thermoplastic
SAFETY FACTOR: 4: 1
APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) Max. temperature recommended for water base hydraulic fluids: +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX R9 ULTRAFLEX - EXCEEDS DIN EN 855 - DN10 - SAE100 R8 - 3/8" - WP 38.0 MPa / 5510 PSI - DATE

CNG

10.1037.

High Pressure, single aramidic fiber and single high tensile braid Compresse Natural Gas hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
CNG-04	10.1037.04	1/4"	-4	6,4	14,0	**69,0**	10005	**276,0**	40020	40	0,24
CNG-06	10.1037.06	3/8"	-6	9,5	18,0	**50,0**	7250	**200,0**	29000	60	0,26

INNER TUBE: internal core in polyamide
REINFORCEMENT: 1 high tensile steel braid and 1 aramidic fiber braid

OUTER TUBE: red color pin-pricked polyurethane
SAFETY FACTOR: 4: 1

APPLICATION: CNG (compressed natural gas) dispenser at very high pressure
TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX CNG - DN10 - 3/8" - ELECTRICAL CONDUCTIVE - WP 50 MPa / 7250 PSI - DATE

JETWASH MICROLINE LIGHT

12.160W.04

High pressure Thermoplastic Jet washing and lubrification hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
JETW-04	12.160W.04	1/4"	-4	6,4	12,5	**16,0**	2320	**64,0**	9280	100	0,10

INNER TUBE: polyethylene tube resistant to water, grease and oil
REINFORCEMENT: 1 high tensile polyester

OUTER TUBE: black PVC compound resistant to abrasion and weather
SAFETY FACTOR: 4: 1

APPLICATION: hobby type jet washing and lubricators
TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX JETWASH MICRO LINE - DN6 - 1/4" - WP 16 MPa / 2320 PSI - DATE

JET CLEAN

10.1039.

High pressure, 2 aramidic braids reinforced thermoplastic sewer jet cleaning hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
JC-08	10.1039.08	1/2"	-8	12,7	22,5	**24,1**	3495	**60,3**	8744	100	0,21
JC-10	10.1039.10	5/8"	-10	16,0	25,6	**20,7**	3000	**51,8**	7500	115	0,35
JC-12	10.1039.12	3/4"	-12	19,0	29,2	**20,7**	3000	**51,8**	7500	125	0,48
JC-16	10.1039.16	1"	-16	25,4	37,5	**20,7**	3000	**51,8**	7500	160	0,58
JC-20	10.1039.20	1.1/4"	-20	31,8	46,5	**20,7**	3000	**51,8**	7500	250	0,65

INNER TUBE: internal core in polyester
REINFORCEMENT: 2 high tensile aramidic fiber braids

OUTER TUBE: orange polyurethane high abrasion resistance
SAFETY FACTOR: 2.5:1

APPLICATION: sewer cleaning with high pressure water
TEMPERATURE RANGE: -40ºC (-40ºF) +65ºC (+149ºF)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX JET CLEAN - DN12 - 1/2" - WP 24.1 MPa / 3500 PSI - DATE

PAINTSPRAY 1W

10.1040.

High pressure , one steel wire braid reinforced thermoplastic paintspray hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
PS1W-03	10.1040.03	3/16"	-3	4,8	9,7	**35,0**	5075	**140,0**	20300	30	0,13
PS1W-04	10.1040.04	1/4"	-4	6,4	11,7	**32,0**	4640	**128,0**	18560	40	0,17
PS1W-05	10.1040.05	5/16"	-5	8,0	13,6	**27,5**	3988	**110,0**	15950	50	0,22
PS1W-06	10.1040.06	3/8"	-6	9,5	15,2	**25,0**	3625	**100,0**	14500	60	0,26
PS1W-08	10.1040.08	1/2"	-8	12,7	18,4	**19,0**	2755	**76,0**	11020	75	0,39
PS1W-12	10.1040.12	3/4"	-12	19,0	25,7	**12,0**	1740	**48,0**	6960	150	0,45

INNER TUBE: internal core in polyamide
REINFORCEMENT: 1 high tensile steel wire braid
OUTER TUBE: blue pin-pricked polyurethane high abrasion resistance

SAFETY FACTOR: 4: 1
APPLICATION: high pressure airless spray systems, chemical resistance to solvents and agressive fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) max. temperature recommended for water base hydraulic fluids and air: +70ºC (+158ºC)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX PAINTSPRAY - 1W - STEEL - DN10 - 3/8" - WP 25 MPa / 3600 PSI - DATE

PAINTSPRAY 2W

10.1041.

High pressure , two steel wire braids reinforced thermoplastic paintspray hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
PS2W-04	10.1041.04	1/4"	-4	6,4	13,7	**45,0**	6525	**180,0**	26100	100	0,27
PS2W-05	10.1041.05	5/16"	-5	8,0	15,2	**40,0**	5800	**160,0**	23200	110	0,32
PS2W-06	10.1041.06	3/8"	-6	9,5	17,5	**38,0**	5510	**152,0**	22040	127	0,36
PS2W-08	10.1041.08	1/2"	-8	12,7	21,1	**30,0**	4350	**120,0**	17400	178	0,49
PS2W-12	10.1041.12	3/4"	-12	19,0	28,6	**16,0**	2320	**64,0**	9280	250	0,55

INNER TUBE: internal core in polyamide
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: blue pin-pricked polyurethane high abrasion resistance

SAFETY FACTOR: 4: 1
APPLICATION: high pressure airless spray systems, chemical resistance to solvents and agressive fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) max. temperature recommended for water base hydraulic fluids and air: +70ºC (+158ºC)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX PAINTSPRAY - 2W - STEEL - DN10 - 3/8" - WP 38 MPa / 5500 PSI - DATE

Balflex®

PAINTSPRAY

10.1042.

High pressure , one or two tensile aramidic braid reinforced thermoplastic paintspray hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
PS-03	10.1042.03	3/16"	-3	4,8	10,3	**35,0**	5075	**140,0**	20300	50	0,09
PS-04	10.1042.04	1/4"	-4	6,3	12,4	**35,0**	5075	**140,0**	20300	75	0,10
PS-06	10.1042.06	3/8"	-6	9,5	15,7	**30,0**	4350	**120,0**	17400	100	0,18
PS-08	10.1042.08	1/2"	-8	12,7	19,3	**24,5**	3553	**98,0**	14210	120	0,22

INNER TUBE: internal core in polyamide
REINFORCEMENT: 1 or 2 high tensile aramidic braid with antistatic polymeric braid
OUTER TUBE: blue pin-pricked polyurethane high abrasion resistance

SAFETY FACTOR: 4:1
APPLICATION: high pressure airless spray systems, chemical resistance to solvents and agressive fluids

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) max. temperature recommended for water base hydraulic fluids and air: +70ºC (+158ºC)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX PAINTSPRAY - DN10 - 3/8" - WP 30 MPa / 4350 PSI - DATE

BEVERAGE

10.1043.

High pressure, one synthetic fiber braid reinforced beverage dispensing hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
BEV1F-04	10.1043.04	1/4"	-4	6,3	12,2	**21,0**	3045	**84,0**	12180	35	0,05

INNER TUBE: thermoplastic elastomer food quality
REINFORCEMENT: 1 synthetic fiber braid

OUTER TUBE: grey color pin-pricked polyurethane
SAFETY FACTOR: 4:1

APPLICATION: designed specially for CO2 gas mixtures used in fixed and mobile beverages dispensing units. Special tube material with flavour free that eliminates contamination risks

TEMPERATURE RANGE: -40ºC (-40ºF) +80ºC (+176ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX BEVERAGE DISPENSING - DN6 - 1/4" - WP 21 MPa / 3000 PSI - DATE

BEVERAGE

10.1044.

High pressure, one stell wire braid reinforced beverage dispensing hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
BEV1S-03	10.1044.03	3/16"	-3	4,8	9,7	**35,0**	5075	**140,0**	20300	40	0,07
BEV1S-04	10.1044.04	1/4"	-4	6,3	11,7	**32,0**	4640	**128,0**	18560	45	0,08

INNER TUBE: thermoplastic elastomer food quality
REINFORCEMENT: 1 steel wire braid

OUTER TUBE: grey color pin-pricked polyurethane
SAFETY FACTOR: 4:1

APPLICATION: designed specially for CO2 gas mixtures used in fixed and mobile beverages dispensing units. Special tube material with flavour free that eliminates contamination risks

TEMPERATURE RANGE: -40ºC (-40ºF) +80ºC (+176ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX BEVERAGE DISPENSING - DN5 - 3/16" - WP 35 Mpa / 5000 PSI - DATE

BEVERAGE

10.1045.

High pressure, one aramidic fiber braid reinforced beverage dispensing hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
BEV1A-02	10.1045.02	1/8"	-2	3,2	8,1	**42,0**	6090	**168,0**	24360	25	0,05
BEV1A-03	10.1045.03	3/16"	-3	4,8	10,3	**35,0**	5075	**140,0**	20300	25	0,07
BEV1A-04	10.1045.04	1/4"	-4	6,3	12,4	**35,0**	5075	**140,0**	20300	32	0,09

INNER TUBE: thermoplastic elastomer food quality
REINFORCEMENT: 1 aramidic fiber braid

OUTER TUBE: grey color pin-pricked polyurethane
SAFETY FACTOR: 4:1

APPLICATION: designed specially for CO2 gas mixtures used in fixed and mobile beverages dispensing units. Special tube material with flavour free that eliminates contamination risks

TEMPERATURE RANGE: -40ºC (-40ºF) +80ºC (+176ºF)
COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX BEVERAGE DISPENSING - DN3 - 1/8" - WP 42 Mpa / 6000 PSI - DATE

SUPERJACK 2W

10.1046.

High pressure, double steel wire braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
JACK2W-04	10.1046.04	1/4"	-4	6,4	14,1	**700,0**	10000	**1750,0**	253750	100	0,29
JACK2W-06	10.1046.06	3/8"	-6	9,5	17,5	**700,0**	10000	**1500,0**	217500	150	0,42
JACK2W-08	10.1046.08	1/2"	-8	12,7	21,1	**500,0**	72500	**1250,0**	181250	200	

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 2 high tensile steel wire braid
OUTER TUBE: orange, oil and weather resistant polyurethane

SAFETY FACTOR: 2.5:1 on 1/4" hose and 2.1:1 on 3/8" size
APPLICATION: high pressure hydraulic systems, hydraulic jacks, rescue equipments, safety equipments, earthmoving equipments and mining equipments.

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) max. temperature recommended for water base hydraulic fluids and air: +70ºC (+158ºC)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX SUPERJACK - DN10 - 3/8" - WP 70 MPa / 10000 PSI - DATE

SUPERJACK ARAMID

10.1146.

High pressure, one steel wire braid and one aramidic braid reinforced thermoplastic hydraulic hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
JACKSA-04	10.1146.04	1/4"	-4	6,4	14,1	**700,0**	10000	**2800,0**	406000	70	0,29
JACKSA-06	10.1146.06	3/8"	-6	9,5	17,5	**700,0**	10000	**2800,0**	406000	100	0,42
JACKSA-08	10.1146.08	1/2"	-8	12,7	22,4	**700,0**	10000	**2800,0**	406000	180	

INNER TUBE: seamless oil resistant thermoplastic
REINFORCEMENT: 1 high tensile steel wire braid and 1 high tensile aramidic braid
OUTER TUBE: orange, oil and weather resistant polyurethane

SAFETY FACTOR: 4:1
APPLICATION: high pressure hydraulic systems, hydraulic jacks, rescue equipments, safety equipments, earthmoving equipments and mining equipments

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF) max. temperature recommended for water base hydraulic fluids and air: +70ºC (+158ºC)

COUPLINGS: Balflex® crimped fittings 23 serie with ferrules 20 serie

BALFLEX SUPERJACK - DN10 - 3/8" - WP 70 MPa / 10000 PSI - DATE

MINIBORE

10.1147.

High pressure, single aramidic braid thermoplastic hydraulic line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
MICRO-1	10.1147.03	1/8"	-	3,2	6,5	**25,0**	3625	**100,0**	14500	20	0,05

INNER TUBE: thermoplastic elastomer
REINFORCEMENT: 1 aramidic fiber braid

OUTER TUBE: black color polyurethane
SAFETY FACTOR: 4:1

APPLICATION: designed specially for very high pressure mini hydraulic lines. Automotive and truck's cab lifting systems

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF)
COUPLINGS: Balflex® crimped fittings 05 serie

BALFLEX MINIBORE - 1/8" - WP 25 MPa / 3600 PSI - DATE

MICROTEST

05.HH01

High pressure, single aramidic braid thermoplastic hydraulic line hose

REFERENCE	#	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD mm	KG kg/m
MICRO-2	05.HH01	5/64"	-	2,0	5,0	**63,0**	9135	**189,0**	27405	20	0,06

INNER TUBE: thermoplastic elastomer
REINFORCEMENT: 1 aramidic fiber braid

OUTER TUBE: black color polyurethane
SAFETY FACTOR: 3:1

APPLICATION: designed specially for very high pressure mini hydraulic lines. Automotive and truck's cab lifting systems

TEMPERATURE RANGE: -40ºC (-40ºF) +100ºC (+212ºF)
COUPLINGS: Balflex® crimped fittings 05 serie

BALFLEX MINIBORE - 5/64" - WP 63 MPa / 9100 PSI - DATE

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